

# LIGHTING+SOUND *International*



PHIL COLLINS IN REHEARSAL AT BRAY STUDIOS

PHOTO: JONATHAN GOTTELLIER

- Phil Collins is back - Tony Gottelier prefaces the tour
- Musical Majors: Show Boat in the US and Copacabana in the UK
- Frankfurt and Rimini: first key shows of the season
- Company profiles: Strong International and Avesco
- TV Production: L+SI visits VTM's new studios in Brussels
- P&G's MIDI Management System reviewed

**APRIL 1994**

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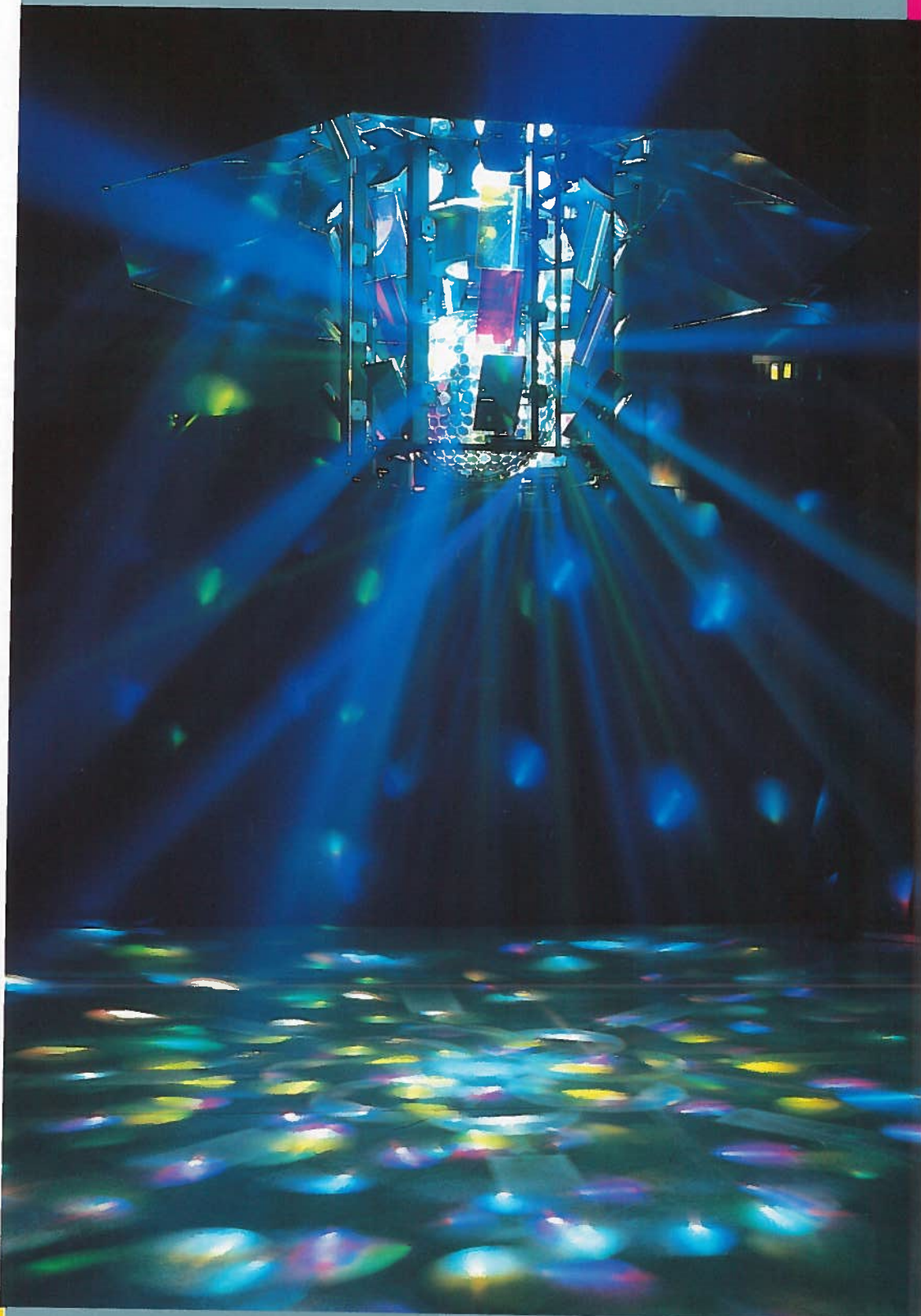
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## Vari-Lite Buys Into Europe

"A Turning Point in the History of the Company" says Vari-Lite President and CEO Rusty Brutsché



First day of operations for Vari-Lite Europe Holdings Ltd: (left to right) Alan Thomson, Rusty Brutsché, Charlie Kail and Brian Croft.

Following our early announcement (L+SI October) of planned moves for a major incursion by Vari-Lite, Inc. into the heart of the European lighting business, the company have now signed the deal to purchase from Samuelson Group plc the assets, names and goodwill of Vari-Lite Europe Ltd, Brilliant Stages Ltd and the lighting operations of Theatre and Concert Services Ltd (Theatre Projects and Samuelson Concert Productions). The finalisation of the arrangements took place on March 31st, with senior representatives from Vari-Lite visiting London to sign the necessary papers. Rusty Brutsché, president and chief executive officer of Vari-Lite, addressed staff of the companies at a special evening event prior to the Easter break.

The companies acquired by Vari-Lite Inc now form a new group, consisting of a holding company - Vari-Lite Europe Holdings Ltd - and three subsidiaries: Vari-Lite Europe Ltd which will continue to represent VLI distribution throughout Europe, Russia, the Middle East and Africa; Brilliant Stages, which specialises in the design and building of stage sets for music tours and trade shows; and Theatre Projects Lighting Services Ltd.

The latter has two separate trading entities sharing the same vast pool of lighting equipment and services. Theatre Projects will continue to serve its traditional theatre, trade show and event clients. Concert Production Lighting will continue to conduct the business of Samuelson Concert Productions in the music industry.

All staff have been retained and the newly acquired businesses are now all housed under one roof with Brilliant Stages occupying the space vacated by the two departed Samuelson companies.

L+SI editor John Offord met the principals involved on the first day of their new operational format, and spoke with Rusty Brutsché and Brian Croft. Brutsché explained that the transaction was a part of a \$30 million world-wide financing for Vari-Lite Holdings, Inc arranged by Brown

Brothers Harriman & Co in New York who acted as agent for a bank group that includes Coutts & Co which will be the bank for the Vari-Lite Europe Holdings Group. In addition to providing the funds for the purchase and working capital of the three companies, this financing will also provide for the continued expansion of the Vari-Lite business in the US, Europe and the Far East.

He said: "We are all very excited about the future of Vari-Lite Europe Holdings and welcome all the employees of the three companies to the Vari-Lite organisation. We look forward to continuing to provide the highest quality products and service to our customers."

Brian Croft said: "These are exciting times and I look forward to the future with great confidence. The four businesses in the new group have total synergy. The members of the management team are old friends and experienced war horses. We now have the opportunity to have a single-minded approach. We have excellent proven staff and with support and guidance from Dallas we are determined to continue offering a high quality service to all our clients in the industry, both large and small. The legal procedures have dragged on for rather too long - now we are eager to get on with the job, have some fun, and make some money!"

### The People Involved

Rusty Brutsché is chairman of the four companies and his fellow board members, Jack Maxson, Jim Clark and Tony Smith are also directors. Brian Croft is managing director of both the holding company and VLE and is a director of the other two companies. Alan Thomson is managing director of Theatre Projects Lighting Services and Charlie Kail is managing director of Brilliant Stages. Barbara Joynson becomes group administrator and the only newcomer, Stephen Pembury, is group director of finance and company secretary for the four companies.

### RUSTY BRUTSCHÉ

"These moves represent probably the largest individual milestone since we started Vari-Lite 14 years ago. Number one because it's the largest financial transaction we've ever attempted, and as a result we view it as a turning point in the history of the company. It also gives us the ability to have under one corporate umbrella the major parts of the Vari-Lite operation, because Europe represents about a third of our business. We now have the opportunity to run the business world-wide and to do it from a central board of directors as a combined operation where we can set policy and do things as a unified company as opposed to having to concern yourself with meeting the interests of a partner whose corporate objectives may not be in tune with yours.

"This is not to say we haven't been happy with Samuelsons; we feel they've done a great job for us, and but for them we wouldn't be here! - but we felt that this was the time for us to take things forward on our own.

"We've been able to raise enough money through the financing to provide additional funds for product development and manufacture and we see the next two or three years as a time of major expansion and to put more and more Vari-Lite product into the market; also to find ways to distribute into more segments and geographic areas of the market. We will centre this effort primarily on the VL5 and VL6 and the new Mini Artisan 2 console whilst at the same time working on additional products such as the VL7 and VL8 luminaires.

"We'll be pursuing fixed installation leases, expanding our current distribution network and looking for enhanced rental operations.

"The other side of our future is with the architectural market and we plan to set up distribution and service for these products in Europe as well as the USA, and new products are being developed for this area. We may use some of the common structure that's already in place, but it will be staffed, marketed and handled in a different way because the products are for sale and in a different area.

"We plan to stay with our basic philosophy of putting resources into research and development and training, and maintaining a strong corporate emphasis on service and customer support - always looking to take input from our customers and feed it back into our product development, driving the technology to do what the customer wants."

