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- Clay Paky join the Italian Collection
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- Guinness: Technology put to the taste

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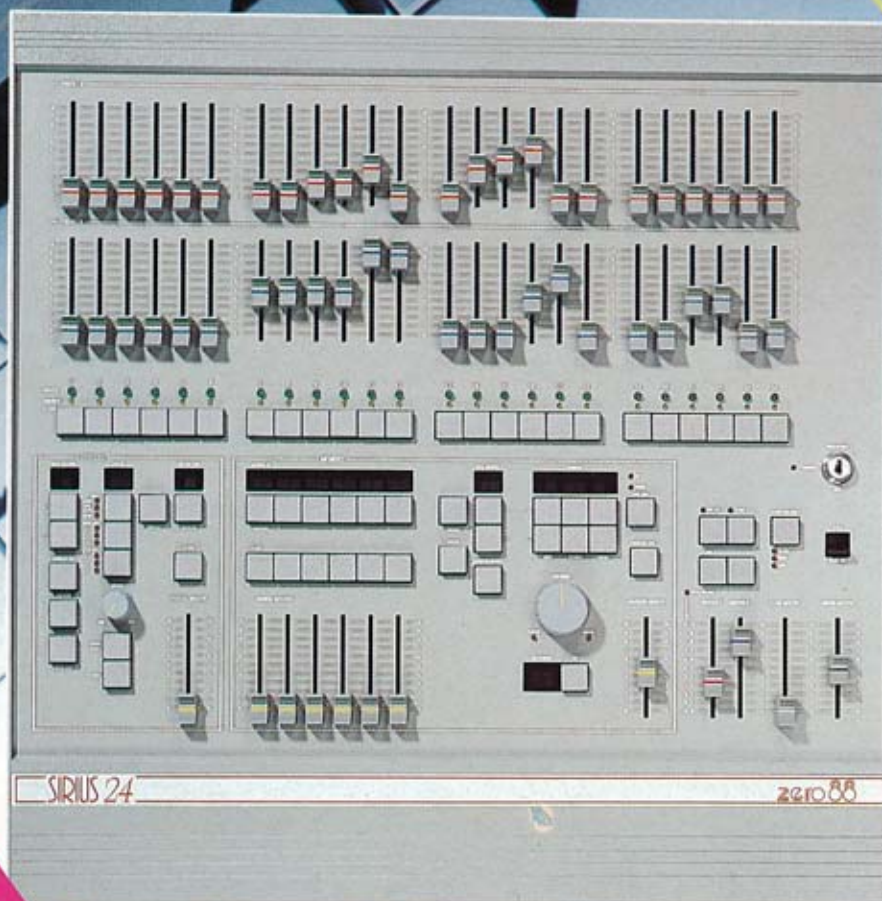
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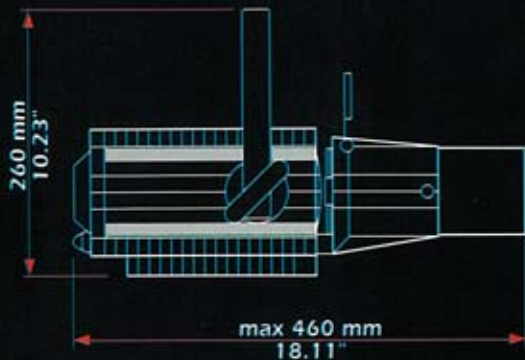
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JULY 1993

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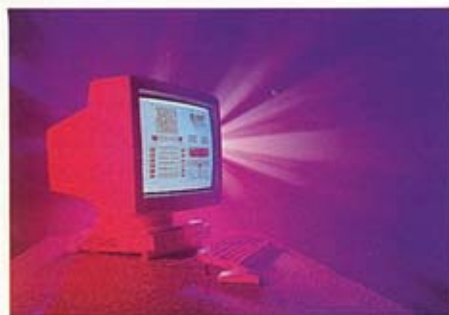
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High End Into Europe

As an expansion of their business within Europe, High End Systems have just revealed plans to establish a Western European distribution facility by the end of 1993. They have harnessed the expertise of John Adams, one of the founder directors of Lightfactor Sales who have been an instrumental and driving sales force behind the High End product line, to assist in the set up of this new business.



John Adams - new posting.

High End's President, Bob Schacherl told L+SI: "Our West European operation will allow us to provide the highest levels of support to our existing customers during their hours of business. We have always found the time difference to be a disadvantage, and our presence in Europe will allow us to position ourselves more competitively in the European marketplace. We are also extremely happy to have John Adams on board, along with his extensive knowledge of the international markets and our complete product range." However, he refused to disclose the exact location of the new operation, although he did admit that fact-finding missions had been carried out in the Netherlands and there was a possibility that the company would be based near Eindhoven or Maastricht. Whilst the operation will initially be distribution only, the company are considering the feasibility of it becoming a manufacturing base for the range of High End products.

Both John Adams and Lightfactor's Mick Hannaford see this move as a very positive one which further strengthens their relationship with High End. Although John will be leaving Lightfactor, he is looking forward to contributing and being involved in High End's continued success.

Pulsar at the Palais

Part of the recent redecoration and refurbishment of Le Palais in Hammersmith included an up-grade of the lighting and sound systems by CTS. The Pulsar/Clay Paky lighting ensemble included 16 Golden Scan 3s, eight Tiger Scan HMI 1200s and two Masterpiece 108 channel control boards. The existing Court sound system has been augmented with eight Court bass bins and Amcron Micro-Tech 601 power amplifiers.



Pictures on St. Pancras

Our front cover this month (and picture above) show London's St. Pancras Station in unusual night-time guise when it became the backdrop for the promotion of the London Jazz Festival. Dick Straker of Mesmer used a selection of Andrew Potheary photographs and a combination of Adobe Photoshop and Quark Express on his Apple Mac Ilci to design and format the images and text.

Five projectors were used and each one had specific sizing, tonal adjustment and perspective correction requirements. The subsequent 200 slides produced were then dyed a range of colours to suit the various sponsors.

The five projectors used were 5kW Hardware for Xenon and the total projected coverage they achieved was over 2,000 square metres. The large format (18 cm.sq) slides changed at 12 second intervals and took three minutes to complete each 40-slide sequence which ran from twilight until 12.45 a.m. each night. The companies involved in the project were Mesmer (design and production), Et Lux Perpetua (sponsorship) and Pure Land Design (design).

M & M Camelont Brochure

A new full colour Rainbow Colour Changer brochure is now available from M & M Camelont. The brochure details the sizes, uses and technical specifications of the Rainbow range, including the newest all-weather Alfresco, and also contains full details of the Rainbow distribution system. Copies are available free of charge, from M & M Camelont in London, telephone 071-284 2504.

Woodroffe to Sell 4:1

Four to One, the quarter scale lighting and design studio based in London, is being offered for sale.

The studio, which has been running for the last two and a half years, has successfully initiated the idea of scale design and has been used to prepare and programme, in miniature, productions for artistes and events as varied as AC/DC, Sting, Seal, The Bee Gees, The Freddie Mercury Tribute, Sinead O'Connor, Status Quo, Steve Winwood, Erasme, Dire Strait's 'Calling Elvis' video, Pat Cash's Tennis Extravaganza and many others.

The founder of Four to One, lighting designer Patrick Woodroffe, told L+SI: "I have been so involved with my own work in the last two years that I have had little time to develop the business side of the studio. I often use the place myself, and I see the uses that the other designers have found for the idea, but I feel that for the concept to really grow, it needs someone who will market it and develop it full time. We have had neither the time nor the resources to do this and so we would be happier to see it succeed in someone else's hands."

"I think it's safe to say that almost everyone who has seen the studio, and certainly everyone who has actually used it, has loved the idea and the feel of the place, but because it has never been actively marketed it has never been a real commercial success. We're really proud of everything we have achieved over the last few years and we now hope that someone will come forward who will want to accept the challenge and take Four to One to its next step of evolution." Co-director Steve Nolan started his own production company, Chromatic, a year ago and its development and success has meant that he too has had little time to devote to Four to One.

Nolan said: "The potential of the business could be enormous if there was a person or company who was prepared to commit themselves to the project full time. Of course we would like to stay involved in some way with whoever takes on the challenge and I know that Patrick still hopes to use the studio to rehearse his own shows."

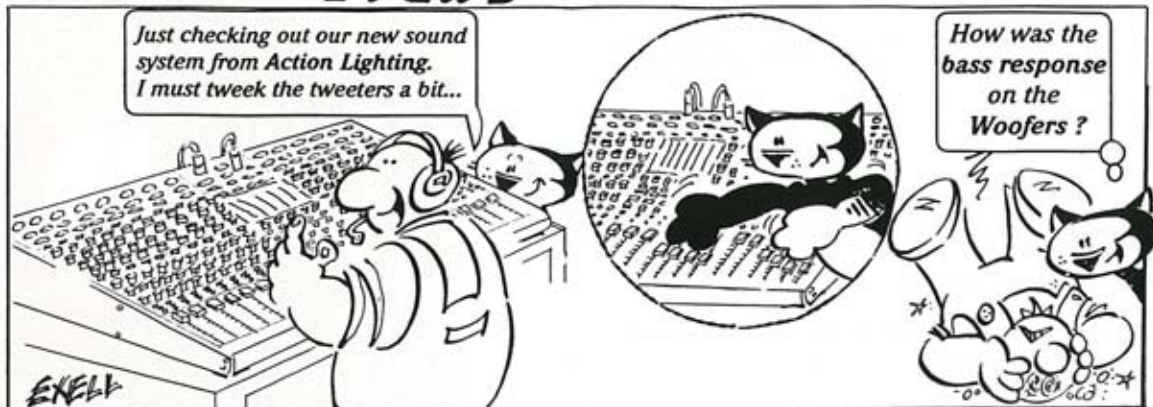
The telephone number for the Four to One Studio is 071-498 7127 and Patrick Woodroffe can be contacted on (0225) 852646.



Patrick Woodroffe.

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Action News



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Wybron Ltd Opens in UK



Wybron's Dan Martino (left) seals the deal with Daryl Vaughan.

Having successfully launched their ColorExpress service last month (exclusively reported in the June issue of L+SI), Wybron Inc. has announced the establishment of a European sales and marketing operation under the helmship of Daryl Vaughan. To meet urgent delivery requirements, the most popular models from the wide range Scroller and Coloram colour gel changers will be stocked at their Acton premises.

Ken Whitright, founder and president of Wybron Inc told L+SI: "For some time now we have been looking at the idea of setting up a wholly owned subsidiary in Europe to more effectively service our customers on this side of the Atlantic. By using the ColorExpress service as our bridgehead - so to speak - it was logical to follow up with a sales office for our Scroller products."

Dan Martino, sales and marketing manager for Wybron, added: "The quality and reliability of Wybron colour changers is acknowledged to be amongst the best in the business, and as market leaders in the States, we believe there is great under-exploited potential for increasing our sales into the UK and Europe. Given his extensive marketing experience, coupled with the reputation and standing he enjoys in the industry, we are particularly pleased to have secured the services of Daryl Vaughan to spearhead this expansion."

Daryl Vaughan told L+SI: "The Wybron name is synonymous with customer service and innovation, and as such, I am delighted to be associated with the company, its products and people. Naturally, I'm very excited about the future prospects for Wybron in the UK and Europe - especially with the imminent launch of the revolutionary Autopilot system on the horizon. I look forward therefore to the challenges and rewards that lie ahead."



Wybron line-up: Dan Martino and Daryl Vaughan with Brandon James, Jason Volmer and Adrian Offord at the new Acton, London base with the 10m long ColorExpress gel assembly system in background.

Le Maitre as Usual

It is business as usual for Le Maitre Sales following agreement from 99 per cent of their creditors to accept voluntary arrangement terms. "The company is trading normally as it has for the past 16 years," said director Rick Wilson. The agreed arrangement will see monthly payment of outstanding debts over a 12 month period, with current trading as normal. Serious cash flow problems have been experienced by the company during the recession, with the added burden of re-building their Peterborough plant and the replacement of a considerable amount of machinery.



Rick Wilson of Le Maitre: "trading normally."

The Gulf War also had a huge effect on sales. "We would like to thank the many customers and suppliers who sent us goodwill messages," said Rick Wilson.

Lightning Strikes at Cirro Lite

The Lightning Strikes 70,000W light was invented in 1990 to meet the demand of lightning effects in the Hollywood film industry and to replace the unpredictable scissors arc systems.

The light output is in excess of two million lumens of 5600 Kelvin daylight. Lightning Strikes have developed various types of controllers to switch the unit from their simple push button dimmable system to the undulating controller to mimic scissors arc effects and a gun fire controller to pre-set film frames with the light on and off at 25 frames per second. This was custom made for Steven Spielberg's film Schindler's List, recently shot in Poland. They have also developed a range of interface boxes for DMX, Midi and Analogue control systems.



David Morphy (left) and John Coppen with one of their growing stock of Lightning Strikes.

Cirro Lite (Europe) Ltd became the agent to rent the Lightning Strikes unit from January this year and the popularity of the light once it was demonstrated to the pop video feature film, television commercial and drama lighting directors and lighting cameramen has been astounding.

The partners in Cirro Lite are John Coppen and David Morphy, and because of their background in rock touring production, they decided to introduce this new light source to touring lighting designers. "Marc Brickman used two Lightning Strikes to great effect on the current Paul McCartney tour to complement the pyro and to use as an effects light," explained John Coppen. U2's designer Pete Williams was also impressed and is using two as front lights to create a powerful longer lasting light burst strobe effect. Patrick Woodroffe has one Lightning Strikes out with Depeche Mode, where his idea was to move the light during the show to maximise the effects. He is using it as a flashing cyc light with coloured gel and to enhance a scenery effect from behind. Recently, leading French lighting designer Jacques Rouveyrolis visited the premises to view the unit and decided to give them a trial test for outdoor Johnny Halliday shows at the Parc du Paris. He used them as audience lighting and was so impressed with the results that he hired two for the current French tour.

"For us at Cirro Lite it has been tremendously rewarding to introduce a new light source that enables lighting designers to invent creative ways of using it. We feel it has enhanced our reputation for introducing new products into the European market and fits in well with our other products: Kino Flo Fluorescent systems and the Cirrus range of cracked oil mist machines," said Coppen.



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Flaming June in Glastonbury

Batmink celebrated the opening of their extended showroom and warehouse in June with a special Open Day which saw numerous industry companies' representatives there to support their product line-ups. Pictured above with Batmink's own trio of David Churches, Grant Thomas and Paul Goodman are industry luminaires from Anytronic, Cerebrum Lighting, RCF, Martin Professional, Pulsar, Optikinetics, Adda, Le Maitre, Disco Mirror, JEM, NJD Electronics and Eminence.



Matcham Stands

It's recently come to light that many of the grandly designed Frank Matcham theatres were equipped with traditional music stands. As a result, Theatresearch and Futurist of Dewsbury have joined together to produce a copy of the original music stands used at the Gaiety Theatre in Douglas, Isle of Man (c.1900). An illuminated version will soon be available (details 0924-468183). L+S's editor John Offord (right) is pictured with Futurist director Brian Simmonds and two of the stands. It is rumoured that our editor has ordered one in a special gold to match the decal on his Steinway.

Biting with BEDA

The British Entertainment and Discotheque Association (BEDA) held their second annual awards dinner at the Metropole Hotel, near Birmingham's NEC in the middle of June. No less than 930 delegates attended the formal dinner, which was sponsored jointly by Molson and Disco Mirror.

Afterwards, the diners were addressed by Tony Marshall, Rank Leisure's operations director and the BEDA Chairman, and were informed among other things that BEDA had appointed a firm of parliamentary lobbyists to further the industry's case at Westminster. There followed the awards ceremony, presided over by Noel Edmonds, at which the premier award went to TOTS 2000, the Southend discotheque featured in the April issue of Lighting+Sound International.

Other presentations were made to Formula Sound and Clay Paky, for sound and lighting respectively. The ceremony was supported by several industry suppliers, who helped to turn it into a mini multi-media event: these included CTS, Harman Audio, Laser Grafix, Lite Structures, Martin Professional and The Music Company. The event was staged and produced by Talk Talk, who were recently involved in the Laser Fantasy show at Blackpool Tower.

Afterwards, and presumably in case they were suffering from withdrawal symptoms following a night away from their venues, guests were treated to a discotheque staged in the ballroom of the hotel, in which many of the same suppliers were also involved.

RB Lighting Move

RB Lighting have moved to new premises which will feature a trade counter and showroom for all types of theatre lighting equipment. The new address is: Unit 10, Teddington Business Park, Station Road, Middlesex. TW11 9BQ. The telephone and fax numbers remain the same.

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David Taylor Heads for America

David Taylor, Project Leader at Theatre Projects Consultants, is moving to work in the company's Connecticut, USA office. David will be making the move in September to become senior consultant and project manager after working in the London office for eight years.

His work with the London office of TPC has included the refurbishment of the Tricycle Theatre performance facilities at Canary Wharf, the New Orange Tree Theatre at Richmond, Newbury Corn Exchange and the Lawrence Batley Theatre, Huddersfield as well as a number of projects in the US and Far East. David had also gained attention for a number of acclaimed architectural lighting projects which he has designed for both private and corporate clients.

Awaiting him in the Connecticut office will be the on-going work on a four-theatre complex in Walnut County, California, the San Jose Rep Theatre and the Ahmanson in Los Angeles.

HMYPT Course Successes



Pictured above are the majority of trainees who have successfully completed the Autumn 92/Spring 93 Technical Training Course at the Half Moon Young People's Theatre in London's East End. Many have already found work in the industry or are going on to further studies, and those who missed this photocall during a special reception did so due to the fact they were on tour or too busy to be able to attend - a reflection on the quality of the courses provided. Training co-ordinator for the scheme is Dipak Mistry and senior tutor Christopher Corner. The full picture line-up is: (back row) Jane Smith, Daniel Chapman, Mike Allan, Chad Redford, Joe Kavanagh and Jim Smith (Spitalfields Market Training Initiative); (front row) Mirdul Kanji Das, Ellanora Clarke, Chris Corner, Stuart McKean, Cathy Weir and Dipak Mistry.

People News

Paul Russell (pictured right) has been appointed UK lighting sales manager for Optikinetics. Previously, he worked with Anocil Ltd promoting their range of pre-anodised aluminium.



Soundcraft have made three new appointments to their Spirit division and marketing department. **Chris Goodie** has been appointed UK market manager for the Spirit division. **Andy Farmer** has moved from Soundcraft's marketing department to become product manager for the Spirit range. **Mike Mann** joins the marketing department as technical specialist for pro and broadcast products. He brings with him four years' experience in the broadcast market with Philip Drake Electronics, and theatre and live sound knowledge from the Royal Opera House, Covent Garden.

Robert Nesbitt has been voted President of the ALD, and **Stephen Hawkins** will take up the role of secretary following David Taylor's departure to the States (see story this column).

PLASA in Kiev

More pictures from PLASA's recent trade mission to the Ukraine. The venue for the special 'mini-exhibition' was Kiev's Palace of Culture.



Strand Lighting's Alan Luxford (left) with the technical director of the Kiev State Opera House, and interpreter.



Arri GB's Mark Thompson (left) showed control consoles and the SmartRack digital dimming system.



Avolites' Tony Shembish describes the company with a little help from the PLASA Yearbook.



The stand of Lighting Technology Group had a wide mix of lighting and sound equipment, including Computite desks.



Glantré's Matthew Tonks (centre) in deep project discussion.



Light Processor's Mick Hannaford (left) with British commercial attaché Roger Cook.



The busy Pulsar stand, with Derrick Saunders in charge, had a full line-up including the Clay Paky Golden Scan 3.

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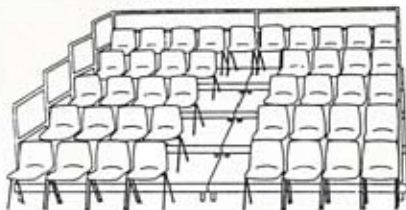
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Showtech 93

The AMK Messe, Berlin played host to a trimmed down Showtech 93 this year, which may well have more to do with the fact that the show jumped out of its two year cycle to take up the odd years and leave the even years to Photokina in Cologne, than with the depth of the recession in Germany. However, the show pulled in more than 4,000 visitors to what has to be Germany's most important technical fair for event and stage technology.

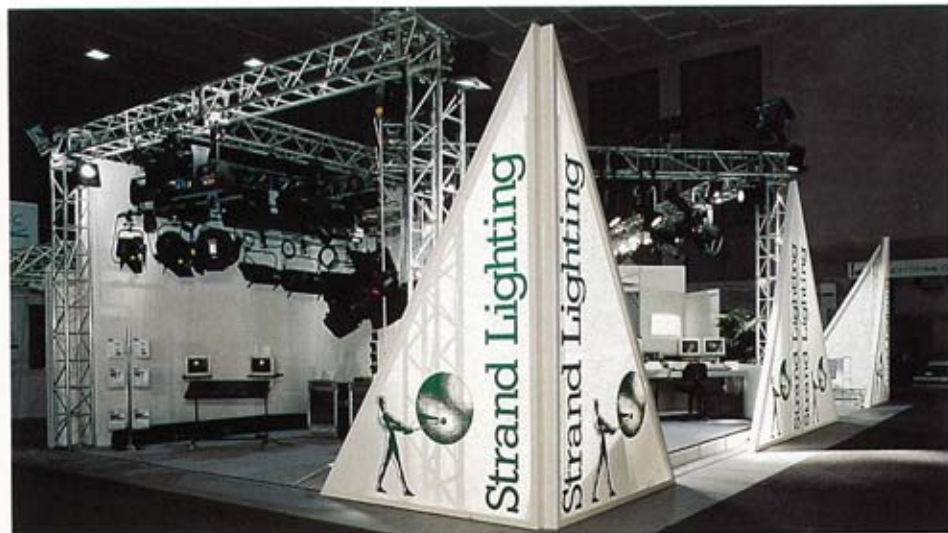
I always feel that this show is more akin to ABTT than PLASA and, although the big names were there, it was the smaller firms who seemed to attract the interest. Comparing notes with others in attendance, we agreed that there was a lot of enthusiasm at the show, but not a lot of new ideas! With this in mind I visited the stands in quest of enlightenment.

Showtech stalwarts **Strand**, as in previous years, divided their stand up to reflect the diversity of their operation. The focus of the stand rested on the company's projects division, whilst other areas concentrated on stage lighting and control, with the well-known Strand portfolio on display. The recently launched LD90 dimmer made its German debut.

The **Clay Paky & Pulsar** stand showcased the new Golden Scan 3, on display for the first time in Germany. According to Pulsar's Ken Sewell, sales on this unit have exceeded expectations right across the world. Ralph Wezorke and Gunter Olbricht represented CP&P Germany, with Derrick Saunders, Ken Sewell and Paul Mardon from Pulsar, whilst Clay Paky's Pasquale Quadri, Pio Nahum and Angelo Calvenati completed the triumvirate. **Coherent** let their long-standing collaboration with installation company **Tarm** do the talking for them. Champagne corks were popped at a special presentation ceremony to mark the 100th installation of their Purelight and Innova range of lasers.

Newcomers to the show, **AC Lighting**, were leading the way with several new products. Glyn O'Donoghue was enthusiastically demonstrating Flying Pig System's Wholehog control desk which, in its short lifespan, is more than holding its own in the competitive touring market. A large range of the AC-distributed products were on show, perhaps most notable of which was a compact Jands control desk, so new that details will follow later.

Another first time exhibitor, UK company **Audience Systems**, were actively seeking a German agent for their well known seating systems. Director, John Poyner demonstrated their



Strand's impressive corner site (above) and AC's Glyn O'Donoghue (below right) with Tom Thorne of Flying Pig Systems on the stand of A C Lighting.

new Model 628 Auditorium chair which was mounted on the AS500 telescopic platform system. Great interest was also shown in the new hoist system on the stand of **Hall Stage** which allows wires to be stacked in a pile between steel plates instead of laying loosely on a drum, thereby eliminating the consequent uneven layering of cable. Also on show was a new curtain system and Posimount, a raise and lower device for video projectors.

Imax GmbH played host to the new R & G Group range of Nova dimmers, the IMAX luminaire shutter system which was attached to MSR followspots and a new sodium low pressure batten. Imax are hoping, in conjunction with R&G, to display the product at the PLASA Show in September.

Several new saturated colours are now available from **Rosco** and sales manager Peter Richards dangled forth a promise of something really special at PLASA. Despite my pleas for a scoop he would expand no further on this statement! **ADB** launched two new 2kW zoom profile spotlights with two lens condenser optics and double spherical reflectors: the DS-204 is specified for a field angle of 13°-36° with a maximum axial intensity of 360,000 Cd, whereas the narrow beam DN 204 is actually a mini 'light canon' with a peak intensity of nearly 600,000 Cd. The two feature 360° rotation, and it is also worth



mentioning that they are equipped with a new beam-shaping shutter system.

Sico, already well known for their demountable tables and chair units, launched a new stage system for larger venues.

Showtech regular Mike Lowe of **Teatro** gave further exposure to his range of luminaires, and announced the appointment of four new distributors in Germany.

Telestage Associates demonstrated the Command Performance System, an interesting computer control system for positioning motorised equipment on stages and in TV Studios. One is to be installed in the New Glyndbourne Opera House later this year.

Greg Moger

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NEWS SHORTS

The **Wholehog** lighting control system is coming into its own on the European Festival circuit. Currently Glastonbury and the Montreux Jazz Festival are exploiting the ability to control vast numbers of conventional and multi-parameter fixtures simply and logically from one console. With the rapidly growing numbers available for hire as more rental companies but them the Wholehog is likely to become a familiar sight at major European Events.

UK pro-sound specialist **Marquee Audio** are experiencing busy times with sales of Soundcraft consoles. Laser Studio in Gwent, came to Marquee for the Soundcraft Venue consoles they supplied as part of two overseas turnkey installations featuring their intelligent light systems and laser equipment. A 32 Channel Venue has gone to a live music pub-type club in the Far East, whilst a 24 Channel desk has been installed in a newly opened Bangkok music venue. Marquee was also chosen by London's National Gallery to equip them with a portable sound reinforcement system to maximise flexibility in their use of Gallery spaces. Designed around a Soundcraft Spirit mixing console and four Wharfedale Force 9 speakers powered by a C-Audio RA2001 amplifier, the system includes a Marquee custom prewired audio rack.

Electracoustic Ltd have installed a sound system into the new Rollers UK bowling alley at Milton Keynes. Designed for background music and paging applications, the equipment includes Turbosound TDX-100 loudspeakers and Crest amplification. The company has also recently completed the design, supply and installation of a new sound system in Pier One, London. The equipment consists of Turbosound TMS 1 and TMI 101 loudspeakers, Crest P series amplification and Electracoustic's own design of sub-bass utilising Precision Devices drivers which was built into the fabric of the venue.

Two of Europe's leading opera houses have installed Logic 2S from **AMS Neve**. Opera Leipzig's new desk will be used for the preparation of sound effects, for playing back effects during performances, and also for sound reinforcement. The Finnish Opera House has bought two Logic 2 consoles - one for use in the auditorium and the second for the sound studio where effects and music are prepared.

UK live PA company, **Capital Sound Hire** has taken delivery of its first Yamaha PM4000 sound reinforcement console from pro-audio specialists Marquee Audio. No sooner was the PM4000 through the door, than Capital had it out on the road with sound engineer Steve Venezia on The The's three week tour across Europe. Beverly Craven is among the other major artistes that Capital has lined up for the desk.

The Nomura Room, located in one of the oldest parts of the Tate Gallery, has recently undergone complete refurbishment, including a brand new lighting installation completed with lamps from

Osram. The new look took almost two years to complete and cost more than £2 million. Osram Dulux compact fluorescent lamps were used in recessed ceiling luminaires with asymmetric mirror reflectors.

Protek are shipping the first part of a major order to Moscow, Russia for a nightclub installation. As a result, the company involved have now become Protek's official distributors in Russia. They have also appointed MDR in Belgium to act as distributors. Since the launch of their remodelled K Range of professional cabinets at the beginning of June, the company have completed four night club installations in Cork, Monaghan, Tipperary and Dublin.

Chris Parry, M & M Camelont's US representative and lighting designer has received a Tony at the recent award ceremony. Chris won the award for 'Best Lighting' for the Broadway production of Tommy, which also won four other Tony's. Parry's lighting of Tommy includes 62 8" Rainbow Colour Changers supplied by 4 Star Lighting of New York. He will also be lighting the US tour of Tommy which goes out in October and the UK production, scheduled to open in 1994.

Entec's sound hire department is looking busy. In addition to the BBC 'Happy Families' show, Entec sound will be found on the UK segment of the Clannad World Tour, supplying a 25kW JBL Concert Series full PA plus monitoring for a number of large venues including the Usher Hall in Edinburgh and London's Royal Albert Hall, whilst a 20kW PA set up with full monitoring will be provided for the Chaka Khan concert at the Hammersmith Apollo in July. The WOMAD organisation have contracted Entec to supply and tech the main 30kW festival PA at their two day event at the Rivermead site in Reading with a smaller rig to be used on the Big Top stage at the same venue. The Glastonbury Festival this year featured two large cinemas with audio supplied by Entec's JBL Concert Series PA.

The British Music Fair marks the 20th Anniversary of Peavey products in the United Kingdom. And **Peavey Electronics (UK)** will be celebrating on their stand (B19) at the show, with the launch of nearly 100 new products across their extensive range.

LD Alec Nisic is using a **Jands** Event 60/120 console on the current Runrig European tour.

A 39-unit **Meyer** sound system has been chosen for Sweden's prestigious Gothenburg Opera House. The system is to be supplied by the local

Meyer agent, Tal & Ton AB, and installation commences this autumn, with the theatre scheduled to open in 1994. MSL-2As will form the centre cluster of the former, mainly for voice, whilst the stereo system will comprise six MSL-3sc complemented by 650-R2s. Fill speakers will be the new UPL-2s and MPS 355s. A pair of MSL-3s will also be provided for sound effect replay.

A. S. Green & Co has recently completed the installation of the stage machinery at Limerick University. As a specialist sub-contractor to the main contractor John Sisk and Son Ltd, and working to the specification of theatre consultants Carr and Angier, A. S. Green were involved with the stage machinery installation in the Foundation Hall. The installation involved the manufacture of a large proportion of the equipment together with the mechanical and electrical installation. The general format is of a hall with an open concert platform, with two side balconies and rear choir seating. There is a grid over the platform area, and two lighting bridges. Movable acoustic panels hang over the platform on an electrically operated bar hoists, with other hoists for performance use. A motorised hoist also suspends a loudspeaker cluster, with separate hoists to raise the teaching wall and video projector.

B&H sound Services Northern will provide technical services for the opening ceremony of the Greater Manchester Youth Games.

Clive Green & Co, the manufacturer of Cadac live mixing consoles, has supplied a J-type console to two of North America's high profile shows 'Kiss of the Spider Woman' in New York and 'Miss Saigon' in Toronto. Also in New York, the award winning production of the musical 'Tommy' is using a Cadac mixing console - this time, an E-Type supplied by west coast hire company, A1 Audio.

Manchester based installation company **Unique Systems** have recently installed a number of Tetley sites with sound systems from Ohm Industries. They include, Stonehouse Sheffield, Gallery Doncaster, Harry's Cafe Bar York and Gardeners Arms Hull. The company have also specified Ohm in a number of other venues, including Austins and New Union in Manchester, and The New Saddle in Sheffield.

Aliscuff, the London based portable modular stage manufacturing company, will now be marketing their stage systems under the name of Alistage. This system is based on an aluminium frame with a variety of timber decks, the standard finish being a black garudamesh board.

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ABTT and Futurist 1kW Shoot Out

Having unfortunately missed the previous 650W shoot-out due to work commitments, I was a little unsure of what to expect from this gathering despite having been invited onto the seminar panel way back in March. Organized as a mini ABTT show by Michael Lister of Futurist and Dave Wilmore of ABTT North, as well as the shoot-out and the seminar on lantern technology, there were plenty of exhibitors displaying other industry equipment and personnel available for discussion. Notably absent from the shoot-out was Vision, and from the other display areas Modelbox had had to pull out at very short notice, to the great disappointment of many of those in attendance.

Before the seminar, I was keen to get a good look at all the equipment available for scrutiny because I am currently in the position of specifying new equipment for a new venue. It was important that I familiarize myself with as many different manufacturers' products as possible. I spent a great deal of the morning making copious notes about the wares on display.

Looking primarily at visual optical performance from a designer's point of view and ergonomic design from a technician's point of view, I was able to establish in mind an outright winner in each lantern category. Interestingly, the profile, the PC and the fresnel I chose each came from a different manufacturer, pointing perhaps to the fact that each company has its own area of optical strength. The question then is whether to buy a rig made up from many sources or to go for one make throughout in the hope of getting a better discount. (Answers and opinions on the back of a postcard please!)

In the latter example I would equip from the manufacturer of the best profile, as optically this is the most crucial performance requirement and indeed, where most of my attention was focused during the shoot-out. Like most things, performance and choice are a matter of individual taste, so I am only willing to make a few brief comments from my notes.

The Neithammer Eni-Zoom by far outshone any other profile in terms of optical performance, but at a price of circa £600 it is unaffordable to average regional rep. Its outstanding optics were unfortunately overshadowed by glaring design faults like the rear focus knob being completely obscured by the trunion. What a shame that a better casing has not been designed around such brilliant optics.

As a left-hander, I was pleased that ADB have retained the bottom of the lens tube for the positioning of the focus knobs, making life just as easy for both the dexterous and left-handed amongst us. There were two profiles from the extensive ADB array on display, the 15:31, which was also optically very good, but lacked other useful features such as a rotating gate. It did however have a rotating lens tube which was the subject of much comment as guests asked 'why?' My own conclusion was that occasionally you may rig a lantern in such an awkward position that it is almost impossible to change the colour, so side access for the colour frame may be helpful. The wide angle version that was on show sadly let its brother down in optical performance, but I later learned that this particular lantern was not the latest model and had been sent to Dewsbury in error. I can only assume that this particular creature had been badly treated during its life in a hire stock! I will endeavour to meet the new ADB products in the near future.

The CCT Silhouette Turbo is a vast improvement on its predecessors and its modular design makes it easily adaptable for focusing from the left, right, underneath or hanging precariously from the circle front. Optically, it rated at the top end of my mental list of favourites.

My award for ergonomic design of a profile goes to Strand Lighting for the Cantata and Optique. All functions had a very positive feel and



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everything felt to be in the right place - good for focusing in positions of restricted movement or view as it is unnecessary to be able to see the luminaire's casing to find one's way around the features and functions. I experienced more flare than I expected from the Cantata but the Optique was in the same class as the Neithammer. I found the quality of the beam a little too good at first, finding myself complaining that it "lacked personality" and forgiving the small imperfections of Cantata.

However, as Mark Riddler commented during the seminar, we are very much used to working with imperfections. Given that the list price difference between Optique and Cantata is only £7.50 and the Optique at 15:42 degrees has an extra 13 degrees of available useful beam angle, it is definitely worth considering as an ingredient of any new rig.

Perfection is of course available at a price. One of the issues arising from the seminar was on the subject of fixed versus variable beam profiles. The panel were in unanimous agreement that a very variable beam profile is the most versatile and useful tool in the rig. Mark cited the possibility of a lantern focusing from virtually 0 to 90°. It would seem that the optical technology does exist to achieve that - but at a cost. We also discussed saturation rigs and labour saving devices but concluded that the most useful rig consists of a wide variety of lanterns and the lighting designer's untiring imagination.

Most theatre lighting designers seem to want the opportunity of discovering alternative light sources to tungsten and certainly since the improvements in dimmer technology, would like to see advances in low voltage luminaires. Once

Birdie Parcans have been discovered, they are very hard to leave alone. Mine have been in the rig, under the floor, inside light boxes, in a treehouse, wherever there is a limited amount of space but a bright light source is required. However, Parcans are just the beginning - let's see some more toys!


I am currently negotiating a deal for re-lighting a large exhibition which will afford me the prospect of using exhibition luminaires and some architectural fittings. I am interested to discover whether any of this equipment has the potential to become standard components in a theatre lighting rig.

It was encouraging to discover that my areas of interest for lantern developments are similar to those of various colleagues and therefore the demands made to manufacturers are conclusions drawn from a consensus of opinion rather than individual quirk. If we want changes to be made it is up to us as end users to let R & D know what we want. The day was completed, like all good ABTT meetings, catching up on gossip and old friends from the past.

SEMINAR PANEL

Dave Wilmore: Chairman of ABTT North/
technical director Harrogate Conference Centre
Jackie Staines: Lighting designer and chief
technician Stephen Joseph Theatre in the Round
Mark Riddler: Chief Electrician for
Nottingham Playhouse.
Philip Edwards: Theatre consultant and lighting
manager Royal Northern College of Music
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Making Eye Contact

'Art in the City' is a sculpture trail linking public sites in the City of London, beginning and ending at the Barbican Centre. Some of the works are being created in public view during the course of the event, and others have been specially commissioned for the occasion. One of these is an unusual light sculpture by Paul Friedlander, which is installed in the foyer of the British Telecom headquarters building in Newgate Street.

The creator of this Medusa boasts a rather unusual, if not unique combination of skills. For he is both a physicist and a fine artist, having taken a degree in both, seemingly unrelated subjects. The point at which the two can complement each other, as Paul discovered, is in his chosen medium of artistic expression - light. In fact, he describes himself as a kinetic light artist.

Actually, Friedlander has been creating kinetic sculptures and designing light shows since 1970 - early kinetic forms were based on multi-coloured fountains of polystyrene granules, and his stage work culminated in a series of concerts with the Electric Symphony Orchestra in the mid-Eighties. More recently he discovered a lighting technique which he calls Chromastrobic, which combines high speed colour change, faster than the perception of vision, with objects in motion, which together create mutations of form. Sculptures using spinning lengths of string in 'skipping rope' formation, which when modulated, create delicate, changing coloured waveforms seemingly hanging in space, soon followed. A desk-top executive toy based on this technique was subsequently successfully marketed in the United States.

Paul was also becoming fascinated by the visual potential of the motional effect which might be achieved by vibrating fibre optics. "I imagined that this could be comparable to children playing with sparklers waved in the air, on bonfire night," says Paul. "I had always thought this was a lovely effect, the way images cling in the air and the coherent shapes which can occur."

Friedlander realised that fibres would bring the added possibility of colour changes and, if the modulation could be varied, a variety of apparently unsupported, changing shapes and colours. What he planned was to combine his Chromastrobic technique with the vibrating movement of disparate strands of optical fibre.