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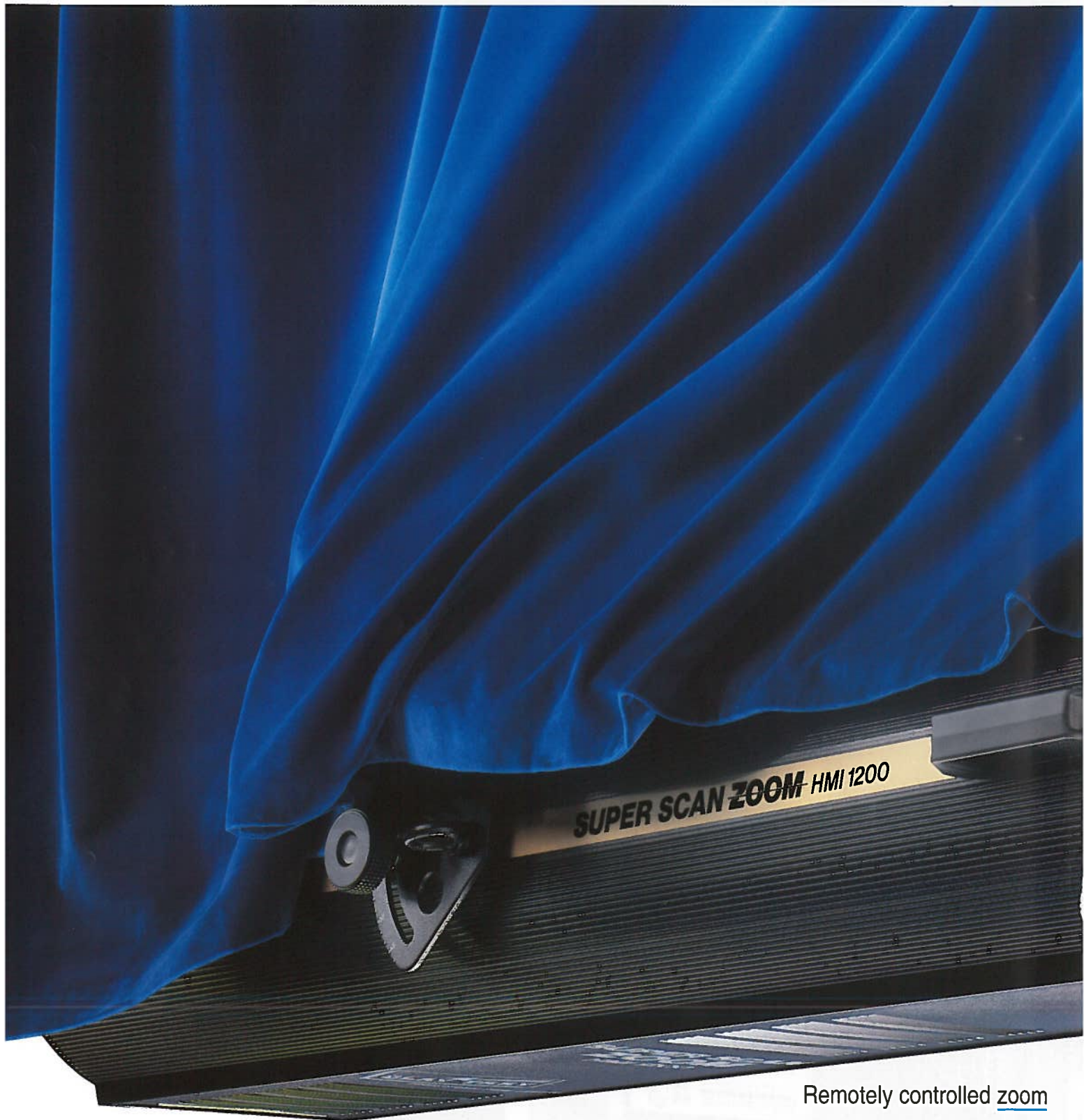
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PROFESSIONAL SHOW LIGHTING



## Belgian Vision

Readers may have noted that within our report last month from SIEL on ADB's new Vision 10 lighting control desk, that the people behind the 'new look' were Ghent-based design and production company Arf & Yes, first featured in this magazine in June 1992.

The partnership trio of Giovanni De Schampheleire, Ignace D'Haese and Ronny De Gruyter have moved on apace since that time and L+SI's editor paid a quick visit to their studio in Ghent last month to catch up on the latest news.

Work on the Vision 10 was undertaken by Ronny De Gruyter, who performs within the operation as their industrial and corporate design specialist. His efforts certainly inspired a fresh look, and given the minimal amount of time at his disposal he produced a result that had the ADB people on stand in Paris at SIEL smiling broadly.

Arf & Yes now take care of between 12 and 15 television direction and lighting projects every week in addition to major touring shows and events both within Belgium and internationally. As already reported in our pages, they recently undertook the set and lighting design for the Spanish artiste Miguel Bose, the latest tour involving lighting designer Ignace D'Haese in a trip to Mexico.

What Giovanni De Schampheleire eagerly wanted to tell me about, despite a very sore throat following an operation two days before, were new projects on the horizon and the ever-widening nature of Arf & Yes's work.

At Brussels' Zaventem airport a 300m link tunnel is due to open connecting the existing and new terminals. Their brief, in response to a request to solve the problem of people feeling 'alone' in such a long underground thoroughfare, is to provide some kind of lighting scheme that will serve to take away the 'fear' element. The outline plan is to



Arf & Yes partners in their Ghent attic studio: (left to right) Giovanni De Schampheleire (managing director) with Ronny De Gruyter and Ignace D'Haese.

provide a long slow light 'chase', interactive between floor and ceiling, that will encourage the feel of movement. "It's an architectural problem with motion involved," explained Giovanni. "Our industry will sell the equipment - desks, cables, and so on. I sincerely believe that between us we have the knowledge to solve many similar problems and there is enormous potential for us in the architectural field."

In a totally different area, Arf & Yes are working in a consultancy capacity for the State of Flanders to report on areas such as lighting, sound and stage machinery etc for the refurbishment of the

Ancienne Belgique in Brussels City. The venue was built in 1903, has 1200 seats, and has been targeted as a potential home for major West End and Broadway-type productions. It is due to open in December 1995.

Giovanni De Schampheleire feels strongly that the industry has many areas open for growth, but that too many companies are only narrowly involved. "There is not much drawing in from the outside," he said. "We must push forward with an open vision and combine our skills and techniques, understanding each other through creativity."

## ShowCAD Distribution

Following a restructuring of the sales and distribution of ShowCAD, the PC-based lighting control system, the controllers will now be available under distribution agreements from the manufacturers, Axon Digital Design Ltd.

World-wide distribution was previously provided by Cerebrum Lighting and they remain in place as a ShowCAD distributor. In a prepared statement, Axon and Cerebrum say that the arrangement is of benefit to all concerned.

Rowland Hughes of Axon Digital said: "While we will be appointing new distributors, the purpose of the policy change is that we feel we can better service customers this way. A new service to users that will shortly become available is a 24 hour modem supported bulletin board, which will enable users to upload new software versions in a few minutes and also to send Axon any files and set-ups where difficulties may occur.

"We don't feel that there is another lighting control system in the world that offers such direct, rapid and comprehensive support," continued Hughes. "We also offer a world-wide programme and commissioning service which will either be undertaken by Axon or by one of the highly conversant lighting designers/programmers that put together shows and installations using our product." In the UK, CoeTech of Northampton have already been announced as distributors of ShowCAD from this month.

## Hill Audio Integrates

Millbank Electronics has announced the integration of its Professional Audio division into its own manufacturing and administrative headquarters at Uckfield. Formerly trading as Hill Audio the manufacture, design and sales activity will now operate as a fully integrated activity. Robert Lingfield continues to run the selling activity in this sector.

## Groener on Strand

Strand Lighting has announced the appointment of BGr+A as its exclusive sales representative for the Metropolitan New York and Northern New Jersey areas. This new agency has been formed by Bill Groener, formerly executive vice-president of Strand Lighting. Chris O'Shea, a current member of the Strand NY sales team, has been recruited and will continue to focus his efforts on the contractor/distributor accounts. Additional personnel are being hired to service specifier needs and to provide administrative support, and four people will comprise the initial staff.

Bill Groener has been associated with Strand since 1984. He was formerly a lighting designer for the Disney organisation.

## Playlight Projects

The Playlight Group has continued to invest in new hire stock, enabling it to independently fulfil an increasing number of medium and long term contracts.

Recent projects include the hire of lighting, effects and operator to J C Bamford Excavators Ltd (JCB), when it launched 13 new products to more than 1,000 European dealers and customers. The shows were held over a two week period in Benalmadena on the Costa del Sol. Lighting requirements were met mainly by the use of Pulsar Miniscans with a Sirius 48 control desk, and a Jem Watercracker. In addition, Playlight manufactured 400 square feet of starcloth specifically for the JCB presentations.

Playlight has also just installed a Galaxy 2 lighting desk at London Bridge Studios as a TV style desk, interfacing with existing dimmers using a D54/DMX512 protocol converter. Playlight has two fully operational desks, which are unusual items in UK hire stocks. Both desks have a large number of additional panels and cards, enabling them to be configured to customer's requirements. Desks and ancillaries are fully flightcased to meet the demands of touring or OB work.

## Insurance Scheme for Freelancers

Well-known freelancer Dave Bartlett, based in Manchester, contacted L+SI recently with a request to publicise a Personal Accident and Sickness policy available from Commercial Union. This policy, for some unknown reason called 'Mister E', came about after pressure from Dave and his broker on the insurance industry resulted in a scheme tailored for freelance personnel at a reasonable annual premium.

"It has no working height exclusions, includes full coverage abroad, and the first payment comes within two weeks of incapacity and can carry on for up to two years," explained Dave. "It is specifically aimed at lighting, sound and video/AV engineers, but - no surprises - draws the line at riggers." Dave is disappointed that so far only 15 or so people have taken out the policy during its two year existence. He doesn't want the scheme disappear, and in order to keep his own premium down is hoping others will come forward!

Seriously, it might well be worth your while, if its appropriate to your work situation, to contact the broker who deals with the policy and get hold of more detailed information. So here's the information: Barry Worthington, Mason & Mason, 18-20 Manchester Road, Wilmslow, Cheshire SK9 1BG telephone (0625) 529536. You don't need to quote L+SI because we're not on commission!

## Engineer Seminar

Soundcraft has got together with Marquee Audio to offer monitor engineers the chance to try out some tools of modern monitoring, including the SM16 and SM24 consoles. The two day seminar will run on 28-29th April at Soundcraft's Potter Bar headquarters. Garwood's Radio Station, Turbosound monitors, and the BSS Varicurve will also be demonstrated. Attendance is by ticket only - for more details contact Marquee on (0932) 556677 or Soundcraft on (0707) 665000.



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The '93 show attracted more than 200 individual exhibitors and represented manufacturers from Continental Europe, the U.S.A., Japan, and Australasia, plus two large national groups from Italy and the United Kingdom. The attendance was mainly composed of professionals and dedicated end-users in the region.

For the '94 show, over 75% of the available stand space has already been allocated to renowned international manufacturers. The Italian Group organised by the Italian Institute for Foreign Trade (ICE) in cooperation with the Association of Italian Discotheque and Theatre Equipment Manufacturers (APIAD) and the UK delegation organised by Professional Lighting and Sound Association (PLASA) along with the British government will again support the '94 event. Many manufacturers of famous brand names will be participating in the large national pavilions.

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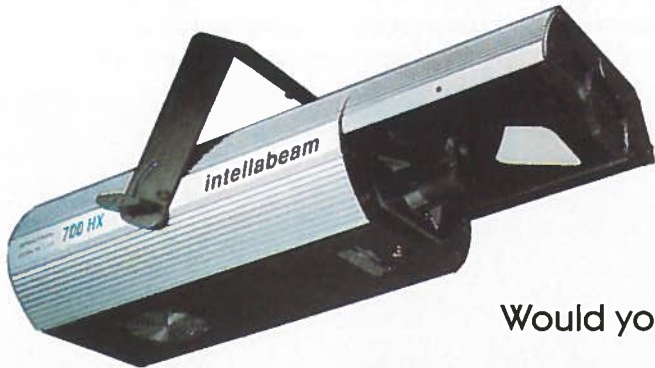


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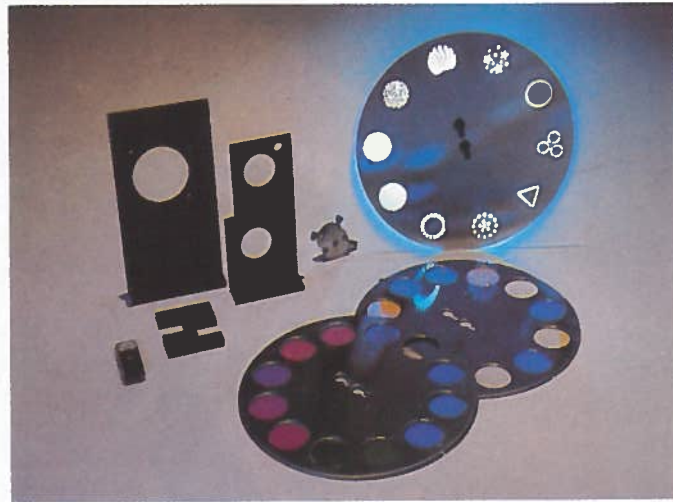
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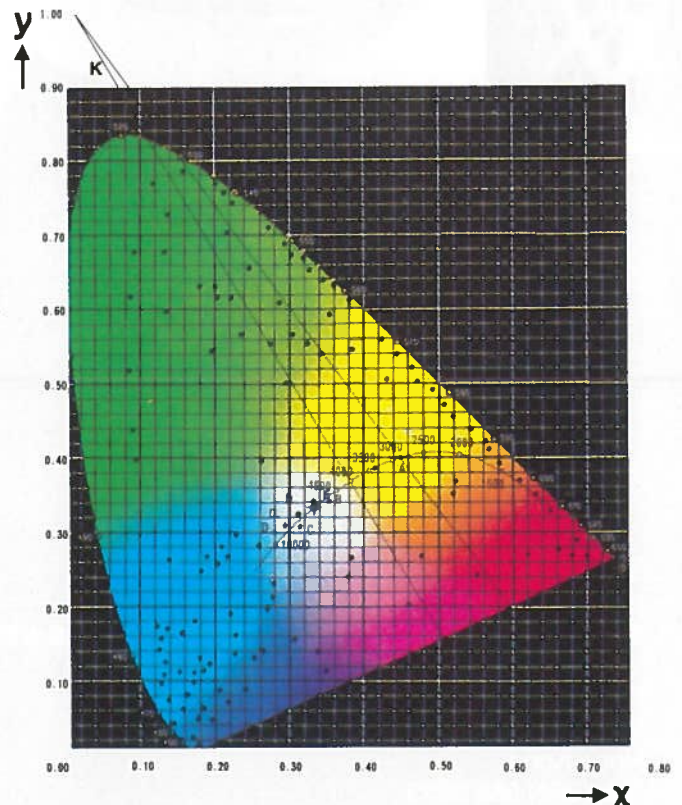
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## Major Changes at Futurist

Futurist Light & Sound Ltd of Dewsbury, West Yorks have announced a major re-structuring programme. On the personnel front, Brian Simmonds and Katie Clarkson have both resigned as directors and Michael Lister, who has been with Futurist for over two years and was previously sales and marketing manager, has been appointed as general manager with effect from 1st April.



Michael Lister.

Significant changes have been made in sales policy. The company stated that it feels that its best business interests are served by offering a wider range of products and services and not to be tied to any one manufacturer. As a result, they have decided to relinquish their role as a main distributor for Strand Lighting. "We are currently in negotiations with other major companies and will be announcing shortly our new plans for sales distribution in the UK," Michael Lister told L+S. "It is our intention to increase our market position as a leading supplier of lighting and sound equipment, and we will be issuing our new sales guide and price list within the next few months."

"A most prestigious example of our recent success is for Alan Ayckbourn's new Odeon project in Scarborough where Futurist have been awarded the high value contract to design and technically equip both auditoriums," continued Lister. "As a result of our client's choice, the entire production lighting package will be ADB equipment, including the new Vision 10 control system, launched in SIEL in February, together with over 350 channels of dimming and a full rig of luminaires. This is the first of several packages we are currently negotiating and we hope to announce two further ADB Vision control system sales within the next few weeks."

Already successful and established in the rental business, part of Futurist's new strategy will be taking an even higher profile in the professional rental market. "We have just been awarded a three-year contract with a major pharmaceutical company, to provide the production facilities for a series of major launches throughout Europe," said Lister. "We are reorganising our rental operation and will be installing new storage systems to take advantage of the 12,000 sq.ft of warehouse space we have available at Dewsbury."

## VL Boston Dealer

High Output Inc, with offices in Boston, Portland and Waterford has become an authorised Series 300 dealer for Vari-Lite. The company will have a Boston-based inventory of Vari\*Lite equipment which currently includes the VL5 wash luminaire.

## Bandit Lites Asia

After a one year study of the Pacific market-place, Bandit Lites are to open an Asian office in Hong Kong. Michael Strickland and Phay MacMahon have just returned from locating office and warehouse space in Hong Kong, the business plans are in place and equipment will be shipping in the next 45 days.

Bandit Lites Asia will offer the final link in the Bandit Lites around-the-world service network. Acts can now go from Europe, to America and into the Pacific with identical Bandit Lites equipment and service world-wide. The company will offer a full stock of Thomas truss, Avo desks and dimming, CM hoists, and a range of electronic speciality items.

## Three Majors for Moving Light Company



Since the Moving Light Company (part of the White Light Group) was launched in January, three major shows have already signed up to use its Pro Spot systems. To date, ten units have been supplied for the seven week run of the Paul Daniels Magic show at the Prince of Wales Theatre in London, whilst six units are just starting out on a six month tour with the Rocky Horror Show (above) and another 24 Pro Spots have been specified for the tour of Tommy Steele's 'What A Show'. Both Rocky Horror and Tommy Steele tours are using Pan Command LDS MP-100 consoles to control the Pro Spots and Arri Imagine 250s to control the conventional lighting. The two boards are then linked via AppleMac using the SAM Midi control system so that they can be controlled by a single operator.