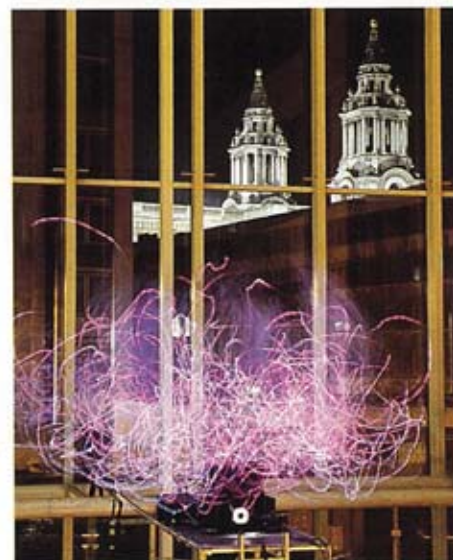
So when he was approached by BT to produce a large light sculpture, he already knew that he could give them something both spectacular and relevant to the company's business. However, he was at a very early experimental stage with his concept at the time, which gave him cause for doubt. But, if he was nervous about the technique, he was even more intimidated by the scale of BT's magnificent 100 feet tall atrium, to say nothing of the high level of natural daylight. In Paul's description: "It's like a giant greenhouse!" Nevertheless, he buried his nervousness and accepted the commission with enthusiasm.

What he had promised to deliver was not only something much larger than he had previously experimented with, it is actually four metres across though planned to be even bigger, but it also required full computer control. Now, he was instantly immersed in the mysteries of servo motor control by computer, something about which he had no previous experience. "The challenge required me to develop a range of skills and techniques, improving hardware and learning to liaise with software specialists to develop a custom system especially suited to this task. I am particularly grateful to David Holden, my software writer, who has produced a wonderful system of control." The final programme provides a graphical method for creating, storing and representing memories. Friedlander currently has 4,096 cues in the sequence he is running and, using a mouse, can record such a set-up in as little as half an hour. Trio Motion Control provided the servo system.

Paul designed the mechanics of the vibration



The creator of the Medusa, Paul Friedlander, scales his kinetic sculpture.



Activity in motion in the BT atrium with floodlit St. Pauls in the background.

system from scratch, as he could find no antecedents, and he feels that this still has room for improvement but believes that it would be possible to increase the size of the display even more. He was also faced with the choice of lamp, which needed to be both powerful and deliver a high colour temperature, ultimately deciding on the daylight version of the 700MSR, for its compact format and life characteristics. Having made that decision, Friedlander immediately realised that he needed high quality dichroic colour filters, on borosilicate substrate, in order to withstand the very high temperatures generated by the lamp. Unavoidably, these would be sitting in an extremely hostile place in the optical path. Nevertheless, as far as possible, he needed to ensure the longevity of his chosen colour palette over the extensive period of display, and to maintain colour saturation.

"Having decided that OCLI was one company likely to meet these conditions, I am delighted to report that the results with their dichroics have been excellent. Although one must expect some visible shift in certain colours at these temperatures with standard dichroics, the vibrancy of the colour doesn't seem to have been affected at all. Gel would have evaporated in seconds! I am extremely grateful to OCLI for their support and for the high standard of their material," Friedlander told L+SI. OCLI's manager for intelligent lighting products, Donald Cameron, comments: "the application of dichroic filters in Art and Architecture is a natural extension of their

use in entertainment lighting. Such filters are capable of withstanding the most hostile of environments."

OCLI Optical Coating, based in Scotland, have recently been taking a more aggressive stance towards the European entertainment lighting industry, especially since the emergence here of the many new breeds of automated luminaires. However, they are no newcomers to the scene; the American parent company already supply the dichroic filters for the colour mixing systems in the Vari*Lite range of automated lanterns, which includes the much praised VL5 wash luminaire.

The Paul Friedlander 'Eye Contact' light sculpture can be seen at the British Telecom Centre in Newgate Street, EC1 until 25th July.

THAMES VALLEY POLICE NOTICE

Murder of David Martin

On 29th December 1992 David Martin of Martin Audio Ltd, went missing from his home in Naphill, High Wycombe, England. On 2nd May 1993 Colin James, a business associate of David Martin, was charged with his murder. David Martin's body has not been found.

Thames Valley Police wish to contact all of his friends and associates who have not previously been spoken to. If you knew David Martin please write, fax or telephone the Incident Room at the below address answering the following questions.

1. What was your association with David Martin?
2. Where and when did you last have contact with him?
3. Did you have future plans with him?
4. Any other comments.

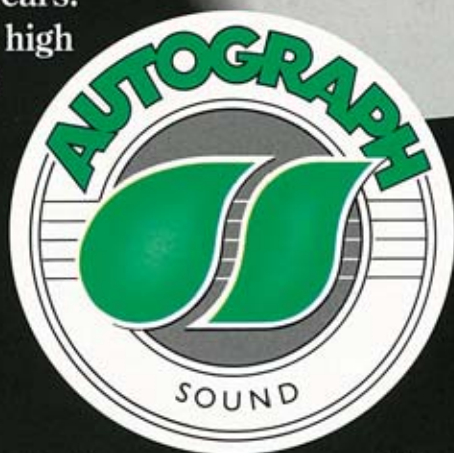
Replies are imperative to the successful completion of this enquiry and your assistance will be greatly appreciated. Please reply with your full name, address and contact numbers to: **Detective Superintendent BLAIR, Incident Room, Aylesbury Police Station, Walton Grove, Wendover Road, Aylesbury, Bucks, HP21 7BR. Tel: (0296) 396170 Fax: (0296) 394786**

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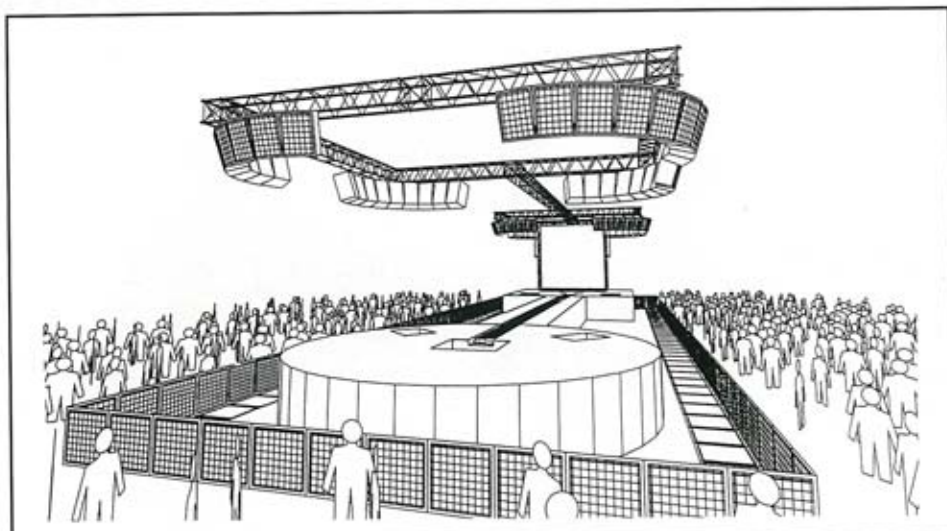
For those who read the piece I provided in January on Robert Lepage's theatrical production 'Needles & Opium', it will be no surprise to find that I jumped at the chance to cover Peter Gabriel's recent 'Secret World' tour, billed as a creative collaboration between the two.

For those unaware, Robert Lepage is a French Canadian director and performer, who has been winning plaudits from critics for his film and theatre work (not least from myself!). He is artistic director of French Theatre at The National Arts Centre (Canada's National Theatre), the first North American to direct Shakespeare at Britain's Royal National Theatre and has the accolade of having had an edition of the BBC's Omnibus made about him. The word genius is regularly linked with his name.

Much of his work is multi-media, using combinations of recorded sound, live music, imaginative staging and lighting effects, with pre-recorded and live projection images, which mingle magically, with performer and projection inter-playing. 'Needles and Opium' was without doubt one of the most entertaining, exciting and exhilarating shows I have ever seen, and was achieved without much of the state-of-the-art equipment one might expect. Consequently in January I was confidently predicting that his collaboration with Gabriel, well known for his theatrical stage style and ground-breaking video imagery, and the much increased budget of a rock tour, would be truly 'spectacular'.

Thus I found myself standing around the entrance hall of Earl's Court waiting for a man in a green sweatshirt!, who in fact, turned out to be Nick Archdale from Flying Pig Systems, makers of the award winning Wholehog. He had been bullied into getting me in! Having run the gauntlet of Earl's Court security I was finally inside. Things were likely to be a bit different this time, not least the sheer scale, which, as I was to learn, had put stress on the relationship between the participants throughout rehearsals.

Entering the hall from the side, near the lighting control station, the first thing that struck me was the large, square projection screen which dominated one end of the staging. In scale, this was very much like the screen I had seen used by Lepage previously in the theatre, and the reason it dominated only part of the set was a result of there being, in fact, two performance areas: a traditional rectangular stage at one end of the auditorium as one would



An early Brilliant Stages CAD visual. Later the rig was changed to reflect the staging more closely.

expect, and then a circular stage projecting out to the centre of the arena, connected by a long catwalk about three metres across. Certainly unusual.

The next thing that hit me was that there seemed to be something missing - where were the ubiquitous Vari*Lites? Answer: nowhere! Instead there were 24 Superscans - Clay Paky's 1200 HMI top-of-the-line, colour-mixing, dynamic mirror projector. This should certainly be interesting.

The show itself is very theatrical, not surprising with Lepage's input and Gabriel's own tastes. The band performs on both stages, and at all points down the walkway in between - often with the performers moving unpredictably between the two during numbers. This obviously brings production headaches as the set-up can't be treated as two distinct entities, but only as one large, abstract performance area. Britannia Row Productions had the unenviable task of providing sound for this abnormal set-up. This was further exacerbated by the abstract staging, leading to potentially very bizarre audio imaging for parts of the audience and strange psycho-acoustic effects when the sound and performer do not seem to coincide. Where do you set your delay points in this situation? It was decided that the show would have to be mixed as one, but using six inter-related sound zones to achieve the appropriate sound focus for the various parts of the audience.

The job is made even more difficult as the mixing station is sited between the two stages, directly beneath the PA. Brian Grant of Brit Row commented: "Where do you put a mixing console in this situation? Nowhere is perfect." Pete Walsh is aided with the difficult task of trying to mix for the entire arena by a team of people patrolling the building and reporting-in throughout the performance. Brit Row used 70 Turbosound Flashlight mid/high boxes and 78 Flashlight bass cabs, combined with 17 pairs of the new Floodlight boxes for near-field fill.

Monitoring for the performers was obviously a further problem, due to the constant movement. Brit Row solved this by combining a standard static monitoring system, with PRS in-ear system. Radio mics were a necessity, with both AKG and Shure being used for this purpose.

The unusual staging is reflected in the rig, which mirrors its shape: a fairly standard rectangular rig over the main stage (although dominated by the projection screen), whilst the walkway is reflected overhead with rectangular sections of trussing which form a spine along its length, to join a circular truss above the central stage. This large circular truss carried eight Superscans and eight 5ks with Rainbow scrollers around the outside, and an eight metre diameter dome constructed of Trilite suspended within it, housing 24 PanCommand Color Faders fitted to Par cans. The dome itself was developed and built for set designers



Circular rig with dome in place.



Stage and catwalk.



Projection screen shown centre, with Yamaha PM4000 sound desk and mixing area in the foreground.

Brilliant Stages by Optikinetics.

These luminaires are the main lighting elements used throughout the rest of the rig, with a further six Superscans on the spine, and 10 over the rectangular stage, supported by 10 further 5ks and 24 Color Faders. This may be considered very sparing for a rig of this size, no Par cans dripping from every point here, but this is compensated by the colour-mixing ability of the Color Faders, Superscans and the Rainbow scrollers on the 5ks, which together give the large-scale colour washes needed for such a large performance area, plus, of course, the Superscan's dynamic movement.

The other lighting element which deserves special comment is a set of detached Goldenscan 3 mirror heads provided by Pete Miles' Spot Co (who supplied all the Scans via Neg Earth, providers of the entire lighting package). One of these was placed directly below each Superscan on the walkway and used during the show as a secondary reflector. By hitting the severed heads with a tight, white beam, then panning the secondary mirrors around, a floor-level searchlight effect was achieved. The effect itself worked well, due to the larger diameter, yet still collimated, beam it achieved and looked great with the pencil-thin, irised-down beams emanating from the Scans above.

Much of the impact of the show is generated by the staging. Apart from the interplay between the two stages, with the band and other performers (notably Sinéad O'Connor at Earl's Court) appearing suddenly at either point, many other mechanical effects are used. The walkway uses a conveyor belt so that it is able to double as a traveller, allowing Gabriel to punt between stages at one point in the show. At another moment, luggage is returned towards the band giving the impression of an airport baggage carousel. The conveyor belt caused Brilliant Stages some problems, as it had to be modular to allow the length of the walkway to be adjusted to different venues. To their great credit it has, so far, been 100% reliable.

Extensive use is made of stage lifts, a large tree growing from the circular stage for 'Shaking the Tree', and the entire band later disappearing through the floor by the same means. Later, individual members of the band also evaporate into a large suitcase, brought to Gabriel by the moving walkway, through use of a trap. On a smaller scale, bars of Par cans rise and fall at the sides of the stage, re-shaping



Peter Gabriel meets BT.



Motorised side-stage Parcan bars.



'Boxing' the band, using the projection screen as lid.

the impact of the ground-level lighting surrounding the band.

This is by no means the only mechanical movement. At the end of the main set, having packed the band into his suitcase, Gabriel himself stands on the circular stage, rigid and staring skywards, as the dome above slowly starts to descend UFO-like, eventually engulfing Gabriel and the whole stage. After much cheering from the audience, the dome then rises again to reveal the entire band, ready for an encore.

Another major piece of driven hardware is the projection screen, framed in Quadlite, which moves from the back to the front of the rectangular stage and also rotates around its horizontal axis. This allows the screen to act as a lid for a rectangular box built to surround the band at the beginning of the show. As a true projection screen it operates when vertical, at 45°, or, most effectively, when sent spinning, apparently by Gabriel himself. Then, the screen is covered with projected video images rotating in the opposite plane to the screen, giving a very exciting visual effect.

The whole staging is done beautifully, and it is a compliment to Brilliant Stages' modular construction and design that the show is working a five day week, rarely in one venue for more than one night, but always using only the one set, rather than the leap-frogging typical of such a complex set-up. (Get-out time is now below three hours according to Charlie Kail.)

The video system, provided by Melville Presentation Services and consisting chiefly of two Barco 5000 LCD projectors, is used extensively in the show, occasionally showing clips from Gabriel's videos, but more often using images especially made for the tour by Mike Coulson and Nicola Bruce. It is good to see projection being used for more than just old videos and band shots and to see that this new generation of LCD video projectors can live alongside concert lighting, allowing animated images to be more integral to the show and to become part of the on-stage effects rather than hidden away, by necessity, in the dark zone above the rig. This should certainly open up new possibilities (watch out for the up-coming Depeche Mode tour which will use 10 of these big Barcos!).

There was, of course, some of the traditional band-reinforcing live video footage (impossible to avoid in arena situations), but the most interesting, and weird live-footage came in a sequence towards the end of the main set. Suddenly, there appeared on the screen the giant close-up of a nose and one eye, as if shot using a fisheye lens. This turned out to be the peeper and proboscis of Gabriel himself, via a miniature TV camera mounted from a flexible arm and attached to a head harness. The resultant images were truly startling, in minute pores-and-all detail, as Gabriel manipulated the camera, focusing in on different parts of his face (even at one point up a nostril!) It says something for him that these images were allowed to stay in the show for their striking effect, despite showing the man himself in a somewhat unflattering view.

The whole show comes together well as a large theatrical entity and it says reams for those involved that it does. This is especially true when you become aware of the initial problems faced by the crew.

Many of the ideas and effects used in the show are very theatrical, not surprising given Lepage's involvement and Gabriel's own taste for the dramatic. However, there were problems when the concepts of Lepage had to be scaled up from the more intimate and

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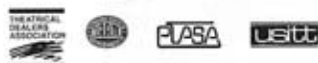
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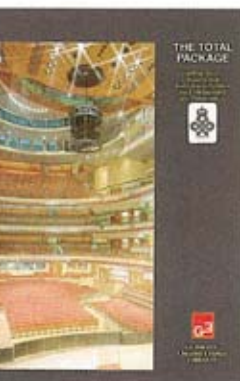


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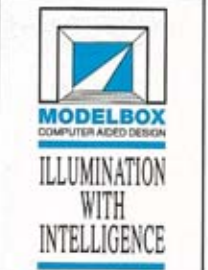
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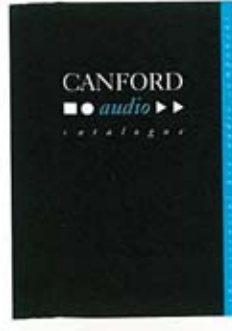


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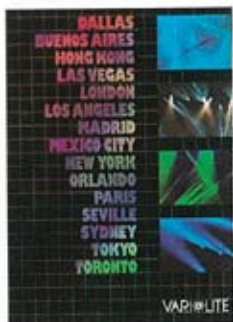
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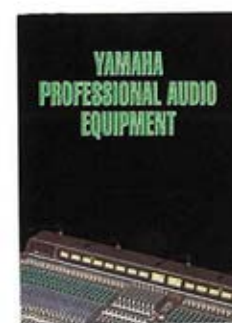
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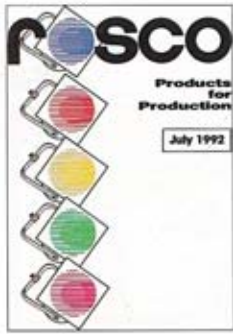
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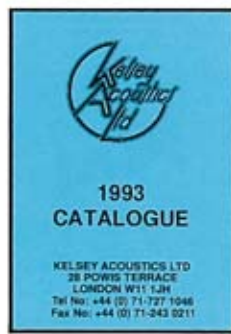
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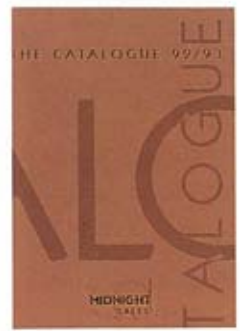
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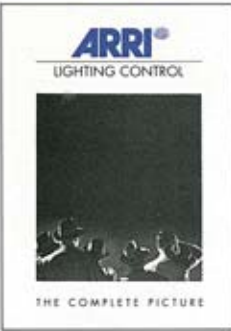
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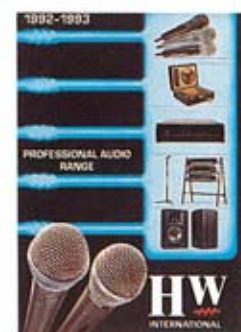
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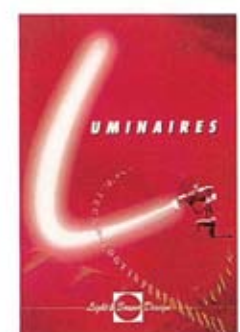
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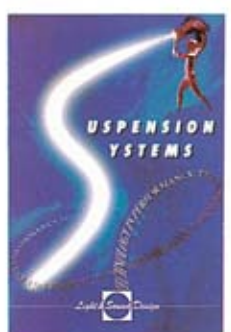
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LOOKING IN THE 'I' OF THE ICON

Tony Gottelier worships at the shrine

In a business where the sexual prowess of its stars, the lighting designers and directors, is considered demonstrated by the physical size of their favourite rock desk, it is inevitable that it creates its own talismans. I can think of many over the years, culminating in the ubiquitous Maglite (I shall keep the rest to myself for fear of causing offence, or treading on the sensibilities of others).