The Pro Spots are available from MLC with 90 pre-programmed colours and an additional 200 programmable colours that can be selected from a palette of approximately 5000 by way of a fading dichroic colour system. The Rocky Horror tour has made use of the rotating gobo system which is fitted with one rotating gobo, rather than the standard wheel with is fitted with up to nine gobos that can be selected from virtually the whole DHA range.

MLC also have Pro Softs available, which offer a soft-edged three to one zoom lens facility with a similar light quality to a PC luminaire. The same colour options are available as with the Pro Spot.

## Burnham and LSD

Following news of possible staff changes at Light & Sound Design Ltd of Birmingham, L+S obtained the following statement from Tim Burnham:



Tim Burnham.

"I was approached last December by an executive recruitment agency acting on behalf of Christian Salvesen plc, who were looking for a chief executive for their Birmingham-based subsidiary, Light & Sound Design Ltd. Over a period of time, and following a number of meetings, my interest in the position developed to the point where I was pleased to accept their formal offer, on which basis I subsequently resigned my post as marketing manager of ARR (GB) Ltd.

"On March 18th I was invited to a meeting by LSD chairman Tim Hutton, who informed me that Christian Salvesen had been approached out of the blue with an offer to buy the LSD business, which they were minded to accept. A condition of the purchase being that no new commitments to staff be entered into, Christian Salvesen plc were therefore regretfully withdrawing from my contract.

"I wish to put on record that I bear no ill will to Tim Hutton, LSD or Christian Salvesen, and that I regard this sequence of events purely as a particularly unfortunate bit of timing."

Light & Sound Design declined to make any comment on the situation and no statement was forthcoming from Christian Salvesen before we went to press.

Tim Burnham is now deciding on his next step, but anyone who wants to check out his availability can contact him on 081-749 1296.

## Flying Pigs over Rimini

Two full size multi-coloured pigs were seen flying and scampering about the live performance stage at the recent SIB exhibition in Rimini. They were in fact gobo images projected from Martin Pro 1220R's and were under the expert guidance of Steve Hall and John Barnes of Robo-Mick, the recently formed moving light wing of Supermick in London.

Glyn O'Donoghue of AC Lighting, distributors of Flying Pig's Wholehog lighting control system, told L+S that the pigs' appearance was to signify that the Pro range of scans from Martin can now be fully controlled via DMX by Wholehog. 'For those who would like to try the combination out first-hand, look out for details on the soon-to-be-announced Robo-Mick open day where a Wholehog will be on demonstration,' said O'Donoghue.

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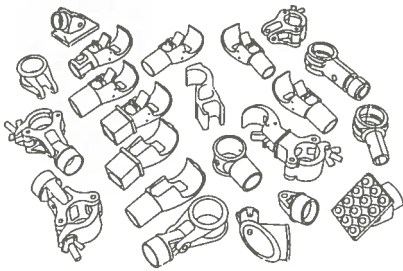
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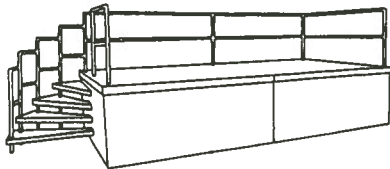
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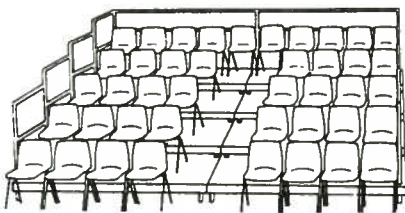
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## First Buds of Spring?

The recent postponement of ZZ Top's tour from May until "maybe sometime in the late summer", confirms a growing unease to the start of the 1994 touring year in Europe. So far, not a single concert is booked into Wembley Stadium this summer and even the likes of Pink Floyd and Billy Joel have elected to play indoors at Earls Court and besides which, 'two swallows do not a summer make'.

In fact, Bryan Adams' stint at Wembley Arena this Spring appears to be the current biggest ticket seller on the horizon for the year. With three months having elapsed since Christmas, the start to the year's touring has been very sparse. The normal reluctance of bands to commit to contract and start the ball rolling in January is usually replaced in February, with a sputtering that by month's end has converted to a full blooded rush to secure rapidly disappearing gear at premium prices. Talk to any supply company during this period and the classic response is: "Well I'm bidding on loads of things at the moment. If half of them confirm I'll have problems." Trouble is they were still saying that mid-March.

For example, Dave Keighley of Samuelsons Concert Productions, who made the earlier statement about the ZZ Top tour, said more generally: "There's not a lot happening at the moment, we've got Take That and Kenny G out in Europe, and of course the Floyd tour which is enormous, but there's not much else of any substance out there right now." Simon Austin of Light & Sound Design had an even more disturbing response: "Oh we're going out of business, haven't you heard?" He was joking, *comme d'habitude*, and promptly went on to list six tours, bless him, "... actually we're doing Black Sabbath, David Byrne, Primal Scream, Nirvana, Nine Inch Nails and Tori Amos." But even so, with Tori Amos performing beneath only six icons with no conventional lighting at all and Black Sabbath appearing in town halls and theatres, let alone Primal Scream in clubs, they are not exactly bank roll tours.

There are more tours going on at the moment but they're thin on the ground. In April Deacon Blue, The Beautiful South and The Proclaimers are three of the more extensive UK tours that start, but these are also town hall/theatres, one or two truck tours, and they seem to be the trend. Anecdotal evidence suggests that the baby boomers are staying away in droves, and the main core of 30 to 40 something year olds who once filled the arenas and stadiums now find they have more urgent financial imperatives than pop concert tickets. The experience of the US market last year confirms this.

Perhaps it's the Rolling Stones who are going to

provide the example, as well as the momentum, to drive us out of these doldrums. If their production brief to Patrick Woodroffe is anything to go by, they are certainly taking the challenge seriously. Rehearsals commence on the 1st of July with the tour opening a month later in the United States. For Patrick, and also for Mark Fisher who is again designing the set, the task is, "how to take the Stones into the twenty-first century, to make them relevant?" It's a poser that should be on the minds of many at the moment.

Steve Moles

## Samuelson Group News

As a result of the completion of the sale of the businesses of Vari-Lite Europe, Theatre Projects Lighting, Concert Production Lighting and Brilliant Stages to Vari-Lite, Inc on 31st March (as reported in our main news story on page 6), the Samuelson Group plc have announced their intention to develop and expand their businesses of Theatre Projects Sound Services and Samuelson Communications. Significant investment in new facilities and equipment is being made as a result of clear evidence of sustained growth in these markets.

Chief executive Derek Davies said: "The Samuelson Group is having another excellent year and order books for our UK businesses is very strong. This has given us the confidence to explore the possible expansion of any of our businesses that, through no fault of their own, we considered were 'marking time' after the recession. We have already taken the decision that these companies justify more resources, investment and commitment and we are now able to provide these."

Roger Dix, managing director of the companies involved, told L+S: "Our customers and staff have been loyal to our Theatre Projects and Samuelson Communications companies to such an extent that both operations are growing strongly and will beat their operating target handsomely this year, as they did in 1993. Both businesses have been relocated to Field Way in Greenford, where we have 10,000sq.ft of prime space for new workshops, stores, warehousing, a sales office and demonstration studio. Truck access and customer parking are first class. Most of all we shall invest in new equipment to dedicate to shows and to upgrade our hire stock on a much more frequent basis."

Responsible for the two companies at Field Way, Greenford and at Manchester, are: Roger Dix, managing director; Russell Heusch, financial director; Rachel Henshaw, general manager TP Sound Services Ltd; Simon Livingstone, general manager Samuelson Communications Ltd.



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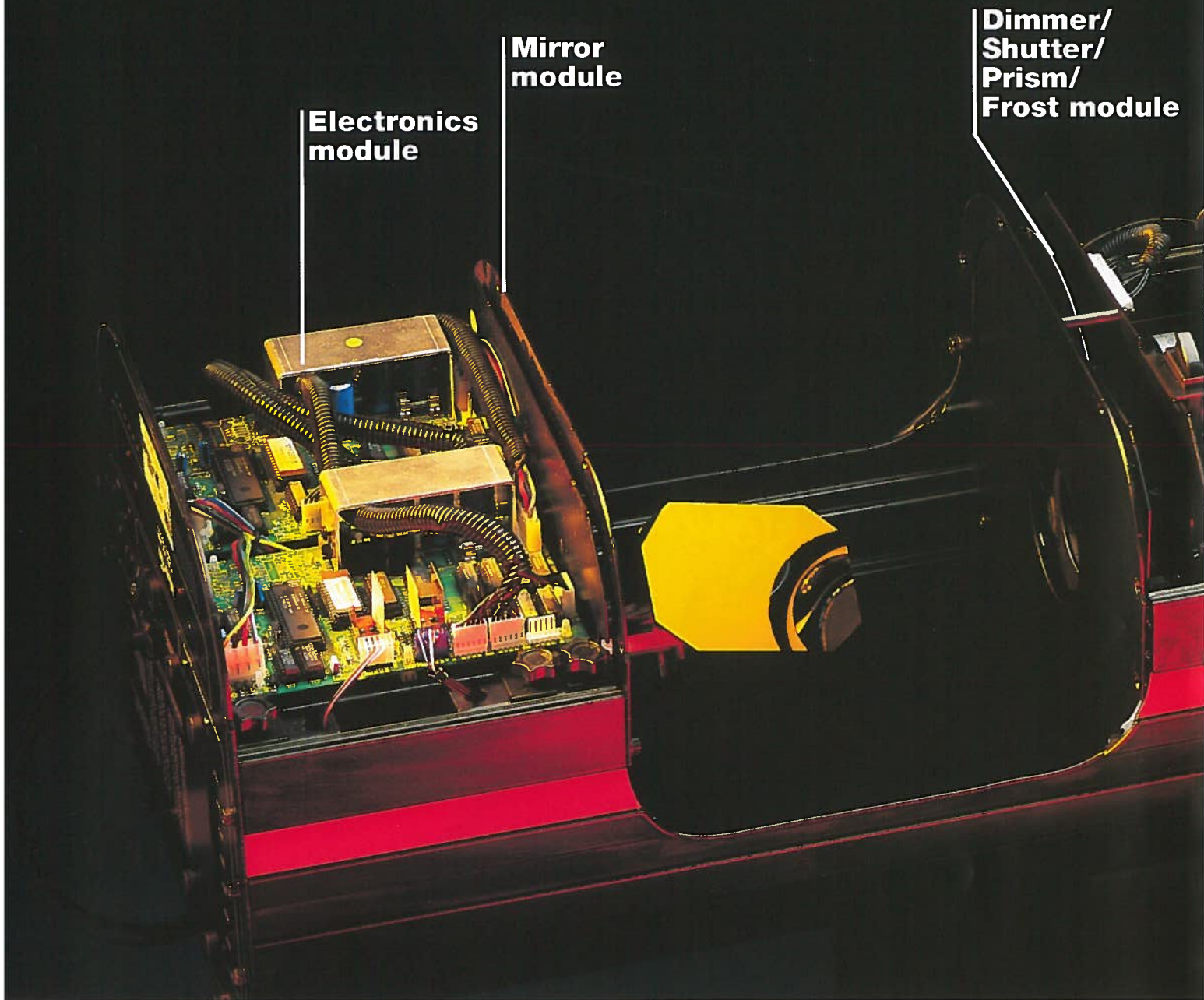
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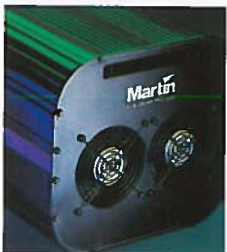
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## A HUNDRED YEARS AGO THIS MONTH

BRITISH THEATRICAL PATENTS 1801-1900

Intro to Patent Abridgement  
No 6834, April 5th 1894: Paul Braun Cinquevalli



This patent is particularly relevant to the theatre because it was produced by an artiste, a world renowned juggler of German origin, Paul Braun Cinquevalli. It is almost certain that this apparatus was used in his 'act', as he specialised in this type of billiard-ball catching and balancing trick. The accompanying

illustration shows him about to catch a cannon-ball in his neck! Whilst there was nothing particularly innovative about the design depicted in the patent, it served to stop another artiste pinching the device for his or her act.

Cinquevalli went on to produce another patent in 1899, No 6268, entitled: 'Coats and jackets, theatrical and wearing apparel, pockets for conjurers, and a wig with a light in it!' It was the discovery of gems such as this, which made all the research for British Theatrical Patents well worthwhile.

## New Division for CM

Columbus McKinnon Lodestar Chain Motors and spare parts are now being sold through PCM, a new division of Pfaff Silverblue Mechanical Handling Limited. PCM is managed by Denis Bramhall who has experience of both the equipment and the range of chain motor applications. Denis, and managing director John Jones, have a good knowledge of the major hoists used by the entertainment industries.

The PCM division will operate from the Pfaff premises but have their own dedicated numbers as follows: telephone 051-609 0101 fax: 051-609 0200 - these lines will be open during normal hours. Pfaff have had a very successful 12 months since launching Lodestar motors but claim that they will be able to provide an even better service by operating a separate specialist division devoted solely to Columbus McKinnon equipment.

## Floodlight Club Launch



The Central Club on Kensington High Street in London was the venue for informal reception for the recently launched Floodlight sound system. Turbosound decided that inviting clients and associated press to the nightclub was the best way to demonstrate the assets of the system. The mainstay of the installation is the TFL-760 High boxes ground stacked on TSE-218 Bass Bins. The system is powered by a BSS amp rack containing EPC-760s and EPC-780s and is controlled by Turbosound Floodlight Managers. Also on display was the rest of the Floodlight family: the Trapezoidal version, the Skeletal installation version and the Downfill enclosures. Pictured above from left to right are Geoff Mullis, Tony Andrews and Martin Reid of Turbosound.

## Arri's Obsession

Anticipating demand from lighting designers visiting from America, where the console is very popular, Arri have started importing the ETC Obsession lighting control into the UK and Europe.

Arri and American lighting manufacturer ETC already have a long relationship, since ETC writes the software for Arri's successful Imagine range of controls. Obsession is ETC's top-of-the-range controller, capable of storing up to 1000 cues, 250 groups and 100 effects involving up to 1536 DMX channels (or 1024 channels on the smaller Obsession 600 system).

In operation, the desk shows its American origins - it is a move-based desk operated using a command line interface, with a syntax very similar to its main competitor in the States, Strand's Light Palette. Operation is initially disconcerting, since the screen displays closely resemble the Imagine range while the keyboard layout and operating syntax are completely different. But the commands are easy to learn, and powerful features quickly reveal themselves. Like many new controls, the desk uses soft keys, where a row of function keys change function according to what the desk is being asked to do - the current functions are always clearly shown at the bottom of one of the two screens. These keys, and some dedicated keys, give access to a wealth of useful features, including the ability to define custom fade profiles which can be assigned to particular cues or even particular dimmers. Macros, like those on Imagine, can be written. Effect chases can be set up and run as memories or transferred to submasters. Channels can be parked at particular levels, or can be gently brought into cues using the sneak function. Cues, groups or effects can be labelled, making it easy to keep track of what's going on. Several users can even use the desk simultaneously (one from a remote or second desk using the ethernet-based ETCNet network, which can also link consoles together for really large shows) without affecting each other's work. And a help key is always at hand to give guidance on unfamiliar functions. Even more usefully, when a new software version is installed (from disk, as with Imagine 3) an on-screen description of the new and updated functions is available.

On the hardware front, the unit bears an overall resemblance to the Imagine range though the design details are very different. The keyboard will be a matter of taste, but many will find its full size keys preferable to those on the Imagine. The whole thing feels very robust, and has been well thought out - open up the case, for example, and there is a catch to hold it open while you work inside. The circuitry is based around a fast, high speed processor, similar to that in Imagine 3, backed up by what is basically a complete 486 PC. This unit monitors the main system board, and can produce diagnostic messages to track down any problems on the main board. The desk also operates like a PC in one other way - the system software is stored on an internal 100Mb hard drive and loaded into memory when the desk is switched on. Show data is kept in memory, but back-up copies can be made to the hard disk or to floppy.

It is an expensive control which will be unfamiliar to many British operators to start with, but one which, I suspect, will grow in popularity on the big-budget shows it will excel at controlling - one has already been specified for the Paris Lido by lighting designer Marilyn Lowe, and another will go into the musical Tommy when it reaches this country sometime next year.

Robert Halliday

## Laser Grafix

Following speculation about the trading status of Royston-based Laser Grafix, L+SI has received the following statement from the company: "We are concerned to note that a company with a similar name to ours has apparently ceased trading. In order to avoid any confusion we would like to point out that Laser Grafix Sales & Hire Ltd of Royston, Herts, headed by Mark Brown, has no connection, whatsoever with Horizon Laser Graphics Ltd of Limehouse, London headed by Martyn Butler.

"However, Laser Grafix Sales & Hire Ltd have recently been awarded the exclusive lightshow distributorship by Laser manufacturers Spectra Physics, for the new laser, the 'Spinnaker'. This was previously held by Horizon Laser Graphics Ltd."



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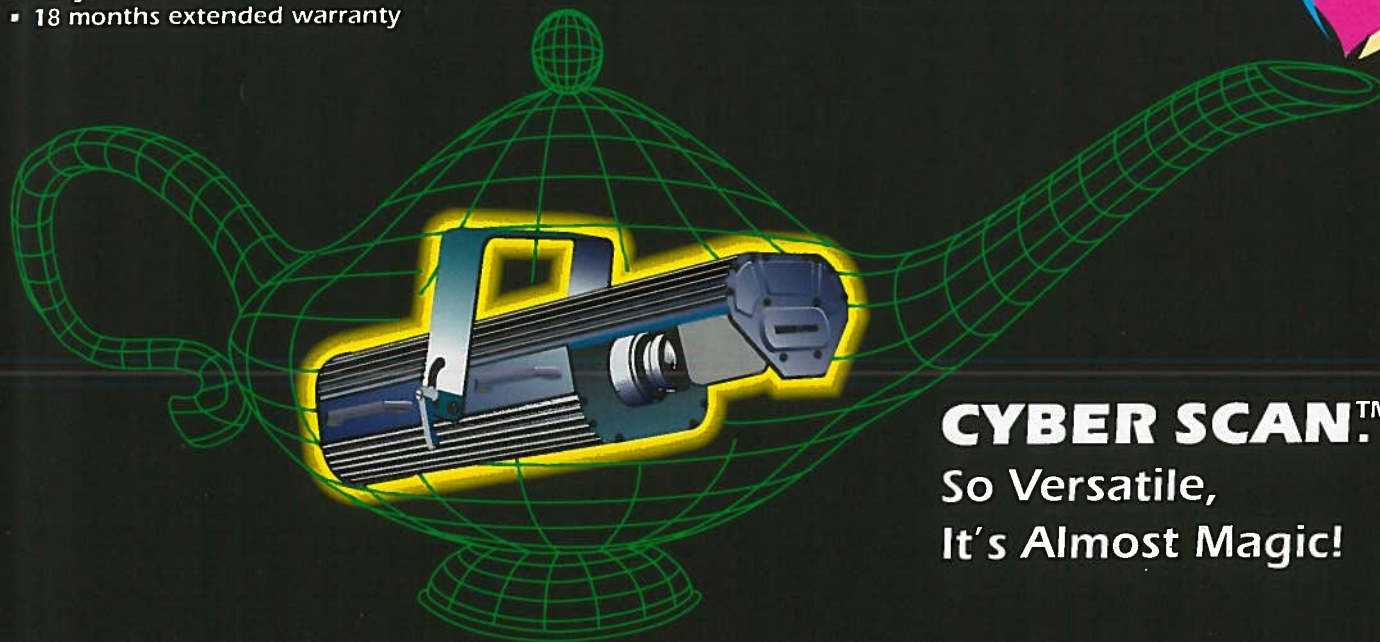
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## Wilkes Iris Diaphragm: 110 Years in the Spotlight