It is refreshing, indeed, to come across a leading commercial player in that same business which has no qualms in acknowledging this fact; whose directors and managers, despite claiming a 64% market share, are still wide-eyed enough about the surface on which they have chosen to play, to give their new haute technologie product a name symbolic of all the hero worship and idolatry endemic to any entertainment related business. That the company in question is the subsidiary of a large industrial group, only adds to this poignant contradiction. And it's not cynical either, while the rest of us are still asking ourselves, or worse being asked by others, "when are we going to grow up and get proper jobs?", these guys are revelling in doing precisely what they have always wanted to do, and having lots of fun and making tons of money while they are about it.

In case you haven't yet fathomed it out, we are talking here about Light and Sound Design, the Birmingham based rock-n-roll, concert and touring outfit, better known as LSD; the company which was sold to Christian Salvesen, the trucking to generators conglomerate, in 'a whale of a deal' last year; the company whose founders, Nick Jackson, Terry Lee, Steve Dawkes and the gregarious Simon Austin, are fast living up to the original British meaning of those initials, in cash terms, though it is good to see that they have not allowed the LSD go to their heads, in any of its possible connotations. (For American readers, LSD, is a historical English acronym for pounds, shillings and pence). They remain, seemingly untainted, at the helm.

This is also the company whose newly formed Special Projects division, under ex Meteorlites' Dave Smith, kicked off with a small gig called the Barcelona Olympics. The same company which this year completes its most ambitious project to date, with a cost tag of £5 million, the launch of their own in-house designed and made, automated luminaire and



Idolising - LSD's Icon automated luminaire.

control desk - to be called Icon! And who, in so doing, have thrown down the gauntlet in the first serious challenge to industry leaders and iconic mega-stars Vari-Lite, Inc.

Until a couple of years ago LSD was one of the best kept secrets in the business, only those in the know had heard of them, yet in keeping a low profile they still managed to build up and capture a very significant share of R-n-R rental revenues, to the point where they attracted the attention of Salvesens, acquired two vast warehouse factories, one for rental stores and the other for manufacturing and, last year, started gobbling up symbiotic companies to increase their production line-up (Total Fabrications and Lumo Lighting, previously Lee Colortran). Then came the rumours of this new luminaire, and for a long time a cat and mouse game went on as interested parties sought confirmation of its existence, neither confirmed nor denied, which in the end simply added, unintentionally perhaps, to the hype.

And then we heard that it was being road-tested with Roy Bennett on a mini Madness tour at the end of last year, but still we weren't allowed to see it. Then there were unconfirmed reports of possible patent infringement problems, confirmed recently by Simon Austin's irreverent questioning of Brian Croft at the Live!

show debate - this is Austin's pet project and he cares deeply about it. Then some Icons appeared on the Eurovision Song Contest, and now with Patrick Woodroffe on the current Depeche Mode world tour, where they are being used alongside VL5s.

Even now, there are rumours, firmly denied by all concerned, that Woodroffe had thrown them off the tour, that Vari-Lite had the requisite number of their own heads on stand-by in Dallas to rush to France for the tour, even that these were already en-route. All the rumour, gossip and stories of tension behind the scenes, more akin to the launch of a new movie, or more appropriately perhaps, a new album from an established supergroup, than a humble automated luminaire. But then it's in such company that these guys have cut their teeth. Yes, it was definitely time to make the trip to Birmingham to beard the beast in its den.

On arrival at Gravelly Hill, the company's 70,000 square feet manufacturing base, we went straight to the shrine to worship at the feet of the Icon. Of course, this is LSD's showroom, with the typically high ceilings of a post Victorian industrial building, where I am to be introduced to the green-eyed idol by well known industry figure, and project general manager, Peter Johns, whose background is steeped in the concert and touring ethic. Keith Owen, head of the industrial design department, and the project development leader, lurks in the background, should I get too technical. And the demonstration was a wow, considering that these are actually hot-off-the-production-line units on soak-test. Beautiful saturated colours and hues; smooth, subtle moves and even smoother fades; but it's the colour splits which really linger in my memory; certainly an impressive feature and one which is being heavily pushed by LSD.

People will expect me to comment on light output, claimed in the brochure to be '... the brightest beam of any moving head luminaire'. Unfortunately, I can't, because the shows I

watched were generally irised down to pencil-beam dimensions, thus limiting the brightness. In theory, however, if it is possible to achieve a collimated beam at the full aperture of its large objective lens, Icon's power should be very impressive. At the altar of Icon's control console stands Kay, not a high priestess of the genre,

The shrine: Icons in action at LSD.

but lately snaffled from a local disco. Yet the way she flashes across the LCD buttons, crunching out the presets, even when busking it, belies her lack of experience and proves the point - this desk can do the business! Though, for some, it may prove to be a new mind-set, for this is a sweetie with a soft centre and a hard outside. In reality, a computer inside a friendly package.

You have really got to throw away your precepts about presets, and indeed the whole language of theatre lighting boards, which factually became obsolete with digital multiplexing, or soft-patching to thee and me. As soon as it became possible to tell any lamp to come on with any other, in any order or



The altar - the Icon console with massed ranks of LCD buttons, crunching out the presets.

combination whatsoever, we needed to throw away that dictionary and start afresh. The problem is that until you can do that you are shackled. Because now there are no limits, apart from those set by the processor or the capacity of the hard disk to store the information, which effectively, these days, means no limit. So even a simple thing like a chase doesn't mean much any more. Every step in that chase might be a multipart cue telling several automated luminaires to move from A to B at a given speed, and on to C at yet another, and so on, fading colour, changing zoom and iris dilation along the way, and all the while the conventionals, controlled from the same desk, are fading through a complex colour sequence on gel scrollers. Can you still call this a 'chase', or even the parts thereof 'cues' and 'presets'? It hardly does it justice.

Not only that, but such levels of complexity require a new approach to plotting, if only to retain the operator's sanity. Anyone who has tried to programme such complex manoeuvres on a conventional push-me-pull-you memory desk, structurally restricted by the application of the above language, set in stone in the hardware, will tell you - it's basically impossible. So special desks are needed at the very least, ones which allow complete freedom of access during plotting, and which enable fast cue-crunching, and which recognise that what is required of a board pre-show, is something quite different from what is necessary in performance. These days the hard work is done long before the first show and, on the night, it should be a matter of simple manual response to the running order, without removing the option to fly should the need arise.

The Icon desk certainly addresses these issues, though one suspects that they might have gone a lot further, were it not for the surprising conservatism of lighting designers. It was probably a wise decision not to, you can't buck the market, and anything too radical is likely to get sidelined for the time being, until others catch up. LSD have already confronted this problem by offering an on-screen Mac-based graphic version of the control surface which, in reality, must make the plotting of a complex show a great deal easier and quicker, "so far, nobody wants to know about it," Keith Owen told me. "They don't seem to be able to separate the pre-show programming function from the performance itself which, to my mind, requires different hardware solutions. Anyway, it's a useful back-up and great for editing shows away from the venue." Nevertheless, the hard control surface is ergonomically designed and modular to enable the user to configure the control panels to his own taste. I suspect that it will not be entirely unfamiliar to anyone who has used an Artisan previously either.

Based on the Motorola 68020, the system has bags of processor overhead. Giving numbers of possible cues, focuses, or presets is really misleading, as I have said it is limited only by the capacity of the hard disc. So, think of a big number, multiply it by another, and still you may not be close. The hands-on items are user definable rotary encoders, for pan, tilt, colour etc, plus backlit LCD buttons which select presets and also behave like manual controls, scrolling through functions, with tactile clicks, double clicks and holding keys to give an intuitive feel. These LCD switches, which show their status in the key cap, and the alpha numeric displays associated with all functions and controls, make the whole console user transparent. There is a keyboard lurking in a drawer somewhere for the purpose of all the labelling which is required. There are ten definable sub masters (which can be scrolled



Icon's first outing - ballyhoo and Madness.

to yield 10 x as many submasters as you want), and 24 matrix faders for managing conventional lamps. Generally, programming and playback functions are intelligently separated. The heads operate on linear or harmonic tracking, and all moves can be timed. Indeed, all parameters can have different timings within a cue. In addition, you can crossfade between focus positions and initiate fades. Most valuably, there is a facility, enabling complex geometric moves, such as circles and ellipses, without the need to plot each point in the chase. Here again we run into a language problem: they call this facility 'ballyhoo', which I believe is vari-speke for some craziness inserted between focuses. What the Icon desk actually offers is what others call 'a stack synthesizer' or 'ramps'; far too useful for the fun label LSD have borrowed. The board can control 1000 channels, or 100 Icon heads, and is configured accordingly.

Keith Owen comes to life and lovingly unveils the fixture itself. It has quite an unusual look, partly characterised by the shape of the lightweight covers made of GRP, which envelope the luminaire top and bottom. Once off you have ready access to the internals of the lantern. As you would expect, the whole thing has been well thought out with the riggers (sic) of touring in mind, with Nylock nuts and screw-locks used throughout. The horizontal drive and power supplies are in the base, the vertical drive in the armature of the yoke. The DC Servo drive gives 360° of pan with 270° of tilt and speeds for the whole manoeuvre from 2.55 seconds (tilt) up to a theoretical slowest of nine hours. (I realise that nice, smooth, slow movements are the designers choice, but nine hours does seem just a tad excessive!) The lamp is a 600W HTI with a colour temperature of 5300K, set in a precision designed ellipsoidal reflector and, unusually, placed at right-angles to a cold mirror. The forced cooling, which seems virtually noiseless and has a slow option, is placed at this point, taking the excess heat straight out at the rear.

After passing through its condenser system, the beam exits through a 150mm objective, and an out-of-focus iris which acts as a mechanical dimmer. The real iris allows variation of the beam diameter from 38°, described as flood, down to a collimated pencil beam. Soft and hard-edged focuses are possible and the optics, designed by Roger Harvey, who previously performed the same function for the Starlite project, include a 2:1 telescopic zoom. The synchronised shutter can also provide a strobe

effect.

The Icon console allows 256 definable colours, though more than 1000 are feasible, achieved by mixing three graduated dichroic colour wheels. Split colours can be selected, in fact this is one of the spectacular successes of the new luminaire. There are seven indexable, rotating gobos and seven fixed, and, unusually, you can crossfade between them. All are interchangeable. Despite a switch mode power supply, the unit weighs in at 35 kilos, which is something Keith Owen and his team will be working hard to reduce over the succeeding months. However, they are flight cased in threes and the overall physical and dimensional proportions seem to make sense.

Peter John's role in life for the foreseeable future is to oversee the transition of Icon from a development item to a full commercial and supportable operation. To this end he has Tom Nulty, better known as a Roy Bennett sidekick, in the building planning the documentation and wet support services needed to secure a high tech product on the road. Keith Owen's team will continue to enhance the product for the future and to be in place as a quick response team for any new innovations demanded by LDs. As Peter says, "LSD have a reputation to maintain for being able to engineer the impossible, to an impossible time scale. We are not going to back off from this now."

Johns is keen to emphasise that they hope to operate an open-door policy as far as sharing the system's operating software is concerned. "We don't want people to think, because we have gone for a dedicated structure, rather than DMX, that we are trying to lock them into our desk. The reasons we did that was entirely on the basis of legal advice and of balancing the risk of a possible patent infringement. In fact, we had to turn back at the brink because of that." It would, indeed, be a shame if this meant that the option for some LDs to go on the road with an Icon rig and a Wholehog desk, for instance, was to be cut off at the knees. DMX will eventually be available from the desk for the control of dimmers and scrollers and other such items. With the possibility also of MIDI, SMPTE and MSC, subject to demand but allowed for in the architecture, Mark Hunt, the project's software specialist, won't be short of things to do over the next few months.

Despite all the ballyhoo, and users of the V product please don't read something else into the use of that word, Icon will definitely be formally launched at this year's PLASA Show in September. Be there or be square!

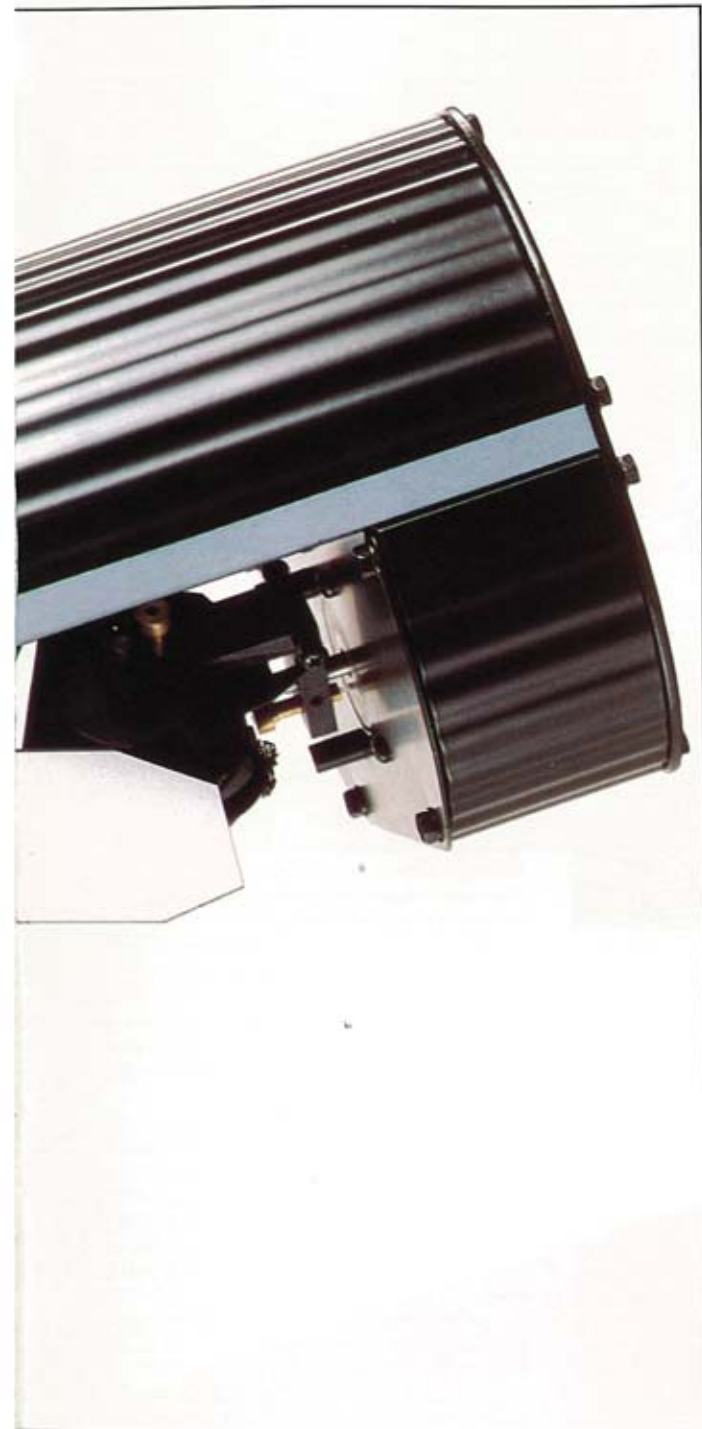
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Scan PRO218

ON TOUR

AND PRODUCTION NEWS

10CC

York Barbican

LD: James Mackenzie

SD: Yvonne Ellis

10cc were always one of those bands, firmly placed in the mainstream of pop who, like Abba, gained widespread acclaim drawing audiences not just from the teenagers who bought their singles, but also from diverse swathes of people who recognized and enjoyed a good thing when they heard it. To see them on the road again at first conjures images of another greedy dinosaur out to feed at the old table one more time, but somehow this doesn't ring true. Talking to Zeb White, who has been with the band as production manager throughout their career, and even before that in the band's seminal days as 'Hot Legs', (hands up all those old enough to remember 'I'm a Neanderthal Man'), there emerged a more acceptable truth. "The band were asked to make a new album last year. For fun they thought 'why not?' and even persuaded Godley and Creme to join in the recording.

For reasons unknown, the album was poorly promoted and failed to gain attention in England. In Japan however, the response to the album caught everyone unawares, selling in huge quantities, and very quickly a tour was arranged. To the disappointment of some, Godley and Creme declined to go on the road: nonetheless with Gouldman, Stewart and Fenn still there the band is recognizably no sham of its former self. Zeb continued: "The band really enjoyed being on the stage again and were more than happy to follow-up with an English tour when it was suggested. Primarily though, this show is for fun, both the band's and the audiences. If it makes money as well that will be icing on the cake."

Lighting designer James Mackenzie came to England with Jason Donovan a little over three years ago and at the time he was the Vari*Lite programmer and operator for that show. After a very short break he went out with Sting for 18 months covering much the same responsibilities for LD Nick Sholem, a role he very much enjoyed. After almost 30 months continuous roadwork James took himself and his family to Scotland to recover. Upon his return to London he received a call from John Mellen at Prism Lighting and before he knew it he was out on tour again. John had already secured the tour with a package of equipment - 120 Pars, 8 Mk II Golden Scans, truss, motors, control etc. Mackenzie, with John Mellen's assistance, was obliged to produce a design and get the system out on the road within a couple of days.

"Having worked almost exclusively on the Artisan for the past five years both here and at home in Australia, getting back to conventional boards (James uses a 60 way Celco for the main rig), proved a challenge, and most especially the Navigator for the Golden Scans, which I've never used before. I did spend a day at Celco, who were most helpful, and I'm also being well supported by Ian Haley (my racks man) who is fully conversant with Navigator," he explained.

The rig comprises 50 feet of rear truss hinged in the centre and cranked downstage approximately 20 degrees to form a 'V'. Hung separately from each arm of the 'V' are two vertical 10 feet lengths of Trilite roughly 10 feet apart with six-lamp bars



The year of the reunions: 10cc leads the pack.



Golden Scan 3 colour washes the rear triangles.

strapped to them, and between each of these verticals hangs a pair of Golden Scans. Beneath the rear truss stand three scenic flats, tall isosceles triangles (approximately 17 feet high) made from white sharks-tooth stretched across timber frames. These three simple pieces against a black wool backdrop, coupled with the Trilite hanging from the truss above, make for a very striking looking stage.

The 40 feet of front truss has only 30 Pars on it, mostly fitted with colour changers (a mixture of Wiz's and Scrollers) which are used exclusively for front-light on the musicians, all washlight coming from the rear. With only two Pani followspots out front this set-up made for some busy times for James when more than two of the musicians were singing harmonies.

"All the show looks very busy at the moment. With no rehearsals and this only being the third show, I've had to start by putting something from every part of the rig in all the songs to produce a decent look. As time progresses I'm selectively pulling things out and refining each number," explained Mackenzie.

His use of the Golden Scans to make splashes of colour across the triangles as a look for particular songs was very effective and in fact he was very economical with the movement of these lamps as an effect, often making position changes in blackout.

When I remarked on this he replied, as only

Australians can: "It's like swearing in conversation, you do it once for effect, if you do it all the time you sound like a bloomin' idiot."

The EAW PA system, supplied by the ubiquitous Cane Green, was controlled front of house by Yvonne Ellis. She is perhaps best known for her five year stint as sound engineer for Simply Red, a position she relinquished voluntarily: "... after five years I was in danger of losing sight of my own goals. Enjoyable as it was to travel with a band through their rise to fame, it required total commitment, and I reached a point where my own aspirations had to come first." Yvonne's entry into the business was typical: "I was studying fashion design in Manchester when I was approached by a local band I knew to mix their sound. My dad was a producer for Radio 3 at the time and although he'd never actually taught me to operate, thanks to him I had a good idea what all the knobs and faders were for."

Yvonne quickly progressed doing sound for many local bands and clubs. By the time she was approached by Simply Red, Yvonne had just completed her first tour of the UK with a band called the Cheetahs. With six tops and four subs a side the equipment was more than enough for a small theatre like the York Barbican. Operating from a Yamaha PM4000 Yvonne had limited access to effects; the vocals were run through the programmable Klark DN3600, the only other equipment of note being the Lexicon 480L.

Overall the sound was bright and full, the strong harmonies (so much a feature of this band) positioned nicely over the instruments. Yvonne, who as well as being a sound engineer is also a musician in her own right and runs her own studio at home, was clearly well in tune with the requirements of this show. "I love doing sound; with this band it's nice to be able to reproduce their sound as people remember them."

Ten years plus is a long time to be out of the public eye, however the audience that came brought with them an open mind and were well rewarded and obviously delighted with an accomplished and unpretentious show. Me too.

Steve Moles

Def Leppard

Don Valley Stadium

LD: Jonathan Smeeton
SD: Robert Scovill

Putting on a large outdoor show in England is always a gamble; inevitably the first signs of a group of people massing in large numbers outdoors pre-ordains rain. If, by some miracle, it stays dry then communal sunstroke ensues, large numbers of lobster pink bodies are carried prone through a backstage area busy with lighting crew, all bemoaning what a big waste of time it was putting up this huge rig when "the bloody sun doesn't set 'til gone ten!"

It is a tribute to good fortune (the weather) and more importantly to the many organizers of the Def Leppard spectacular at the Sheffield Don Valley Stadium on the 6th of June that none of the above came true. In fact, considering this event was the first of its kind at this stadium, the local council and promoters deserve a pat on the back. The arena, built for athletics events, is no Wembley Stadium, but with the field open to the public 55,000 could have been squeezed in, as it was, the capacity was limited to 45,000. On the hottest day of the year so far, this limitation ensured that the atmosphere within stayed calm and no-one felt cramped or confined. Access to bars, toilets and food was easy (no agonizing queues for a pee here) and considering this was a so called heavy rock show the lack of tension was remarkable.

The other great boon of the day was the stage position, with the sun setting behind it. By the time thunder came on at 6.15pm it was already necessary to use white light for the camera-men who were recording the show for the BBC, and although still light when Def Leppard appeared a little after 8.00pm, by the fourth number of their set the full impact of the lighting rig could be seen. The lighting system, though containing most of the major elements of Jonathon Smeeton's original design, was quite different in shape from the Arena design (custom built by LSD) used for the past year. The confines of an outdoor roof did not allow for the 'spoke and hub' look with its tracking pods, however a sizeable amount of the trussing was re-configured into overlaying 'V' shapes to give what was visually a big show look, very much in scale with the venue (nobody knew how many Pars there were, but certainly several hundred).

This also benefitted the light show itself, concentrating large amounts of light in one place. The addition of two Megamags a side beefed this up even further though they were only really necessary for the first few numbers where they were skilfully used to strengthen the darker blue and mauve washes. Both the Wagmags and Vari*Lite featured heavily in the opening numbers and visually carried the show throughout the dusk period, each being used in turn rather than together made for variety, and I thought Peter Lothian (lighting director) exhibited great self control in resisting the urge to turn everything on in the twilight. The Vari*Lite 2Bs shining up against the black backdrop were a particularly strong image as were the Wagmags as they swept the stage. What allowed these instruments to stand out so well was the heavy use of followspots on the band; eight on-truss Lycians and eight out-front Supertroopers meant the band was always well illuminated, but not at the expense of the effects.

Either side of the stage were the obligatory PA scrims. Rather poorly painted, they were largely black with globe shaped Union Jacks in their centres surrounded by a field of static. Lit from above and below by both Molemags (three at the top, four at the bottom) and similarly by seven VL2Bs fitted with the new 600 watt bulb, it seemed a shame to waste such expensive lighting on them especially considering what was otherwise a very



Outdoor rock from Def Leppard.

slick show. That aside, the lighting was spectacular, an hour into the set and the crowd were giving rapturous applause as trusses moved, smoke billowed and lasers flashed. In fact many of the stage effects played out into the crowd, one of the most striking being when VL2Bs, using fragments of dichroic filter pasted into one of the lamps gobo holders, twinkled across the audience with fractured beams of many colours whilst slashes of green laser light rent the skies.

Robert Scovill mixed front of house, and the show was unusual for him in that Electrotech, the main sound contractor for the tour, were unable to supply the speakers and amps due to other commitments (Lenny Kravitz), however they did supply the front end he was used to, two Gamble EX series consoles and all the effects set-up he'd used throughout the tour. Speakers and amps came from Audio Analysts who'd conveniently just completed the Bruce Springsteen European Tour. 63 S4s a side was as many cabinets as they could hang. They had wanted to hang 72 but mis-communication between themselves and the stage providers Hedwigg prevented this, space alone being the shortcoming. Colin Beveridge (Audio Analysts) commented on flying PA outdoors: "Not only is it a lot faster than stacking, thus saving on crew and stagehand costs, but its real benefit is making for a more coherent system with none of the problems of separation experienced with systems stacked over two or three deck levels." Despite some rapt attention to Audio Analysts Cadd crossover meter scales by both Ted Lemy (Scovill's assistant) and John Kerns (for AA) there never seemed to be any danger of the PA being over driven, so I don't believe the 18 cabinets were missed - it was most definitely loud enough. What was nice was the clarity of vocals: Def Leppard stand apart from bands of a similar ilk by their strong use of vocals and vocal harmonies and these were always prominent over those screaming guitars (not that the guitar sound was distorted except when intended).

With excellent quality sound and an exciting lightshow (which after all, is to be expected at this kind of show) it was the intangible benefits of good planning, most notably space, that made this event a pleasure to attend. I hope it was as commercially successful for Harvey Goldsmith and MCP who co-promoted it, and that we see more shows organized like it in the future. S.M.

Festival Rock Shop

Brighton's Rock Shop reached its conclusion with a performance by the best bands at the Brighton Dome. Part of the Brighton Festival, the project has run a series of workshops for pupils at schools in the area to take them through all aspects of performance. The lighting and sound equipment throughout the series and for the show at The Dome was donated by a variety of companies and included Wybron Colorams, Golden Scan 2s and Tigerscans supplied by The Spot Co, Avolites' Rolacue Sapphire and dimmers, Soundcraft frontline and backline PA, conventional lighting, cables and mains from Theatre Projects, with further equipment and trussing from Concert Sound, Arrow Rigging, Midnight Design, Outback Productions, Edwin Shirley Trucking, and a small number of lamps donated by Rainmaker/Shafesbury Theatre and Imperial College. Richard Harrison acted as lighting designer on the evening.

Velvet Underground

Wembley Arena

LD: Ethan Weber

There can be few people who remain ignorant of the current reunion of those sixties icons, the Velvet Underground, who recently came together after 20 years to perform once more. Lou Reed, the band's lead singer, is of course better known for his solo performances since the split of the band. His lighting designer, Ethan Weber, has taken up the challenge of designing for the band. His first tour for Lou Reed was working as crew on the 1984 Tour 'New Sensations', followed by 'Mis-Trial' which Jonathan Smeeton designed and he operated. As lighting designer for the current highly publicised tour he collaborated with visual co-ordinator Sylvia Reed, Lou's wife.

For the tour, Sylvia wanted a softer and darker feel to things, yet wished to retain an element of openness. They decided they could achieve everything they wanted with just the lights. A variety of instruments, including Lekos, Pars and Golden Scan 3s came into the inventory as a result. Sylvia also wanted the show to have a black and white feel to it, so a lot of the colours and colour changers are off-whites and steel blues.

Ethan admits to two main difficulties lighting Lou Reed; one being that Lou himself doesn't like lights, and the other being the insistence on no front truss. The band didn't like flashing lights, so each look needed to stand out in its own right.

Dispensing altogether with a front truss presents its own problems. Front light is needed, but followspots aren't the ideal answer. Ethan got round it by ensuring that the horizontal fingers of the truss extended just beyond the front of the stage with rigged Lekos on their trips for front light. As a result, the use of back light was relied upon heavily and was used to great effect during the song 'Rock and Roll' with the incredibly bright Golden Scan 3s on the floor focused on Lou and dramatically producing very bright, searing shafts of light past the drum kit which then broke into a warm wash. The rotating gobos on the Scan 3 work with the mood of the show and also add some animation without having the beams actually scanning around. They are very bright and can really hold their own when used with 5k's. Moving light operator Nathan Matthews makes good use of the equipment and the 'diffuser' effect is used often as washlight. For control Ethan is using a combination of the Avolites QM Diamond and Rolacue Sapphire. The Diamond earned its place because of its easy editing facilities and digital design. Ethan often works with the colour changers 'blind' and uses the levels from the screen to guide him.

Lighting Equipment:

(supplied by Neg Earth and Spot Co)
10 x Golden Scan 3
1 x Avolites QM Diamond
1 x Avolites Rolacue Sapphire
Avolites dimmers
36 x Par Rainbow Scrollers
4 x 5kW Rainbow Scrollers
14 x 5kW and 2kW Fresnels
6 x 6/16 Leko



Nathan Matthews, dimmer technician Ian Twell, Sylvia Reed and Ethan Weber.

THE ITALIAN COLLECTION

A series of L+SI fact sheets giving information about leading Italian manufactures of entertainment lighting and their products. Previous editions have covered FLY, FAL and Coemar, successive issues will include Griven, Lampo, La Novalite and TAS.

Clay Paky

Director: Pasquale Quadri, ably represented by Pio Nahum.

Location: Pedrengo, Bergamo, Italy

Background: Founded in 1976, by Claudio (Clay) Paredi and Pasquale (Paky) Quadri, Clay Paky has been the most influential of the new breed of Italian entertainment lighting manufacturers. Its history has direct parallels with the foundation of the British effects lighting industry and UK companies such as Cerebrum Lighting and Optikinetics.

Originally, Paky was a musician, studying electro-optics during the day, but he soon became fascinated by the essential role of lighting in creating an ambience conducive to enhancing the feel of music. In 1972 he started producing special-effects projectors in his garage by modifying standard slide projectors. It wasn't long before he had come up with the liquid wheel and managed to get a patent on it in Italy. (In the UK it was patented by someone else, now lapsed). He sold these items to the clubs where he performed at night. Quadri's friendship with Paredi, a fellow musician with a technical bent, dated from this period.

Together they established the company in a small workshop in Seriate, with Clay providing the engineering skills and Paky providing the creative impetus, and by 1973 had issued their first catalogue. At the same time they released their first proprietary, multi-purpose effects projector which, like Opti's Solar 250, accepted a range of effects and attachments but which, unlike the Solar 250, used a moulded, heat-resistant plastic enclosure in an eccentric shape, much like a tricorner-hat circa Paris 1789, to encapsulate the larger diameter effects wheels. The LX3 became CP's first landmark product, sold throughout Europe and by Avitec and Lightfactor in the UK, then later by Pulsar and WB Lighting.

Then, sadly, at the end of '73 Clay met with a tragic death in a motor cycle accident. Though distraught, the success of the business persuaded Paky to carry on with a new partner, and in the succeeding years the business grew out of all recognition, leading to a move to larger industrial premises in Pedrengo in 1989. During this period many innovative lighting

effects products were created by the company, often subsequently copied by others. The Astro range, which utilised the power of a single lamp and various lens configurations to generate multiple beams, is a typical example. Two years previously, Clay Paky had launched the Brilliant, a forerunner of their range of articulate mirror luminaires, but which wasn't technically a great success. Realising their mistake, and having a high regard for their electronic capabilities, they approached Pulsar for a collaboration, and a famous relationship was born, with Pulsar creating and providing all the control electronics for a new generation of projectors, leading directly to the success of the first Golden Scan product launched at SIB in '88. Since then more than 15,000 units have been sold. There followed a period of some commercial turmoil which led to an intensifying of the competition and a change in the structure of the company at the top. Nevertheless, with the subsequent launch of Superscan and Golden Scan 2, and then 16 more new products in 1992, Clay Paky re-established their pre-eminent position.

This culminated in the formalisation of their continuing relationship with Pulsar, and the acknowledgement of that interdependence,



Clay Paky supremo, Pasquale Quadri.



A page from Clay Paky's 1976 catalogue.

with the establishment of a series of dedicated CP&P franchised dealerships and service outlets stretching across Europe. This year has seen the introduction of the third generation Golden Scan with a 1200HMI lamp and many additional enhancements to performance. Many were impressed with Clay Paky's professional approach to marketing and presentation shown at this year's SIB in Rimini for the launch of this product.

Company philosophy: To produce original products employing high quality components and stylistic excellence, but above all to achieve exceptional visual effects.

Selected product: Golden Scan 3 comes in two versions, 575 and 1.2k HMI with enhanced optics over the GS2, which enables CP to claim 30% more actual light delivered. Smoothness of movement has been greatly improved by doubling the microstepping on pan and tilt functions. The number of possible colours has been expanded to 24, by providing two colour modifiers which give eight warm and eight cold shades of the original base colours. Frost has been added for a wash effect. Colour splits, and continuous rotation of the colour wheel for a rainbow effect are also available. Although only four 'M'-size, bi-directional rotating gobos are provided and 10 alternative patterns are issued with each unit. A four-facet prism is also accessible within the projector. Other features are full mechanical dimming, blackout-shutter with strobe, and variable speed remote iris. With power factor correction, the 1200 model requires a 6A supply at 240v, and the 575 only 3 Amps. The Golden Scan 3s weigh in at 42.5kg and 30kg respectively.

Recent releases: Superscan MRG, a version of the 1200HMI top-of-the-line articulate projector, described below, with enhanced gobo facilities, enabling bi-directional rotation with programmable speeds and positions, plus superimposition. To facilitate this, the prisms are left out of this model. The touring version



Clay Paky show room (left), and full action from their stand at the SIB Magis trade show in Rimini (right).



has an external power supply option. **Piper ICC** is a programmable colour changer using seven dichroic colours, also providing the possibility of colour splits and variable speed colour wheel rotation up to a rainbow effect. Two models are available in HTI 150 or Halogen 24v versions. **Shadow** is a compact followspot, based on the internal technology of the Golden and Superscans. Three faders are provided in an external handle which enable direct control of the eight dichroic colours, the variable speed iris and the mechanical douser/shutter. Two models are available with 1200 or 575 HMI lamps.

All Clay Paky products with discharge lamps now offer power factor correction. Most models (except Piper and lower power versions of Tiger which have built in modulation or are analog controllable only) accept analog, or digital control via DMX or RS232/423 via PMX, use processor controlled stepper motors with microstepping and are protected to IP 20.

Other products: *Lighting effects:* **Tornado** is the latest model in Clay Paky's single lamp, multi-beam stable, one in, six out. The difference is that each pair of the six heads around the circumference of the unit is controllable for pan and tilt, the colour is variable from all white to colour-per-beam, the colours can be moved round at variable speeds and splits are thus obtainable. Intended as a centre piece or wall feature Tornado also has strobeable shutters and uses the 575 HMI lamp. **Atlas**, from the same lamp and using the same technique, it generates 14 collimated beams from the perimeter of its flat semi-circular body. A sweeping shutter enables mechanical sequencing of the beams, strobing and blackout. **Astoraggi Twin** boasts two 24v, 150W Halogen lamps which rotate at 50 RPM under a hemispherical black cowling punctured with 103 tiny objective lenses. The lamps may be switched, or an optional four-colour wheel added. **Bazooka** is a searchlight-based on the 1200 or 575 HMI lamp and articulating mirror technology, but with special lens and extra optical length for tight collimation of the beam. Eight colour changes, five gobos, mechanical dimmer/shutter/strobe, iris and focus are available. **Polycolor** is a new angle on the RGB colour changing system, but instead of three different coloured lamps, Polycolor mixes red, green and blue dichroic filters to provide a range of hues and secondary colours. Graduated frost gives variation from hard edge spot, through soft to wash. Mechanical dimmer, shutter/strobe or the strobe function can be replaced with a remote Iris. Manual accessories available are: iris, framing mechanism, gobo holder and beam adaptors.

Effects Projectors: **Superscan**, again based on the HMI 1200 lamp, this articulated mirror projector is Clay Paky's most prestigious product. Superscan offers the additional features often sought in the theatre or TV studio. In addition to the RGB colour system described for Polycolor, an eight-position colour wheel is provided with variable speed rotation. This wheel provides the opportunity to insert a CT conversion filter from 5600 to 3300°K. Two, 4-way gobo wheels can be superimposed and there are three different prisms to select from. Remote focus, iris, mechanical dimmer and strobing shutter complete the facilities. **Golden Scan 2** is still in the catalogue, eight colours, eight static gobos with superimposition, shutter/strobe and iris. Available in 575 and 1200 HMI versions. The **Tiger** range is an expanding family of dedicated projectors based around the two HMI lamps (1200 and 575W), and some lower power units which start at HMI 575, offering 36v 400W Halogen as another

option. **Tiger Scan MRG** is a pan and tilt version of Tiger MRG, both of which are offered with either of the two higher power lamps and are essentially rotating gobo projectors. Five omni-directional rotating gobos are offered, plus the option of an additional fixed one for superimposition. Rotation speeds are adjustable and programmable. In addition, eight colours are selectable, with continuous rotation and rainbow effect, plus split colours. It is these combinations with the gobos which generate the unusual effects and looks of these units. In addition there is a strobing shutter.

Tiger CC is a dedicated colour changer of eight selections plus graduated frost, otherwise the colour characteristics and colour effects are as MRG. This unit is offered in all three lamp options. **Tiger SRG**, **Tiger LW**, and **Tiger RW**, are based around the two lower power lamps, and most have in-built, sound-to-light rotation response. They are a single gobo rotation unit with options to add a colour wheel or second static gobo, a liquid wheel projector (no sound-to-light), and an effects projector which combines a graphic wheel with a continuous colour wheel. **Miniscan** is the baby brother in the articulating mirror family with eight colours, five gobos, shutter/strobe and mechanical dimmer. Available in HTI 150 or 24v 150W Halogen versions. **Piper** is another growing family of effects projectors based on similar technology and lamp selection as Miniscan. **Piper CC** is an eight colour changer; **Piper RG** is a rotating gobo projector which comes as standard with a multi-coloured split-colour gobo-sized wheel, a static gobo can be added; **Piper RW** has a graphics wheel with pre-mounted dichroics; **Piper MS** offers a multi-coloured starburst effect.

Spotlights: **Pinscan** is a driven yoke version of the pinspot encapsulated in a classy package. It accepts the full range of Halostar 12v 75W lightweight integrated reflector/lamps, as well as Clay Paky's own narrow focused parabolic reflector and 12v 100W M.28 lamp, offering beam angles from 2.5° up to 60°. Full 360° of horizontal rotation and more than 220° of vertical movement is possible and externally programmable. **CP-Spot** is a fixed version of the above which comes either with a trunnion, or as a recessable downlighter, and with, or without, built-in transformer. In a characteristic Clay Paky silver finish, extruded aluminium body with black diecast end-caps and bracket. Models with transformers for both 6v and 12v operation are available - so a wider range of lightweight Par 36-type lamps is possible. Accessories for both these models include gel frame and dichroic filters.