It's not often L+SI people drive East from Eastbourne. And if we do venture out, it's usually to get out of the country via Dover. However, news in this industry comes from all corners of the globe, as you will note in this issue. It could just as well be from Omaha, Nebraska one day, and Bexhill-on-Sea in East Sussex the next.

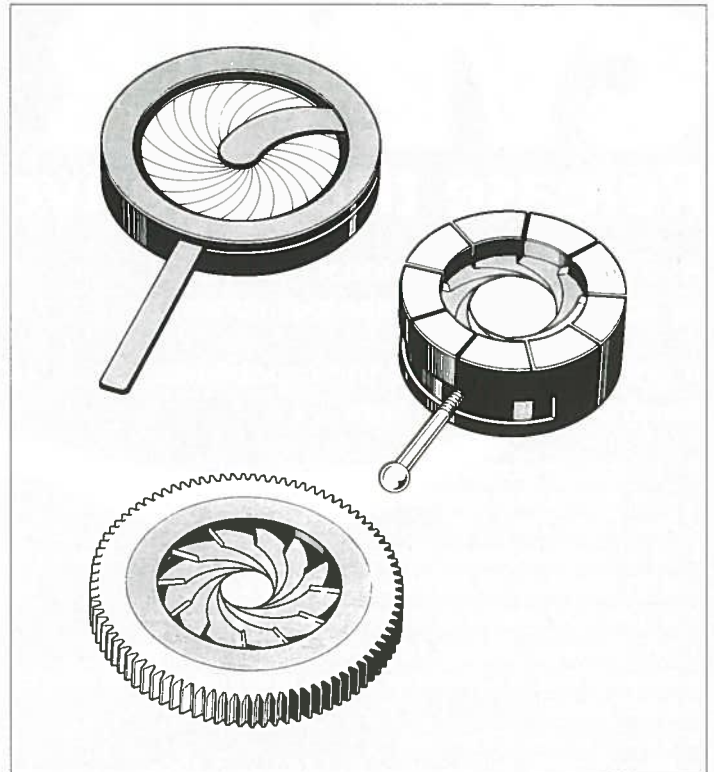
So, off I duly went, to sleepy Bexhill, a 12-mile journey from PLASA's offices, and I still managed to be five road-works minutes late for my appointment with Keith Woods, managing director of Wilkes Iris Diaphragm Co Ltd. If your memory serves you well (you may remember my assistant editor Ruth Rossington's L+SI report from two years ago which was a masterpiece of engineering romanticism), and by now you've twigged that the company manufactures iris diaphragms, then I'm not going to tell you about the fine engineering involved, the special metals used, the exacting tolerances and the regular talk of 'thous'. We shall assume that as the company has been around for over a century it knows quite well how to make the pieces of engineering that are the subject of its company name.

The business was founded by James Wilkes in 1884 to manufacture irises for the scientific industry for use with microscopes, and it wasn't until the early sixties that they decided to spread their wings into the entertainment lighting industry. Keith Woods, formerly a BBC television news cameraman (he'd covered the early troubles in Northern Ireland), is nothing if not straightforward in his manner, and I guess he can tune his eye as finely as the irises he makes. He is the grandson of the said James, and found his way into the business by way of a change of scene and a touch of family duty.

Such has been the growth of the lighting industry business to Wilkes over the past 30 years that 75 per cent of their turnover now comes from it, with many of the major luminaire manufacturers taking their irises direct from the company. Obviously the 'state on the industry' as far as lighting projectors is concerned could be analysed at any point in time from a study of Wilkes' accounts and order books, and although we couldn't do that, there are some interesting pointers that came out of our general conversation.

Trade for the company increased slowly but steadily through the course of the recession, with exports increasing year on year and making up for the dip in demand from the UK home market. In recent months, however, things have 'picked up' dramatically, with extra staff taken on, and business is now running at a level 25 per cent higher.

Much of the growth has come from the moving mirror projector area, and Wilkes' units now find their way to Studio Due, Lampo, Ness and King Disco, for instance, in addition to Coemar and Martin Professional, with quantities of around 500 per month being shipped out to Denmark for the latter, a pointer to the sheer number of this type of instrument is being thrust out into the world



Wilkes' irises: fine engineering at its best.

lighting equipment market at this present time.

On the more traditional stage scene, Wilkes' irises are going to ETC in the States for their new and headline-making 'Source 4' luminaire.

With this growth maintained, and with costs of engineering production a lot lower in many parts of the world and most particularly in the former eastern block and the Far East, Keith Woods has a wary eye open for sources of potential competition, and is making sure that he can supply 'off-the shelf'

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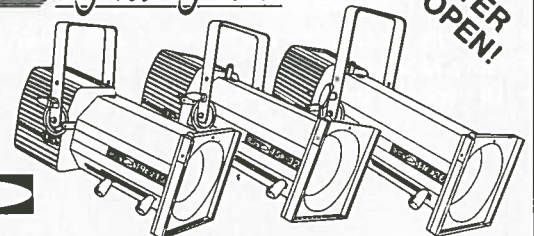
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The bit I liked most was when Keith Woods explained that originally manufacturers got to hear about the company by word of mouth. Fine, but what speeded things up considerably was the appearance of a small regular advertisement in L+S. "Now they all know where we are," he said.



Keith Woods, managing director of Wilkes Iris Diaphragm Co Ltd.

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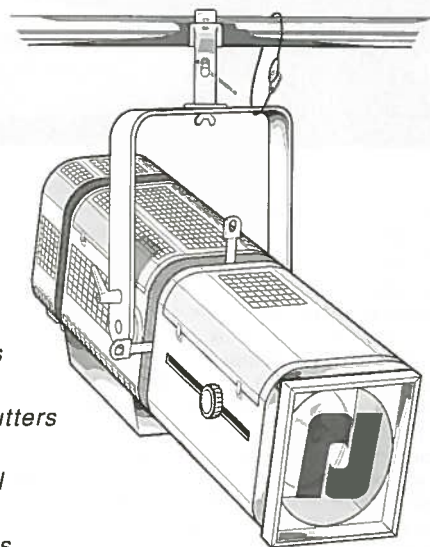
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# Winter Olympics: Lighting and sound industry win the medals



*As promised we managed to carry out further research on the lighting and sound equipment put through its paces at the recent Winter Olympics in Lillehammer.*

The logistics for such an event are awesome, and millions of people around the world expect to see live TV pictures covering every part of every competition as it happens. The task was the biggest live broadcast ever undertaken by NRK, Norwegian Broadcasting. Obviously, the quality of pictures being beamed around the world depended on the quality of the lighting, and this is where Arri came in. As principal lighting contractor for the Games, they mounted a massive joint operation between Arri Rental in Munich and UK-based Bell Lighting, to cover the main requirements - the opening and closing ceremonies, the games themselves and the awards ceremonies. In a new departure for winter sports coverage, even the natural features around the main arena were highlighted with Arri Daylight, Compact Daylight and Arrisun luminaires to heighten the after-dark ambience and provide a stunning backdrop to the spectacular opening and closing ceremonies.

Around the arena at the foot of the two terrifying ski jumps NRK constructed six main lighting towers, bristling with a mix of 12 kW and 6kW Arri Daylight spotlights, Vari\*Lites and Nietherhamer profiles and followspots. Twenty of the 12kW HMIs were supplied complete with motorised yokes and colour changers originally designed for the summer games in Barcelona. Control was from a 600 channel Arri Imagine 3 console and a Vari\*Lite Artisan. The task of installing the 10km of control wiring was completed last September and the main rig was built and tested in two weeks, in sub-zero temperatures, ready for the rehearsals which took place at the end of January. For the downhill events the runs were lined with Arri Compact spotlights, fitted with motorised dimmer shutters, all controlled by a number of Arri Imagine 3 consoles. For the opening and closing

ceremonies a whole battery of additional lighting equipment was pencilled into the inventory.