Controls and dimmers: All Clay Paky luminaires are offered with Pulsar control equipment from the **Zero 3000**, 3 channel analog programmer and the **Masterpiece 48** channel analog and PMX only programmable touch control panel, to the **Masterpiece 108** channel digital multiplexed board which delivers DMX and PMX on all channels and offers the possibility of 36 channels of analog control. Pulsar also manufacture a wide range of dimmer packs, including the recently introduced **Datapak** which adds direct digital control as an option to analog and can be supplied in wall, or rack mounted models, in 12 or 18 channel configurations, with 5 or 10A channel loadings and dim or non-dim options.

Clay Paky

Tel: (39) 35 663965 Fax: (39) 35 665976

UK Representation:

Pulsar Light of Cambridge Ltd

Henley Road

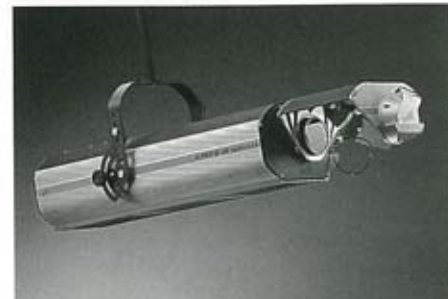
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The third generation Golden Scan.



Superscan MRG, with gobo rotation.



Shadow, 1200 HMI followspot.



Piper LCC, new colour changer.



Miniscan, the baby of the CP projector family.



The LX3 of yesteryear shaped like a tricorn hat.

APRS TRADE SHOW: LONDON

Tim Frost reviews the 1993 offerings

It seemed to be a matter of eating your way through the APRS this year, which started for the press an hour before the opening on the first day for breakfast with Neumann. Like many exhibitors at the show, the company were launching more 'cost effective' products, which means a U87 look-alike cardioid called the TLM193 for well under £1000. But the main reason for the free croissants and champagne was the introduction of the Neumann digital/analogue mixing desk, the Strategy 2002.

"The idea is a mix between a digital control surface with analogue processing and control. We are showing this to get customer reaction and comments," noted Neumann's Wolfgang Fraissinet about the prototype on display on Sennheiser's stand which was a music production/broadcast version. Apparently they are already planning a theatre version, although at £320k they may find it a somewhat limited market.

In fact mixers were one of strongest categories of products at the show, easily overshadowing those favourites of the past few years, random access editing system and digital tape machines of every and any variety.

Digital mixing is no longer restricted to the top-end Neve Capricorns (although AT&T take the award for the most extravagant use of digital processing, for the DISQ package which digitises analogue SSL and Neve desks). At the most economic end of the scale was Yamaha's DMP9-16, a 3U rack mounting all digital mixer section with "improved A/Ds compared to the DMP7 and 11 and uses similar chips to the DMC 1000," according to Yamaha's Terry Holton. They are aiming it primarily as a keyboard or extension mixer and at around £3.5k is likely to be quite affordable, especially as that includes 50 scene memory, MIDI control, two multi-effects processors and digital in/outs. Several other goodies from Yamaha were the CBX-D5 hard disk recording system, the latest SPX990 effects unit and the MV1000, a rather neat 10 in/3 out 3U rack mounting installation mixer. Yamaha is also edging in with an upmarket digital desk, the DMC1000 offering a little competition to the AMS Logic,



EMO Systems' Mike Reay and Mike Gentle with their answer to the rising crime statistics - an anti-theft direct injection box which might have a few drawbacks in terms of size and weight, but does double as a rather nice coffee table.

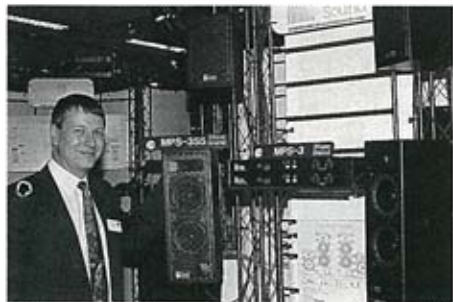
Sony's planned digital radio desk.

When not going digital, other mixers getting their first APRS airing had the bonus of automation, which is getting much less expensive to implement. Allen & Heath's GL3V is a fully automated GL3 with MIDI, MTC or SMPTE synchronisation options. Also on Harman's stand, the GL2 made its first showing, where one-piece construction has kept down the cost of this rack mounting live 'GL3'. An alternative Harman wouldn't mind you going for is the Spirit (by Soundcraft) which includes the obligatory automated version. At the top end of Soundcraft's range, the DC2000 (automated!) mixer was drawing interest as well as the established Venue theatre desk.

Soundtracs' Solo and Megas desks are being distributed by Beyer and the Sequel II will also be handled by the company. The Solo Logic has, no surprises, fader automation, and the Sequel II (or should that be Soundtracs III?) goes

way beyond that. This is a fully featured VCA sound reinforcement desk with a built-in 'assignable dynamics processor', a DSP-based section that controls any or all the input VCAs with a wide range of dynamic, gate, compression or limiter functions. Soundtracs' John Carol is certain that automation is going to become standard in the PA world sooner or later. "It's new to the live market, but in the studio market where we offer these functions as an option, they are nearly always taken up," he said.

DDA were not to be outdone. Dave Deardon's new baby was the Forum monitor mixer with a new way of mixing and matching the 12 busses to create sub-mixers that can then be fed back through any mix of the eight output groups. "More small bands are operating a proper monitor mix and also there is more use of in-ear monitoring. So here and in the US they are looking for a good inexpensive monitor



Graham Paddon of Autograph Sales with Meyer's MPS-3 series.



Clive Green (right) pictured on stand with Jack Kelly of Celco Inc.



The new GL2 rack console from Allen & Heath on show on the Harman stand.



Stephen Court shows the successful Soundcheck test CD.



Close-up on Soundtracs' new Sequel II.



New Turbosound TCS-612 in cut-away mode.

desk," said Deardon, hardly needing to justify the existence of a new DDA. **Clive Green & Co** keep abreast of what their users want by adding new features to their desks when the needs arise, a formula that lets them celebrate 25 years of Cadac production. This year they added EQ and a mic amp outboard units.

Back to digital and both **CRL** (on Preco's stand) and **AKG** have obviously noted that stereo digital down a wire, comes in all sorts of flavours (pro/domestic formats, different sample rates, different operational modes) some of which can cause chaos when trying to connect digital-to-digital. Both have come up with small hand-held analysers at around £500 that tell you exactly what format is coming down the line and whether the signal is faulty or not. CRL go one stage further with the bigger DAA1000, a two channel unit with in/out that can be inserted into the line to 'fix' the channel status data to get everything running.

There was a rash of digital 'black boxes' to solve these sorts of problems or simply improve on the converters built into your existing digital equipment. **Audio Design** introduced the Pro-box 10SRC a sub-£1000 sample rate converter, as well as a 20 bit A/D, the D20A which is the fore-runner of a range of DSP units from AD scheduled for later in the year.

Digital is also making moves into the cabling business. Alongside their more traditional



Tony Costello of Preco, plus hand-held digital analyser.

analogue cables and multi-cores, Thomas Klotz has clocked up a dozen installations using the Oak-Link fibre optical network with a switcher that can handle 896 x 1024 cross points (and Thomas said he would really love to sell a system that needed that number of ins and outs). At a more realistic level, Oak-Link is also available in a slim-line 16 channel version as a digital multi-core. An alternative optical multi-core solution was offered by OptoDigital on **Autograph's** stand.

Digitec/Studer have developed an incredibly sophisticated digital routing system using MADI, the 56 channel digital link format, to route audio around a facility. The plan is to add digital processing to the system so that it can be used also, as the heart of a facility-wide digital mixer. Another way of moving high quality audio around that is beginning to interest quite a few people is to use BT's digital ISDN telephone lines with a data reducing codec at each end and **Digitec/Studer** had one of these in the guise of the Reportis. **Dolby** used their own AC2 data reduction units on a live link between the show and Magmasters Studios using two sets of ISDN lines. Several other codec systems were also available at the show including a range of Musicam equipped CCS units on distributor **Nicral's** stand. **Digigram's** PC based system and the options using APTx were explored by **APT**. The consensus is that



Meyer's new MSL-2A.

two sets of ISDN lines are going to be the minimum for decent quality. **Dolby's** Tony Spath commented, "We think there is a market for high quality audio transmission using ISDN. Links using digital PT lines have already taken off in the US and with this system you can also send data to remotely control machines."

The main interest in microphone developments was towards lower cost systems, with a logical line-up from **Beyer**, who were showing the low-cost S150 and S250 radio mics. **Shure** similarly have added wireless options to the Beta range and **AKG** followed Neumann's approach and introduced a lower cost variant of a well established quality mic, with the C414BTLII.

On the speaker side **Klotz** have brought in their Plug 'n' Play controller-driven reinforcement system. With power ratings from 600W to 3kW they come pre-configured and pre-wired, hence the name. **JBL** hoped to have the new self powered Control 1, the Control 1E. Unfortunately the last distributor to have the samples posted rather than shipped them to **Harman**, so there was a bit of a gap on stand instead. This proved lucky for **EAW** whose ultra-compact JF series arrived in plenty of time.

Renkus Heinz's new distributor, **Audio Projects**, showed RH's latest offering, a multi-driver co-entrant full range box, where the HF and mid drivers all beam through the



The central ground floor stand of Soundcraft.



Busy with the SADiE disk editor on the Studio+Audio Video stand.



George Thorn and Renkus Heinz' multi-drive.



Front of house: the AKG stand.



Mike Woodward of APRS newcomers XTA Electronics.



Alex Garner and Derek West with the latest from Tannoy.



Autograph's Aviva Ozin and Peter Giddings with their new brand Clear-Com.



Wolfgang Fraissinet strokes Neumann's £320k digital desk.



Yamaha's Terry Holt with their lower-cost digital mixer.



Tony Oates of Shuttlesound with the XL series Amcron amplifier.



Wlodek Sielski (left) and Philippe Girard-Buttoz of Digigram.



Alf Alenstein of Howland West and his powered mixer.

same 'horn' system - complex, but it does offer point source reproduction. **Tannoy** had two new speaker systems. At one end of the scale was the new System 6 NFM II compact nearfield speaker - don't ask me why a new speaker hits the world with a MKII label! At the other end of the scale is the CPA 12 series based around Tannoy's new mega-powerful Superdual. "For the quality PA market, this is the only one to offer point-source and a non-horn loaded mid-range, so it's particularly good for theatre use," added Derek West.

Amongst the few new-comers to APRS were **XTA**, whose ex-KT staff have developed a real-time spectrum analyser with RT60, 30 memories with compare and accumulate functions and a printer output, all at just under £2,000 "We started operations at the turn of the year so this is the first show on our own," said XTA's MD Mike Woodward. "Reaction has been very good and our first customer for the splitter has come back for more." The splitter in question was the DS400, a 4 channel 1U package with a dual fail-safe power supply.

Around the time of the 1989/90 shows, sound installation manufacturers found the APRS a strong pull for sound reinforcement customers. This has cooled off a little, and it was no surprise to see that some of the sound installation organisations were saving their big show budgets for later in the year. **Shuttlesound** had cut back in stand fittings, but not on equipment. "We are showing more of the MI products here, as a lot of our MI dealers come to the show," said Bill Woods, explaining the importance given to the lower cost XL series Amcron amplifiers, EV boxes and Samson Audio amps and mixers. Shuttlesound also had potentially the cheapest item of interest at the show. The 'roadie's friend' was a mic adapter with a sprung collar that just clicks off from the mic stand, instead of unscrewing. There is still some work to be done on it according to Woods, but in its final form it could end up saving a bit of time and a lot of aggravation during break-down.

The new Meyer MSL-2 shown on **Autograph's** stand fills the gap between the MSL-3 and the UPA. More Meyer came in the guise of the powered UPL-2 and the complete MPS-3 series which is "aimed at the smaller installs like restaurants and clubs," noted Aviva Ozin. Autograph were also featuring an updated Clear-Com Matrix-Plus system. Back to the smaller size boxes, there was also the

new **Nexo** PS10 compact on the **Network** stand.

At APRS you couldn't ignore random-access and computer-based recording systems, although these were achieving a level of maturity - fewer systems, but better.

There were professional standard PC computer audio cards from French company **Digigram** who are now implementing the Musicam ISO standard data reduction system. This can dramatically reduce the amount of digital data needed to carry a quality audio signal, making it easier to store or transmit digital audio. **S&AV** have gone the other route and stuck firmly with pure PCM for their SADiE computer audio editing/recording system based around their own specially developed professional PC audio cards.

There were several other specialist digital products getting established, and it's not so unusual now to see a digital card from **ASC** (DART) or **Sonifex** (Discart) in action, calling high quality digital sound from a floppy disc.

Sony had the ultimate recording machine with their new PCM-9000 magneto-optical based recorder which can happily record up to 24 bit audio as and when the converters become available. The big boys in audio

workstations - **DAR**, **Audiofile** and also now **AVID** - were fully in evidence although **SSL** decided to give the show a miss this year.

On the tape side, the digital 8 track war hotted up with **Fostex's** RD-8 ganging up with the **Alesis** ADAT against the **Tascam** DA-88. Tascam also entered the somewhat subdued recordable CD market with the CD901R which has the distinction of being entirely their own work - no Philips bits here. **HBB** had the new Marantz CDR-10 and **AKG** the Apex CD-R, both were given a fairly low profile.

Finally, competing with Shuttlesound's roadies' 'friend' for useful innovation, **Penny & Giles** had a little MIDI mixer unit using their continuous belt faders. The normal linear fader knob is replaced by a transparent continuous 'caterpillar track' about 1/2" wide. Immediately under the belt is a row of LEDs which show the channel's level. This arrangement gets over the problem, in an automated system, of having to motorise the faders just to show the engineer what level the channel has reset to. It apparently caught the attention of a few lighting people and it will be interesting to see who takes the first step and introduces it into a real commercial product.

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CITRONIC HIT THE STANDARD

John Offord and George Thompson go quality checking in Wiltshire

Concurrent with the publication of PLASA's own Guide to BS 5750, launched at the Association's annual general meeting last month, leading audio equipment manufacturers Citronic Ltd of Melksham announced that their own certificate of accreditation had just arrived in the post. They'd successfully completed the 'course' in double-quick time, and could commence using the highly valued logo.

Citronic's managing director Tony Akers, who led the company's quality assurance attack, is also PLASA's standards working group chairman, so he can also feel justifiably satisfied that he's 'put his money where his mouth is' when it comes to persuading the industry to be 'BS 5750 aware'. He's home and dry already, and explained how the decision to go for BS 5750 (ISO 9000 on the international scene) came about.

"In conjunction with our board members I made the decision two years ago to approach the BS 5750 Quality Assurance standard seriously. We had a quality system in place anyway, although not a fully documented one, and we believed that what we did here confirmed this situation, primarily because of our perceived position in the market place to produce quality products and quality service.

"Last year we felt that it was about time we had this state of play formalised, and the discussion moved on to decide when we would be ready to 'go'. We had talks with a consultant in early September with a view to putting a time-scale on the exercise, and we decided to start in October with a view to getting it all finished by Christmas!"

Tony Akers had made his original calculations on the basis that the necessary systems were already in place anyway but that they just needed documentation, despite the fact that they had been informed that it normally took most companies about 18 months to achieve BS 5750 status. "I was being looked at as if I'd flipped my lid," he explained, "even when I thought we could still do it within three to four months. However, as we got further into the exercise, we had to revise the time-scales, and we then decided around Christmas-time that May this year was the date we would aim for. We then had the applications discussed with the accreditation bodies, had quotes from them, and set everything in motion. That is what happened, we achieved it on time, and we are obviously highly pleased with the result."

Apart from the fact that gaining BS 5750 accreditation would further confirm, enhance, and make publicly obvious their commitment to product design and manufacturing quality, Citronic's views enforced the growing belief that it will be more and more a necessity for the future, whether it's pressure from local authorities and the like in the UK to order goods and services from accredited companies only, or for admission into export markets where ISO 9000 becomes a serious part of the entry documentation.

"I think that having BS 5750 is going to be inevitable in one form or another," continued Tony Akers, "but a major worry for most companies is the size of operation that can cover the overhead of taking it on. It is not a low-cost option. It does cost money and it costs money in terms of maintenance and overhead.

I think this is the biggest worry for most companies." I asked for a rough costing of the operation, bearing in mind that Citronic has around 60 employees.

"It's going to cost us an estimated £20,000 over the first three years, and half of that has already been spent up-front in terms of consultancy and assessment costs. These are the costs we can already relate to, but there are other hidden costs in terms of management time, effort and frustration in actually getting the systems into place. Documentation costs, for instance, are quite high. We generated around 125 new forms, although some were replacements for existing ones. They had to be of a reasonable quality and the actual design and production time for 125 forms is quite high!

"These are one-off costs, and how much time and effort you put in depends largely on your internal operation. You can get by with fairly simplistic documentation, but we felt that documentation ought to be up to a good standard as it reflects the attitude towards quality throughout the company. If you get your own internal quality correct in terms of documentation and operations, then that reflects across the whole company and with feedback from everybody you then abide by those quality standards."

Citronic's sales director Mike Gerrish mentioned that as they neared the end of the preparation period, it had been like coming through a great big forest before the light began to shine between the trees.

"The internal understanding of what BS 5750 was about, the internal educational process, was the major obstacle," he explained. "Because there is such a large body of written information it is all about getting the understanding across. Senior managers have to understand it, and then they have to explain it to the people below them. Finally there is another education process to the people out on the shop floor. The learning curve was longer than we ever anticipated: some people just didn't 'click' and switch on to it very quickly. We had to do an awful lot of rationalisation and simplifying. We had to sell the idea to many of our employees that it was a good thing to do. It was hard work and took longer than expected."

Tony Akers reinforced the point. "The

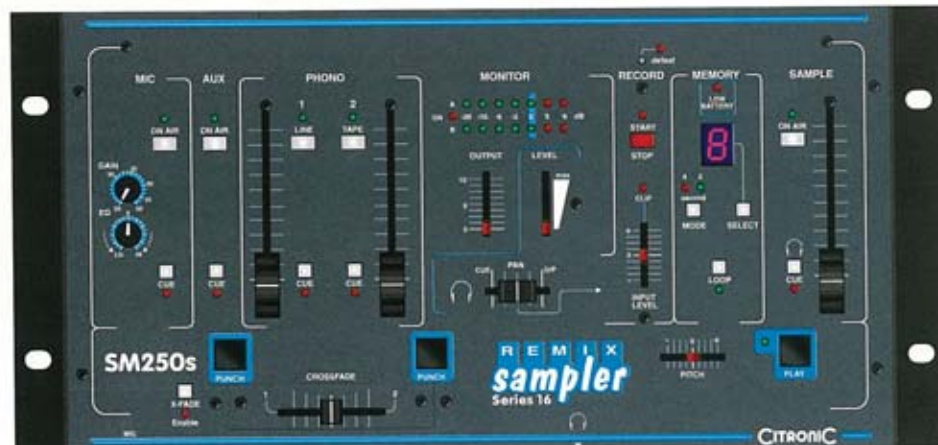


Citronic's Tony Akers (right) with PLASA Standards Officer George Thompson.

company already operated a quality system. The educational bit was to get this quality system in line with the standard, and that has been the one of the biggest difficulties in terms of education, to get people to do things in a certain way. What happens in most companies is that if they are successful they do things reasonably well regardless. The problem we had was to get people to do things in a way that conformed to the requirements of the standard, and some of the major criticisms internally were: 'well, that's a long way round doing what I've been doing for years in a simplistic form - why do I need to do so much paperwork? - I've got a form to fill out and I've never had to fill a form out before!'

And as Mike Gerrish interjected: "Internally, some people took the view that what they had been doing wasn't good enough and they got a little upset about it. There was that attitude to overcome as well."

So, do Tony and Mike feel that the 'new order' of BS 5750 operation, bearing in mind that Citronic is known to be a well-organised outfit, will actually have the effect of improving



SM250S - 16 second sampling mixer: First product to be wholly developed and produced under the company's BS 5750 quality system. Of particular interest is the fact that the colour illustration above was originated on computer by Mike Gerrish of Citronic and handed on disk to Lighting+Sound International. It was then reproduced without intermediate photographic processes.

any aspect of the company's operation?

"I think one has to examine the main reasons why we actually did it and obtained certification," said Tony Akers. "Firstly, it was to show the world at large that we do what we say we do, and that is the main purpose of accreditation and an outside body comes in and positively proves it. In other words you've passed your examinations on doing that. That's the prime objective.

"The second objective, in my view, is that you improve communications and the process within the organisation. One of its already apparent benefits is that people are actually using the system to communicate what they want. Previously, the methods by which you tried to communicate your needs was to go and talk to somebody - but people are often too busy. In a small to medium organisation everyone is rushing around getting their own work done and one of the things that has come out of it is that people now have a system by which they can communicate efficiently and get information logged. Once it's in the system it's got to happen - you can't ignore it.

"The third reason is that we believe it is inevitable that to market a product in the future, more and more companies are going to rely on companies having an accredited quality assurance system. It is becoming very apparent in industries outside our own, so we believe it won't be far ahead when in our own industry certain major clients will be requiring only accredited companies to supply them. On the basis that there is less and less time available to go and vet a company you are dealing with to check them out, people will rely on the BS 5750 auditing systems to do it for them.

"There is a fourth reason. We are finding that some approval bodies throughout the world are becoming more and more amenable to

companies who are ISO 9000 accredited when it comes to looking at products for safety approvals."

This list of plus-factors also has a direct link to marketing and sales, as Mike Gerrish explained.

"From a marketing point of view, when you can see signs of reaching a point when you can't sell to certain areas or certain people, then you have to do something about it. We already have some clients for which it already is or is becoming a mandatory requirement that a product has a safety certificate or the manufacturer is ISO 9000 approved. We are also hearing from many of our contacts about an even wider awareness taking place, because we are having some of our customers write to us saying 'are you 5750 approved? if yes, give us your number; if not, would you please answer this enormously long questionnaire on your quality system'! So they are obviously selling to people who are asking for this information - either certificates or ISO 9000 approved products. We meet this approach from many local authorities and most certainly from the BBC, and we are expecting it to happen a lot more frequently.

"Money is another key factor, because for some countries it is a mandatory requirement that you have a safety approval certificate for your product, and that's very expensive to have. If you have a range of 50 products there is a horrific time-cost as you can't sell on the market until you have the paperwork complete. However, what we've found is that if you are ISO 9000 approved, self-certification is a real possibility, and this means that we will be able to produce a new product to a standard, write the certificate ourselves, notify the bodies that we've done it - and they will authorise it purely on the basis that we have an externally audited

quality system."

Having accreditation has already proved itself in an interesting situation in Norway where Citronic are in the process of appointing a new distributor. ISO 9000 approval will mean that NEMCO certificates issued under the name of the earlier distributor can be transferred to the new one, and there will be no need for re-testing of products. All Citronic have to do is provide an undertaking that products haven't been changed.

"Our flexibility and our capability to cope in our market places around the world has been enhanced enormously," stated Mike Gerrish. "The marketing benefits are incredible, and of course, I can guarantee quality."

"I agree that the benefits Mike has just mentioned are enormous," continued Tony Akers, "but we mustn't lose sight of the internal benefits to the company from improved communication. One of the requirements of the standard is that you must have feedback and record it at all stages in the operation, including with customers. You have to have formalised methods of dealing with it and we are already beginning to see the benefits."

Human nature being what it is, how had the staff at Citronic responded to having BS 5750 thrust upon their working life-style?

"The company itself is audited every six months," explained Tony. "Internally we audit a department or area every month - you have to have both audit and review programmes laid down. However, there are always lazy moments and some people will try to short-circuit the system. It is a long-term education process, and internal audits have to make sure that people are abiding by the rules."

Setting up the audit systems also involved training several people in the company to have the ability to audit departments, other than their



Simon Humphreys recording PPX amplifier test results.



Mike Gerrish programming the LRQA logo into the new catalogue.



Citronic's chief engineer Ian Wilson and Tony Akers with the SM 250S.



Sheila Williams completing PCB inspection records.

own, also assist the company's QA manager, William Hardie. Citronic already had their man on the spot, and his role was adjusted to suit the new arrangements. It was estimated that work directly related to the standard took up about half of his time. "He's still able to carry out his other duties of quality control," explained Tony Akers.

The paperwork involved has been enormous; Citronic's manual was re-produced 11 times before the final version went for assessment.

"You can however have computer audited systems and we plan to pick off current paperwork generated systems - the obvious ones - into computerised ones," explained Mike Gerrish. "With our own software department we can tune the computer to handle it. I understand that at least one company has gained accreditation with an all-computerised no-paper system."

Having gone through the experience of processing themselves for BS 5750, how did Citronic feel about the situation with smaller companies in the industry. From their experience what was the minimum size of company where application would be sensible and manageable?

"It's purely a personal opinion, but I reckon about 10 or 12 employees would be the lower limit, although we have heard of smaller operations succeeding with accreditation," said Tony Akers. "The key item is whether you can afford the overhead. Even companies of 30 or 40 people could still find it difficult if their margins are extremely tight."

"Another factor to consider, and one you can't do without a system, is measure how much you are wasting, in terms of effort, re-work, stock and so on. One of the major benefits is to have those controls and BS 5750 will force you to have them. In our case this was less important because we had controls in the first place."

In a world where the rule-book is growing at a massive speed, with changing European legislation and product liability rules that provide for American-style damages, Mike Gerrish could see ahead to a situation where assessment of risk could well be based on whether you have a quality system in place. "I think it's these kinds of things that will eventually make it necessary to be approved because of the bureaucracy in which we live. On our most recent insurance renewal form was a question asking whether we had a quality system or were BS 5750 approved. It's the first time we've noticed it! It could soon be an issue on policy price negotiations!"

View from the 'Standards' Desk

Having gone on for so long in Standards News about the benefits of achieving BS 5750, it is good to see that another PLASA company has gone ahead and actually obtained registration. As far as I am aware, Citronic is the first PLASA audio company to have done this.

There can be few people outside manufacturing control who have not heard of British Standard No. 5750 but for the benefit of those who have not, it is a scheme whereby a manufacturer puts on paper his entire manufacturing process, from initial design to final delivery to the customer. There also has to be in place a quality-checking system and a number of inter-locking procedures to ensure that all the manufacturing processes are properly carried out on every single item coming off the production line. All of this and much else is documented in the Quality Manual, and it is this book which the independent assessor will use to examine in detail the company's operations before recommending them for certification. To make sure there is no backsliding, further assessments will be carried out at regular intervals.

The Quality Manual is the basic tool of an accredited quality system, and in Citronic's case it ran to 62 pages, not very large considering the amount of ground covered, but it must be remembered that, as Tony Akers remarked, "There are also 394 work/assembly instructions and the first, and most essential, is to tell people how to change the instructions!"

One of the fundamental requirements for any company considering BS 5750 is that senior management, from the very top downwards, must be totally convinced of the benefits the system will bring to the company. Without this drive from the top there is no point in starting, and from John Offord's report it is very clear that in Citronic's case, the MD was the prime initiator and driving force. There is no doubt it was his total commitment and enthusiasm which enabled them to achieve registration in almost record time. Also, and this is something else which in my tour round the factory I found Citronic seemed to have managed successfully, the workforce must be somehow fired up to accept the necessary changes, many of which may seem to them to have no point. If not properly motivated, they may easily see the whole exercise as simply a management tool to criticise their way of working.

One of the problems with formalising a quality system is to get the workforce to write down what it is they actually do (as opposed to what management think they do!) in a comprehensible form of plain English. Because it is generally so obvious to them what they are doing, they often have trouble writing down a detailed account of their daily work which will satisfy the assessors. An alternative is to have someone well-acquainted with the work to interview each person, but this method can cause unease on the shopfloor, and Tony Akers thought the first method was best. Although in many cases job descriptions already existed, Tony pointed out that these do not necessarily coincide with what is actually done, as they often only outline basic responsibilities.

In view of Tony Akers' feeling that it would be difficult for a very small company to attain BS 5750, I asked if he thought that many such companies in our industry would disappear? "No, but I think they will use the larger accredited companies as sub-contractors where necessary."

A criticism often aimed at BS 5750 is that it only confirms the quality of the product; it does not necessarily improve it. There is nothing wrong with this of course, as the quality of a product must in the end depend on the price paid for it. One has only to compare Ford with Rolls-Royce to be aware of this, but provided the quality is sufficient for the product's purpose, there is no point in producing an absolutely perfect item which no buyer can afford. However, there is no doubt that quality improvements can result from the application of BS 5750 principles, and being forced to look at the company's whole operation from a senior management viewpoint can often identify bad practices and waste of materials.

There are other technical benefits which are not so immediately obvious. For example, I asked Tony Akers how BS 5750 had changed his products and he replied, "there is far less hassle in the production process, especially when introducing new products, as they now go smoothly into the system with no changes en-route. It may sometimes take a little longer, but the end product is much superior. Once one product is on the way the design engineers can get on with the next one knowing they are unlikely to be asked to carry out post-design work on current production."

Finally, as PLASA's Standards Officer, I am very pleased to see a major audio company going the BS 5750 route, as it vindicates what I have been saying for a long time: BS 5750 accreditation brings definite benefits. It is also clear from Mike Gerrish's remarks that it will not be long before a company without it will find itself squeezed out of the market as more and more customers begin demanding some accredited form of quality assurance for the product they are purchasing.

George Thompson



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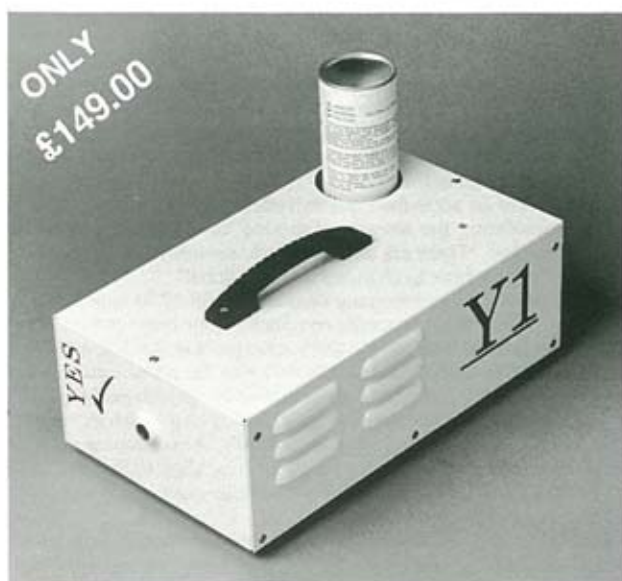
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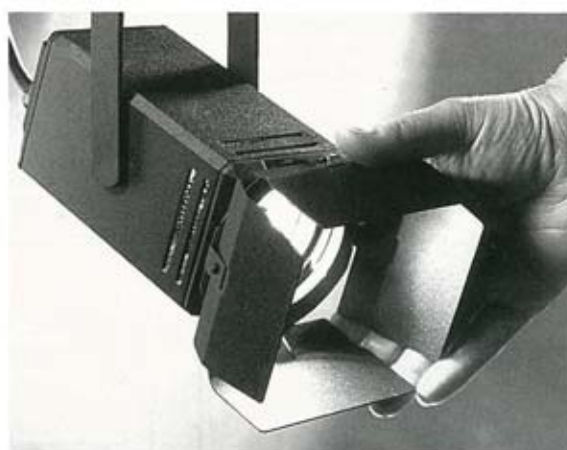
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A TOUCH OF PURE GENIUS

Ruth Rossington reports on Guinness's high tech approach to the marketing game

Being a jobbing journalist sometimes has its compensations. One such came in the form of an invite to witness the latest high tech homage to product profile from giant brewing company Guinness. Admittedly, Guinness has more money than most to throw at these things, but if the company's new touring roadshow is a sign of things to come, then corporate entertainment has truly come of age.

The concept for The Guinness Taste Sensation, a five room, 800 square feet travelling trailer, is based around the senses: smell, hearing, sight, touch and taste. The journey through lasts ten minutes with each room representing one of the five. The ideas was originated by the company, but when it came to the execution, they turned to a highly qualified team of technical experts led by Anthony Daniels and his company AD Productions Ltd.

Daniels was responsible for creating, designing and co-ordinating the build and installation of the effects into specially designed trailers. His credentials for the job couldn't be better. Coming from the Westminster Experience, he has just completed Vlad The Impaler and Anne Boleyn for The London Dungeon. He's also well known for his work on live shows in America and sound and TV productions in the UK (producing the Emmy winning Omnibus - A Juliet Remembered) and also boasts a long background in theatre and film performance, notably the Star Wars trilogy. Incidentally, the film for which he's better known as the golden robot C3PO. Add to the melting pot the techniques acquired from his work in all the Disneyland theme parks and you have some idea of the heritage of this project.

Daniels wanted to create effects that actually involved the audience - an involvement that was essential if the goal of exciting the five senses was to be achieved.

The audience is led through a series of five rooms by the voice of the 'host'. The lighting is flush mounted low voltage wall washers, gelled to give a suitably ethereal effect from almost invisible sources. The automatic doors are sequenced with the lights and voice-over to direct the audience. CCTV units safeguard both the exhibits and the audience.

In the first experience, 'smell', Daniels designed a miniature stage set housing a two feet prop of a pint of Guinness. The setting is a Magritte-like world of columns and clouds hidden behind a similarly designed painting,



The multi-faceted trailer which will tour the country for the Guinness' Taste Sensation.

housed in an ornate gilded frame, that makes a pneumatic reveal in the black-out. Lightning strobes cut into the ceiling and controlled from an Arclinc Unit distract the audience. The setting is revealed using dimmed UV tubes in sequence approaching the audience. Three mini-profile spots illuminate the sides of the glass. The tungsten lamps are carefully balanced so that they do not interfere with the dominating UV light which allows the set to fade into black around the edges, providing seeming infinity. A strikingly powerful image of a beautiful bald woman is superimposed on the prop glass, for which the special effects make-up was created at the, now sadly closed, Limehouse Television Studio at the Trocadero.

As the image of the host talks directly to the audience she gently blows towards them and the smell of hops and malt fill the air on a slight breeze. This effect is created by two fans ducting forward from under the stage area. They pass over two purpose-built smell generators with pneumatic louvres that open to allow the warmed scented air to be drawn upwards and out over the audience, whilst tiny twinkling lights appear to float out of the glass and disperse giving visual enhancement to the smell. This effect is created from a fibre optic source below the stage and terminated in a foam base around the Senelco monitor providing the image.

The effects are reflected in a Pepper's Ghost technique which had to be highly refined to

achieve a focus and width of field and also had to be robust enough to travel in the vehicle. Anthony Daniels sought advice from ICI and the University of Essex on coping with the intractable laws of Nature concerning reflection of light. Moving cloud effects are produced from a vertical painted roller blind on a continuous belt system driven from below. Under the painstaking supervision of Graham Owens, THE Ltd were contracted to build and paint the set, design the effects system and insert the lot into one of the 'pods' of the vehicles. The painting is in flat 3D illusion, air brushed UV colours which provide a depth and sense of space that is barely credible when one reflects on the actual size of the room. It's also strangely disorientating, I wasn't the only one who kept walking into the walls.

As with most other exhibits information is stored on laser disc supplied by Philips. The sound production throughout the project fell to engineer Nigel Edwards and composer Cliff Rossiter at the AV Department. They met problems early on when the wood infills to the pods and the audience spaces showed a huge ability to resonate. Potentially the audience would be standing inside an 8 cubic feet speaker! This was solved by using miniature Owi 202 speakers for the vocal effects. These are set in purpose-built foam nests to isolate them from the structure. For the loud overhead effects DNH Sound 25s proved effective as they carry their own suspended isolation system.



Anthony Daniels admires a lighting and sound work of art.



The ethereal 'host' of the 'smell' area.



Anthony Daniels demonstrates the fibre optic control system (left), working inside a miniature set and adjusting an amp in the Electrosonic rack (right).

The Owis are used again in the second room, 'sound', since there was very little space to mount anything larger and their output is more than adequate. The object was to communicate the 'sound' of Guinness. For this a scenario was designed where the audience would be surrounded by the sounds of a racing heartbeat fading under the gentle ripple of water underfoot which changes into a seven feet wave towering overhead before crashing down. This is replaced by darkness in which bubbles appear to climb up the walls and a gentle voice washes over the audience. The octophonic effects are played back through eight flush corner-mounted speakers.

Four detailed pre-mixes of various dynamic elements were recorded at the AV Department where Nigel Edwards had built a special rig to simulate the finished room. The M & E compilations were made using an Apple Mac running Cubase Score software. Cliff Rossiter used Korg 01/Wavestation and M1, Akai S900 and Emax Proteus Samplers together with Proteus II, Juno 106, Yamaha DX7 and Roland DD100 and U220 units to create his score, with Yamaha and Lexicon reverb units.

The digital mixes were then taken into the room itself and the final mix was created on site. The availability of the small Alesis A Dat units was crucial to the project. There was only just enough room for Anthony, Nigel, four A Dats, a Casio Portable R Dat and a Soundcraft Spirit desk.

Some visual element to the sound experience was needed to avoid the audience just standing in the dark. Fibre optics provided the answer as they would be able to mirror the sound effects and enhance the overall sensation. Absolute Action were commissioned to weave a programme of fibres into the walls, floor and ceiling pieces that would make up the show area of the room, with the speakers concealed behind perforations in the specially dyed black carpet. Emma Dawson-Tarr designed the highly detailed programming and co-ordination of the five separate pieces and their 14,000 fibres which had to be individually placed and identified back to their specific light sources. These sources are housed in a cupboard between the rooms and use a 35mm film light system invented by Emma and David Tarr. To create movement and flow, the film base contains a light interrupting pattern that passes across the co-ordinated fibre ends. Small wheel-based units provide unique effects at moments throughout the programme. As they move into the room, all the audience see is a very black, deep space until the fibre optic effects wash around the floor and walls as the

sequence unfolds. In view of the heavy foot traffic that is likely to pass this way, it's as well that the fibres are rugged enough to withstand continual 'abuse'.

The 'sight' sensation is produced from four rear projection screens using Sony 1600 disc players feeding Sharp XV730H LCD projectors onto Da-lite Daplex Panel screens via lightweight foil mirrors, making the most of the limited back stage area. These and the AMX Axcent control system were supplied by R.S.L. Ltd. Again Sound 25s were used, not only for real sound, but also adapted to make small woofer units mounted under the floor surface. The audience experience is created on the screens through graphics created by Dean Jurke under Daniel's direction and with the help of Kent Houston of Peerless Camera Co. He used products from Softimage UK, specialists in the advanced 3D software, and created the finished work with Flock and Metaclay software. The latter is vital to the ability to create realistic movement of liquids, in this case adapted to the movement of the Guinness head as it pours from the can over and around the audience, to finish with a less than glamorous exit down the throat of a Guinness imbiber. Stomach churning stuff.

The 'touch' room contains a chamber representing a section of a giant Guinness glass. Working along the same lines as the 'Grab a Grand' concept from the BBC's Noel Edmond's House Party, simple fans oscillate on a motorised rig to move prize tokens around the grasping hands of the audience.