Amongst these were 12 Talento 2500HMI followspots and 96 goboholders supplied by Italian company Teatro. A forerunner had been supplied to Johan Sward of Swedish distributors SFL who through a dry run impressed lighting designer Michael Halbert and technical director Michael Joyce. Once the order was confirmed, the real fun began for Teatro who had little more than a month to turn the order round, and there was Christmas in-between.

In 14 working days the Teatro/Coemar combination produced the goods and made the delivery deadline. The design of the followspots enabled the yokes to be inverted so that the followspots could be suspended in the five 36m high towers, arranged around the arena. At night the temperature dropped to below - 20 deg C which resulted in some cracked objective lenses when the spots were switched on in the morning. Not surprising! A quick delivery of spares and warm-up period solved the problem. The new quartz glass condenser optics produced razor sharp gobo projection over a distance of 70-100m, enabling the lighting designers to make full use of the quick change gobo facility and Rosco gobo rotators to achieve some stunning results.

A Compulite Animator was chosen for control of eight Skytracker searchlights for the opening and closing ceremonies. The desk was supplied through Compulite's Swedish distributor Stagecrew. Compulite have made a commitment to adapting the Animator for control of searchlights by developing a 15-bit output resolution version of DMX to control the Sky-Arts which is currently being tested. Five 12kW Pani BP12 projectors with automatic slide changers were supplied by Elpag Oslo for use on the opening and closing ceremonies. Also in the mix were Lycian 2K Xenon followspots and a Screenco giant screen.

Though few of the viewers tuning into the Winter Olympics will have appreciated the fact, they represent a major undertaking in sound reinforcement terms. Besides the all-important opening and closing ceremonies, separate sound systems were also required for medal presentation ceremonies, for a series of 'Olympic Nights' concerts in Lillehammer and also for a live TV broadcast studio operated by Norwegian TV.

Cruising Audio Concepts (CAC) of Oslo were charged with the task of providing equipment and personnel for the various events. The opening and closing ceremonies used a variety of music and other sources - from DAT, hard disk and sampler - in addition to several mics. Asle Nilsen of CAC opted for Sennheiser wireless microphones. "We used 1046 8-channel wireless system, plus 10 channels of mics on cables - mainly standards like Shure SM57 and SM58. For Liv Ullman and Thor Heyerdal we also used Audio Technica ATM73A headset mics."

Unsurprisingly, extreme weather conditions created a few problems. "During the test week in December 93, we had temperatures that varied between 25C below zero and 10 degrees above" explained Nilsen. "Most speaker cabinets were given protective coverings, but we still had a problem with condensation in some of the permanently installed speakers, and had to change a few. The JBL speaker cabinets gave us no trouble, however. The racks of amps - mostly LAB 2000Cs - were protected by snowball-shaped cabinets.

"The other particular problem we had to deal with, quite apart from the weather, was the distance between the various signal sources and the mixers - 600 to 750m on average. We used dbx preamps for all of these signals.

"As far as the mixers go, we used Soundcraft desks throughout - I've used Soundcraft for years and they're always my first choice for touring and PA applications in general."

Nine people worked on sound during the

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ceremonies: two techs for the main board and DATs, one on the Otari 1/4", one for the samplers, one for FOH mixing, one for monitors, one dealing with all cues, one looked after the mics, and another for changes of monitor positions. CAC also provided PA for the Olympic Nights tent in the middle of Lillehammer, which was used as a 3,000 seat concert venue throughout the games: performers included Iggy Pop, AHA, Tower of Power and Randy Crawford. A brand new JBL speaker system was used for both FOH and monitors, with a 40/8 Soundcraft Vienna to mix front of house, whilst a Soundcraft SM16 mixed monitors. Outboard EQ consisted of Urei 5547 and Klark Teknik DN360 with effects by t.c. electronics, Lexicon, Drawmer, Yamaha and dbx. In addition CAC supplied a number of small systems for rehearsals - mainly with small JBL speakers and Soundcraft Folio mixers.

The Radio Station in-ear monitoring system was used as a crucial link between organisers and announcers, both live at the ceremonies and on the international broadcast feed from Norwegian



Television. Eight receivers and three transmitters were supplied by CAC. In a joint venture between Oslo's Ingenier Per Grov A/S and Siemens A/S, sound systems for all 11 stadia were controlled by Vestax mixers. 11 top-of-the-range PMC-60 mixers controlled all sound sources going to the PA systems. These were backed up by 14 PMC-40 mixers. All the stadia, together with the press rooms, used the VS-1P powered monitor for nearfield monitoring. Both ice hockey and figure skating were using Vestax twin CD players.

One final note on Lillehammer. Sarner International have won the contract to design and build a themed visitor attraction in the town to celebrate the 'Olympic Experience'. Designed as a lasting monument to the town's achievements, the experience will feature a stunning set complete with breathtaking motion simulator ride and dramatic audio visual programmes, specially shot by Sarner's creative team to form the centre-piece show. Using state-of-the-art special effects, the story of Olympic Sport will be told using multi-sensory techniques and theatrical devices.

## Major Deal for NJD

NJD Electronics' Kevin Hopcroft has announced a major deal worth £1m over five years for the purchase of a wide range of the company's product. The goods are destined for mainland China via Hong Kong, and it was signed up during the Frankfurt Music Fair last month.

Although this major contract was a highlight, the company is seeing ever growing sales, particular in export markets, including the USA, and is having to continuously gear-up its production to meet the demand. "Our daily order rate is now 300 per cent up on this time last year," Hopcroft told L+SI. "We have four months' worth of advance orders, have just taken on another seven production staff, and are looking to introduce a night shift in the near future. We are catching up on the back-log, but stepping up production and maintaining strict quality at the same time cannot be done overnight, and there's no way we will risk any fall in product quality."

It is interesting to note that most recent orders for NJD product are for items from across the range, and not just the latest lighting effects. Kevin Hopcroft: "It is most often the case that interest is triggered by products such as our IQ250, but people then follow on and look at our wider range, including sound. But we're not complaining!"

## Starstruck Expand

Starstruck Sound & Light have recently moved into a new 20,000 sq.ft multi-purpose unit, on the outskirts of Glasgow which is just a part of their future expansion plans. The company will now be made up of several specialist divisions. As well as their installation business, other divisions now include PA hire, disco retail, and a new AV one. Starstruck are Scottish distributors for Electro-Voice, DARE, Clay Paky & Pulsar, Coemar, JEM, OHM, Canon and Formula Sound products, and it is anticipated that stock-levels of these will have to increase as the business expands.

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## Amsterdam AES

The RAI Centre in Amsterdam was the scene of the largest pro audio and broadcast gathering in Europe when the 96th Audio Engineering Society Convention attracted an estimated 8,500 visitors.

Although the event's core is in broadcast and sound recording, AES continues to attract support from the live sound sector and there were a number of significant products on show. The biggest talking point was the news that Harman International was to buy Studer Revox, mere months after it had bought Austrian giant AKG and US processor specialist Lexicon. Harman already owns brands including JBL, Soundcraft, Allen & Heath, Dod and BSS, but president Bernie Girod said the acquisition policy would continue. Harman has a tendency to buy things 100 per cent, so it will be interesting to see what happens in the case of UK console manufacturer Amek, in which AKG had taken a minority shareholding prior to the Harman takeover.

Here, in alphabetical order, are a selection of the sound reinforcement products at the 96th AES.

**Apogee** speaker systems are based on MARS (Modular Arrayable Rigging System). Showing at AES were enclosures including the 3X3s used for clusters and the AE-2 wide angle fills. The manufacturer was celebrating the installation of a large system at the Thomas and Mack Center, home of the UNLV Runnin' Rebels Basketball team and Las Vegas Thunder hockey team.

**Audio Technica** unveiled its new AT4050 variable condenser microphones. Producer Alan Parsons was on hand to announce that he was to use AT microphones exclusively on his world tour. **BSS** launched the MSR-604 II signal splitter, which allows one input to be linked to four, eight, 12 or 16 outputs. The company's Varicurve programmable equalisers are to be used by Pink Floyd on tour, following an order from Britannia Row. Unlike their erstwhile producer Parsons, however, the band did not put in an appearance.

**Cadac** has new modules on show for the J-Type mixing console. Options include quad panning, and a new central control module designed for use with motorised faders. Cadac MD Clive Green made the interesting calculation that the entire cost of shipping the console from their factory to the RAI Centre was the same as the charge for getting a console moved from pavement to stand at the AES Convention New York.

**C-Audio** was showing its new XR50001 amplifier, which delivers 1,900W per channel into four ohms. The model on display was only the second unit produced. **d&b** was showing an expanded range of loudspeaker systems including

the 402 Top and 402 Sub enclosures, using flying hardware designed with UK specialist MAN Components. The 402 Top combines a single 12" speaker with a 2" compression driver and flare in a coaxial configuration. The 402 Sub has a single 18" driver and is designed to operate to 50Hz.

**JBL** presented the SR Series II line of loudspeakers, which covers 14 models including two and three way concert enclosures and two floor monitors, as well as three different subwoofers. **Meyer Sound**, celebrating 15 years in business, launched the MSW-2 high powered sub woofer, which is also based on a single 18". **Nexo**, which was showing its latest compact speaker systems the PS10 and PS15, has appointed Lemke Roos Audio as distributor for the Netherlands.