And last, but not least, comes 'taste'. No prizes for what that might turn out to be. For this area a snaking black corridor is used to lead the audience forward to the Guinness. Unlike the other rooms the sound track is a 15 minute loop of music and voice-over laid onto CD by tape to tape and played from a Sony programmable CD player on repeat programme.

This and all other equipment was supplied and fitted and programmed by Ian Scott of Electrosonic Ltd. All amplification is through Denon PMA 250s fed from Pioneer LDV4300D Laser Disc players with an ES Video Disc Control unit. Show controls are via Celco E series and ES AH dimmers, with all rack mountings housed in the end of one trailer, an area originally designed as accommodation for the drivers. Probably the most important responsibility of the system is to ensure the correct sequencing and coordination of the individual areas. This has been achieved through the use of a programmable logic controller which interfaces with the user

control panels, the automatic doors and each of the various control sub-systems. For areas 1, 2 and 4, the control sub systems consist of Electrosonic VCUs supported by a number of other Electrosonic control products. The VCUs replay cue based shows which were programmed on site using a conventional personal computer running Electrosonic BSC show control software. The VCUs are used to directly control laser disk players which replay the sound and video images in each area. They also transmit control messages to Electrosonic Sceneset units which decode the messages to provide the Analogue signals used to drive the Celco dimmers for house and show lighting. In the opening area, 'smell' the VCU controls power and pneumatics for the fans, swell generators and lighting effects.

Throughout the project, Anthony Daniels liaised closely with the specialist coach builders W H Bence who purpose-built the vehicles with close reference to their final use. Maximum use of space is achieved through the use of the hydraulic pods which expand on site to double the vehicles' capacity. Even though they travel on air suspension, every piece of equipment had to be carefully fixed in position and 'ruggedised' as far as budgets would allow, to avoid potential disasters. To date, problems have been few and the biggest catastrophe so far has been that one plug has fallen out.

The units have an expected life of three years and have a semi-permanent base on Blackpool Pleasure Beach with visits planned to various shows and fairs around the country.

The use of lighting and sound technology for promoting product is not new. However, what is, is that Guinness have taken the concept one step further by employing increasingly sophisticated techniques with which to promote their product. It might not be the traditional market in which the industry has notched up its experience, but it's a burgeoning one that will undoubtedly draw more and more on the resources that our industry has to offer. Perhaps Rutger Hauer has met his match.

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PA INSTALLATIONS: LEADING THE PACK

John Offord in Llanelli

The Inter City 125 out of Paddington doesn't quite get to Llanelli in South Wales; neither does the M4 motorway. Nearly, but not quite. But don't make an error of judgement on assessing a company merely by where it sits on the map. Use of the latest techniques and sound business practice doesn't follow any boundaries, and PLASA members PA Installations are considerable proof of that.

As director Paul Adams put it: "Some people may think of us as a bit 'Welsh', and bit out of the way - but if you take a serious look at what we've done over the past years it adds up to at least 200 major installation projects all over the UK and Eire."

From small beginnings in 1982 when Paul pulled off his first major nightclub installation in Swansea, the business grew steadily through the eighties to a situation where 28 full-time staff were employed.

"We started off in a very small showroom and within two years outgrew that facility," he explained. "We bought the premises next door as a 'creative workshop', built a higher profile and switched direction purely into installation work, having reduced the retail side drastically. We continued to grow and in due course bought another property in Inkerman Street and created offices and more space including much better workshop facilities."

During this period of steady expansion the company began to broaden its base, a move that proved in retrospect to have been extremely wise once the current recession started to bite. "We started taking on board anything that needed expertise in electronics, and alongside this our electrical contracting side also grew. We had a skilled team available for the night-club market and I wanted to make sure these guys weren't twiddling their thumbs when business was quiet."

These moves proved fortuitous. When the present recession hit it provided a major shock to PA Installations', as it did for many companies - but it wasn't enough to knock them down. Paul trimmed the operation to a nucleus of around 20

staff, tightened things up, took a close look at overheads, and then began some aggressive marketing into other fields. "We very quickly realised that the leisure side of the industry was in a bad way, so I started marketing our services to as many other areas as I could think of," he explained. "We're doing quite a lot of business, for instance, in the university entertainment area, and this has provided us with steady income over the years, particularly in the summer period which is generally quiet in the leisure industry."

"It's only because of the huge amount of aggressive marketing we've undertaken that we've managed to keep enough base business to carry on. If I hadn't taken these steps I think we would have been out of business a good while ago. I also believe that the future is going to revolve around the bedrock of those companies who are watching their overheads and running good operations. There are no safeguards any more. With margins cut to the bone, and with little or no cash available as a reserve, you only need to get your fingers burnt on a couple of big contracts to move yourself into the history books. "The secret of any success PA Installations has is down to the fact that we've emphasised standards and quality and concentrated on installation work rather than selling products at a discount. I try to get over to prospective clients the fact that we are selling a quality product, properly packaged, correctly installed to a high quality, fully certificated, properly serviced and maintained after the event - and to do that we have got to make a genuine and reasonable profit." Paul emphasised that his company is a member of the Electrical Contractors Association (ECA). "I also consider that having BS 5750 accreditation is going to be an essential requirement for the future," he said.

Project follow-through is a major part of PA Installations' planning. "We consciously do our best to make sure that all our customers see the benefits of having a back-up service. We're also very keen on arranging good on-site training, and



Paul Adams.



The Underground, part of UMIST's students union.



Executive nightclub at Winstons in Cardiff which featured Community, JBL and Bose sound equipment; Abstract and Coemar lighting effects and Zero 88 and Oxtron control.



PA have carried out specialist electrical contracts for the Burger Master chain of restaurants.



Specialist effects lighting for the Middleton Park Hotel, County Cork.



Martin Edwards, operations manager.



Accounts/personnel manager Elio De Filippo.



Ray Allen, technical services manager.

for all major projects we are involved with a full manual is prepared which provides all the necessary back-up diagrams and information and full details of all products installed. We also provide labour and replacements parts free for three months after completion of any installation and then provide a labour-only contract to the customer for the remaining nine months of the first year. After that we offer a parts and labour contract for year two onwards.

"I'd like to say that our maintenance business was a big earner for us, but it's not. However, it keeps us in contact and the conversation rolling. It means clients are likely to want to talk to you about future up-grades and so on. It also means they are likely to buy certain consumer products from you, and we want to maintain that business - we don't want it to drift away. We try to avoid the situation where once we've done the major installation work the local company down the road walks in and says 'we can provide the service and back-up'. I've seen that happen frequently and in many cases the quality of the installation gets degraded to the extent that after a couple of years you can't even recognise your original work!"

The range of PA Installations' contracts is varied, to say the least, and although they have a strong presence throughout Wales, a great deal of turnover comes from project work outside the Principality. Discotheque installations, although by their nature more visible, only account for around 35% of turnover; the balance is split across a wide range of projects, with electrical contracting accounting for another 30% and the remainder split between CCTV, consultancy and special projects.

For East Devon Council they recently installed a comprehensive conference system, utilising a combination of Trantec DTI approved radio microphones and Sennheiser desk-mounted microphones. TOA V Series mixer modules, parametric EQ and PPX amplification wired to a Bose flown speaker cluster provided an efficient system with simplistic operator control.

As mentioned earlier, installation projects for students' unions have featured strongly in the PA line-up. Latest of these included the Sub Bar

at the Nottingham Trent University where, in association with interior design company Gibson Morten Partnership, they supplied the lighting and sound systems. JBL speakers, C-Audio amps, a Cloud mixer and Symetrix, Ashley and Citronic signal processing provided the sound while Coemar and Abstract lighting was controlled from a Zero 88 Mercury.

The sound and lighting for 'The Underground' at UMIST in Manchester included JBL, C-Audio, Bose, Technics, Citronic, Symetrix and Ashley on sound and a wide mix of lighting, including Megastar strobes, Solar 250 projectors, Abstract Raves and Scatterboxes, Coemar Microscans, ET Flatbeams, TAS swings, UV lighting, neon and JEM Smoke Detectors. Control here was by a Celco Navigator.

PA have crossed the water to the Irish Republic on three separate occasions over the past couple of years to undertake prestigious lighting and sound installations, and the latest, at The Hillgrove Hotel at Dingle in Co. Kerry, has just been completed. All three installations include specialist effect lighting, the Oxtron CL60 computerised environmental lighting control system and main PA and secondary sound reinforcement.

As if to deliberately stretch our imagination, a contract completed this spring saw PA install a CCTV network for a local coal washery. The system, designed and installed by Paul's team, provides surveillance to the conveyance systems throughout the plant, monitoring movement of coal and giving advance warning of any line failures. The equipment, which is maintained by PA, includes low-light cameras housed in specialised casings controlled via a multiplexer situated in the main plant room.

Other work recently completed by the company includes an area contract for telephone outlets for the Post Office Counters Automated Payments Project and specialist electrical contracts for the Burgermaster chain where computerised environmental control systems, internal background sound and Duplex Drive-Thru audio systems have been installed.

Having gathered together into his operation a neat batch of skills spread through a motivated staff, Paul Adams has built his

company to a sensible and manageable level and is now well-placed to introduce sophisticated technology into a whole range of leisure facilities, and at a competitive price.

Whilst his personal love may be the entertainment sector, Paul knows that versatility is the password to staying alive and for success in the future. Hence, within the PA 'family' is an engineering company, Artec Engineering, which provides support with any fabrication work such as bracketry and other pre-installation hardware that PA Installation might require. The company also works independently on various local authority contracts.

On the national scene he's concerned about the situation for major installers in the UK, particularly with the recent demise of Effects Lighting. "I think this industry will really feel the loss of companies like this and I don't think it's good for the industry as a whole to be left to just a few people to try and install, maintain and service right across the country to the kind of standards that we work to.

Paul Adams thinks it would be good to see some of the other installation companies out there improving their standards, going for accreditation and showing it can be done, in essence keeping a balance and structure to the industry as a whole."



Director Charmaine Adams.

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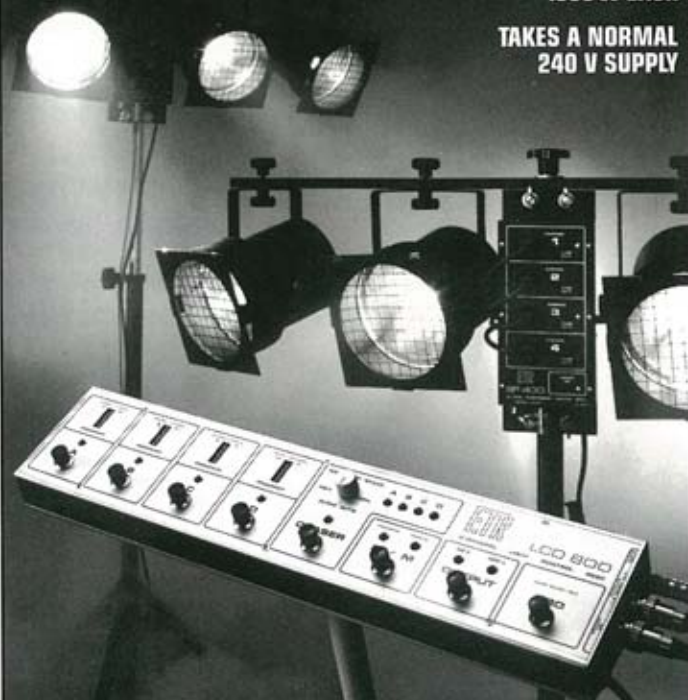
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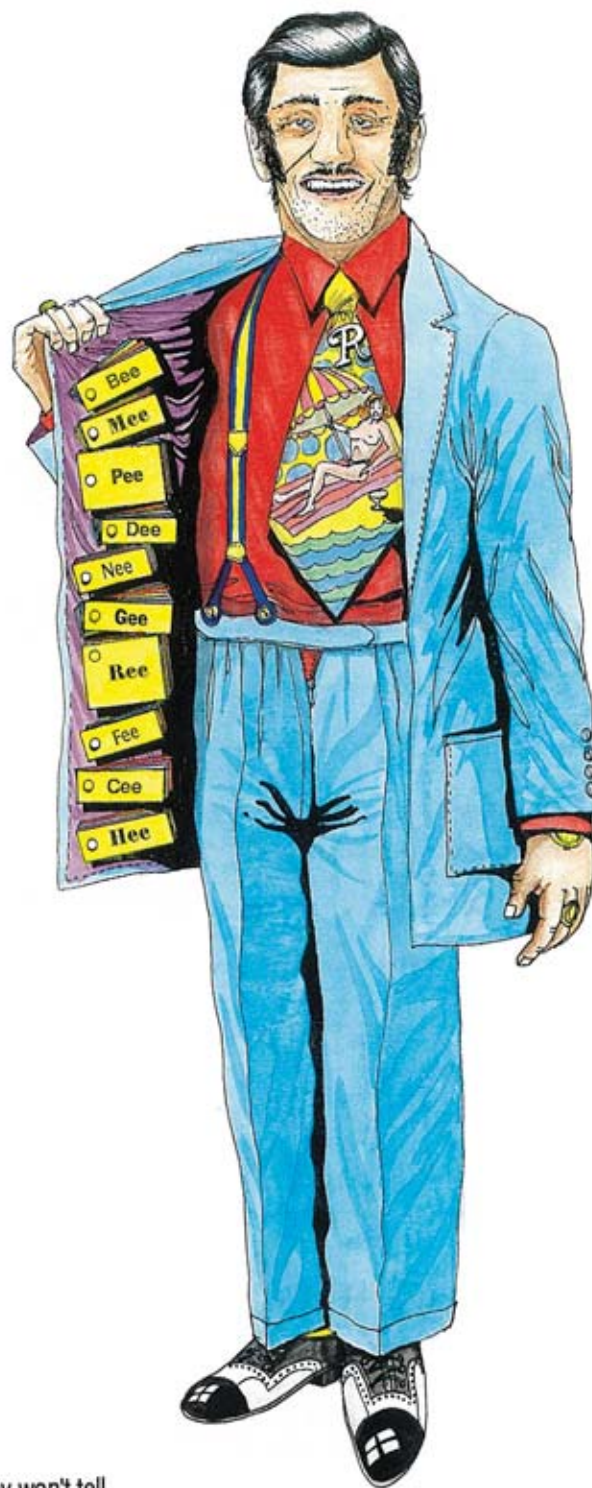
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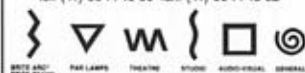
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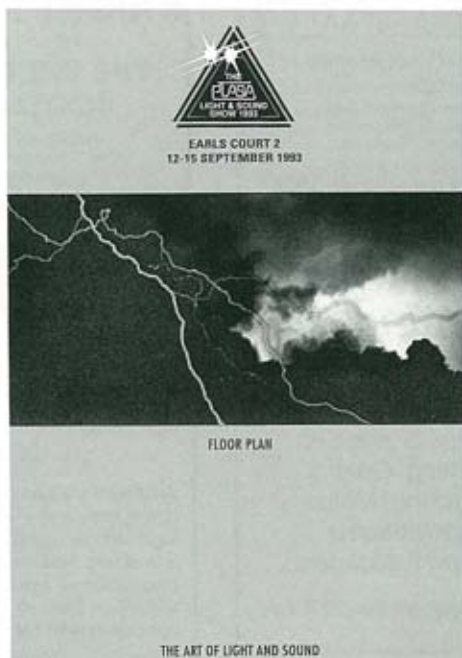
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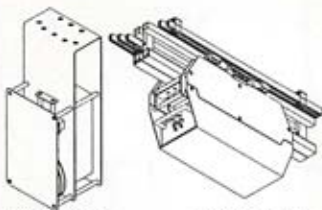
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VIEWPOINT

Philip Nye on Where to now DMX512?

I have a vision of a lighting desk which is connected to a vast rig of conventional and more exotic lighting equipment by an interface which I will call PLASA-Link. Among other things it has these features:

1) Any PLASA-Link control desk can control any of PLASA-Link devices irrespective of the manufacturer of either and without lengthy set up and tailoring procedures. This should be as true for moving lights, colour scrollers and pyrotechnics as it is for humble dimmers or even colour wheels.

2) Any network of PLASA-Link devices is self-configuring. If I plug up a rig of mixed equipment then my desk tells me what I have and asks me what I want to do with it. If I buy the brand new BendiLight from Acme Lighting which shines round corners, I am confident that when I plug it in the desk will simply say: "You have added a BendiLight. How far round which corner would you like to shine it?". Why should I have to sit for hours explaining to my desk that channel 98 and 99 together are the pan axis of a moving light while channel 100 is a colour scroller with 17 colours.

3) PLASA-Link imposes no limitations on the accuracy, or resolution of a device. Movements and fades can be as smooth or as jumpy as the manufacturer can produce and the user can afford. No more jerky slow colour changes because of an arbitrary 256 step resolution.

4) If that all-important cue does not get through to the lights first time, the desk knows about it and tries again, or at the least warns me that there is a problem - preferably before the cue is called.

5) Similarly, if a device has a fault - blown lamp, tilt axis stuck etc. My PLASA-Link desk tells me as soon as it happens rather than finding out when I try and bring up that blown lamp in a cue.

6) PLASA-Link is robust, cheap to implement and install and not hard to troubleshoot (of course).

7) As new devices with new features appear and controls get more sophisticated PLASA-Link has the ability to adapt and change in an agreed and well defined way to cope with them, while maintaining backward compatibility with earlier equipment.

8) Oh! - and down in the basement sit my trusty old stack of DMX dimmers buzzing away quite happily under control of the same desk.

Each of these points is already or could easily be met by some existing technology in the industry. They are a few of the things that users could and should be demanding of manufacturers and are the sort of points that should be raised in discussing an extension/successor to the DMX standard. These features probably resolve themselves

into technical issues such as 16 bit resolutions and cyclic redundancy checks, but concentration on technicalities has bogged down discussion before the true aims have been identified and has left many ordinary users out in the cold.

A fresh approach is to identify a common list of desired features and priorities first and then to consider existing and proposed connection standards in the light of it.

A simple extension to DMX of the type proposed by Adam Bennette does not score very well at all. It could certainly be made to work up to a point, but how far would this get an industry which is already technologically challenged? Assuming such a proposal were widely encouraged and adopted, it would still be a matter of a year or two before the standard could be fully thrashed out and it is my belief that its useful life would then be nearly over. Backward compatibility with DMX is certainly a priority, but there are other ways to address it which do not impose the restrictions on development that a simple extension of this kind does. A new standard should lead the industry forward, not just try and keep up with it.

I would like to see a working party under PLASA's umbrella begin by drawing up a list of the type above without reference to existing standards and as a starting point in considering proposals for a successor to DMX to take the industry forward for more than the next year or




Philip Nye trained as an electronic engineer, and before joining DHA worked in various electronics jobs. In the theatre he trained and worked full time as a contemporary dancer for several years gaining a knowledge of lighting and sound from the performer's standpoint. He began design work on the DHA Digital Light Curtain soon after joining the company in 1989 and completed it in time for its launch in Miss Saigon on Broadway in early 1991. He is now chief engineer at DHA and is interested in applications of modern technology to all aspects of stage lighting - particularly in improving the ease of use of increasingly sophisticated equipment.

two. It is desperately needed. Could such a working party be set up by PLASA? Possibly at the Light and Sound Show this year, or even to present a report there?

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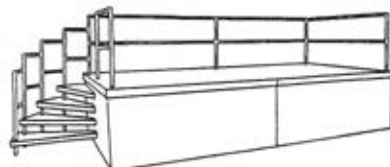
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