**Rane** had the new FSC22 stereo compressor on show. Housed in a compact HR half rack or vertical mount format, the unit has independent threshold and ratio controls for each channel as well as switchable attack/release time. **Shure** was promoting the new SC Series wireless microphone system by offering the prize of three nights in Chicago for two to watch the World Cup.

**Soundcraft** is now split into Professional and Broadcast Divisions. The two latest consoles from the former were the SM24 stage monitor system and the Delta theatre, a new version of the established Delta with individual routing to the four group busses, six aux sends with pre/post switching, two faders to return stereo return levels and a 6x4 matrix. The frame will accept any combination of mono and stereo modules.

And finally, **Yamaha** had some innovative approaches to live sound manipulation on show, including the M2000 series MIDI automated console, which was showing for the first time in Europe. This has 128 MIDI recallable scenes and MIDI controllable muting functions within a compact console. Two new digital equalisers were showing: the YDG2030 graphic and the YDP20006 parametric.

Simon Croft

## Laserpoint Five

Laserpoint gave five good reasons for people to attend the recent launch of a range of new video products at their London showroom in the Business Design Centre. On display were four new videowall controllers - ValuWall, RibbonWall, RamWall 10241D and PixeLite II plus a new concept in display information - the QPoint - a display system for queuing situations. The launch attracted great interest and by combining the event with the Television Show, visitors from all sectors of corporate communication attended.



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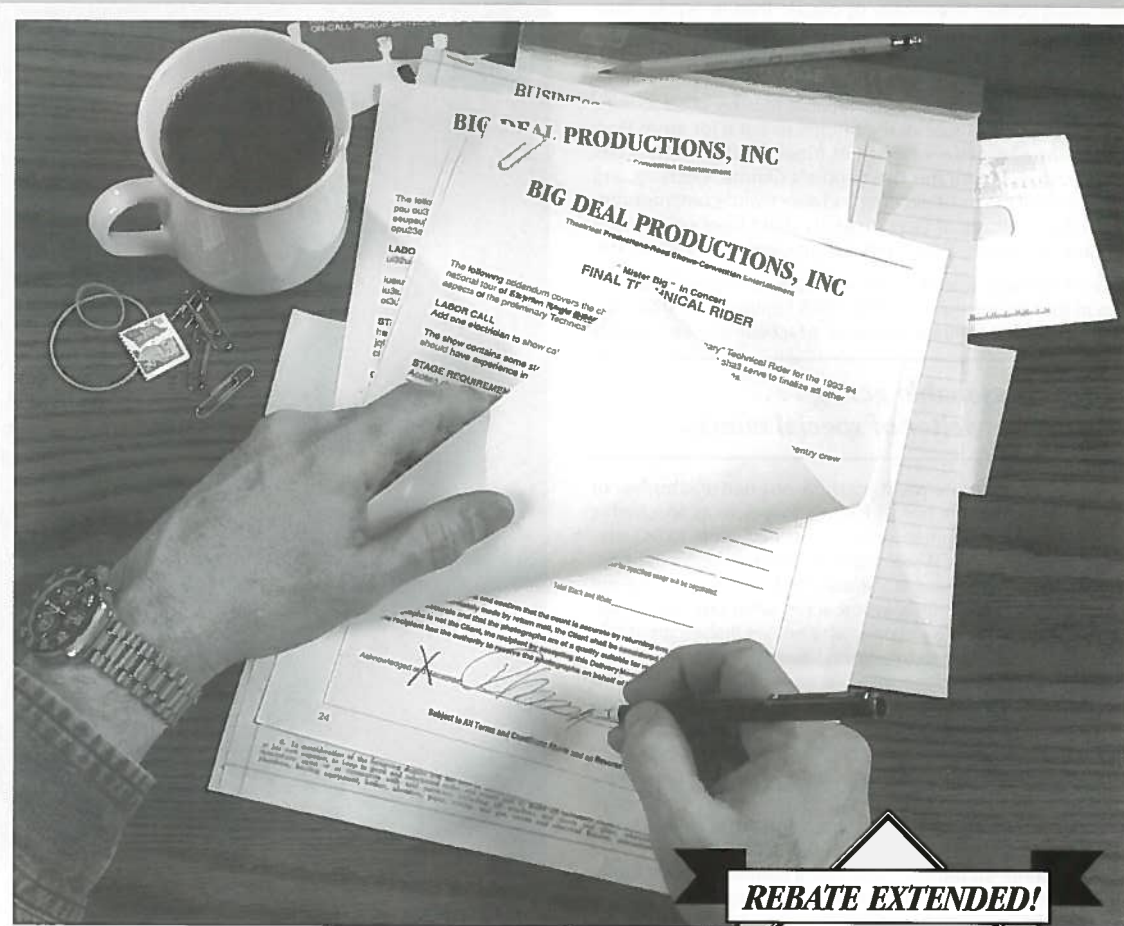
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# ASLEEP IN THE STALLS

Within a week, two idiosyncratic treatments of classic theatre works have opened in London which point up both the dangers and the delights of today's stage technology. One is the work of a distinguished international director, with a large cast and huge resources, touring from Oslo to the Barbican to Manchester to Tokyo, with all the associated hullabaloo. The other comes from a young director, has a cast of four and a budget of not a lot more than fourpence, and will be gone after a few weeks in its fringe theatre. Neither has completely pleased the critics, but for me Tim Supple's *Omnia: Oedipus and the Luck of Thebes* was one of the most exciting and successful contemporary attempts at bringing us the true taste of Greek tragedy that I have seen, while Yukio Ninagawa's attack on Ibsen's *Peer Gynt* was an overhyped nightmare.

To watch the decline of Ninagawa as an internationally-acclaimed director since he first burst on to the Western scene at the 1985 Edinburgh Festival has been a sad experience. Even that brilliant 'Samurai' *Macbeth* and the equally

**"Some reasonable acting . . .  
is buried under a welter of special effects."**

stunning outdoor *Medea* that followed it carried strange examples of unassimilated Western kitsch, like the use of Faure's Requiem as *Macbeth*'s theme tune. The more avowedly Japanese productions that came to us later, *Love Suicide* and *Tango at the End of Winter*, used a lot of top-heavy lighting, slices of film and the blandest of Japanese karaoke-rock with an increasing lack of discrimination. In *Peer Gynt*, Ninagawa reaches what one must hope is the pits. The idea is at first glance a good one: why not set Ibsen's great tale of a life lived through lies and deception in a virtual-reality world?

Why not, indeed, but once you've done so, what are you going to make of it? The show starts with miscellaneous 'yoof' clustered around arcade machines under a set of tacky neon signs that might have been on loan from *Miss Saigon*, then flies in a gauze onto which are projected a series of spectacularly banal computer graphics. We look at the enclosing false pros, to see the word Trinitron illuminated on its top edge - well, well, we're watching a giant TV. When the gauze flies out, sure enough we're inside the TV, with printed circuits covering the green inner walls of the set.

And what's on the set? Some clumps of reeds and a painted flat that might have come out of a second-rate rep, or served what appears to be the nineteenth century Irish fit-up company that now come on to perform something approaching Ibsen's play.

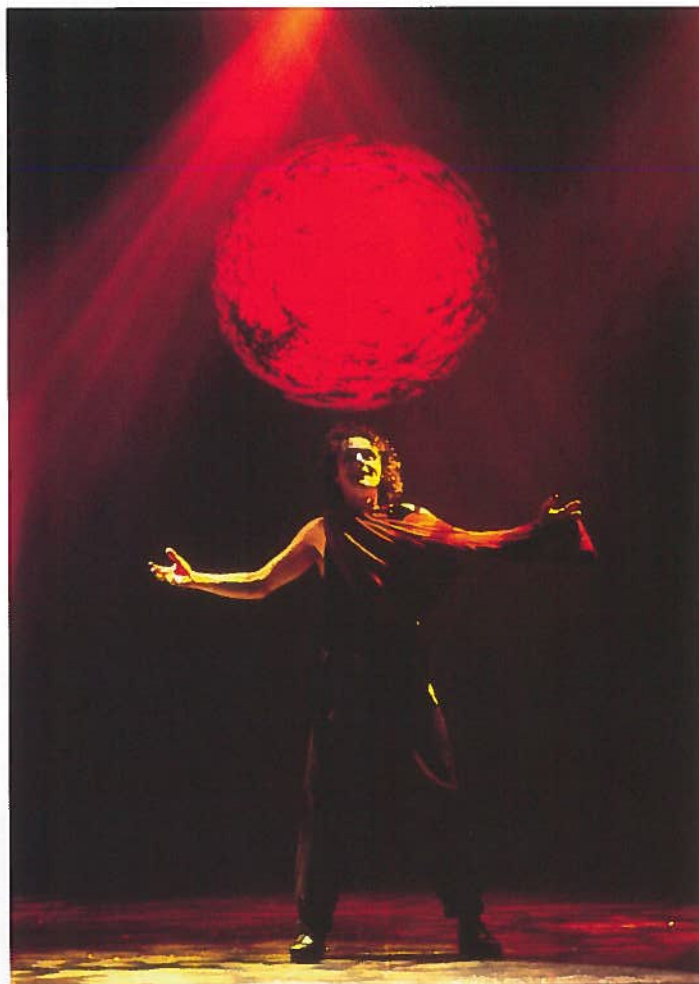
The rest of the evening, all four hours of it, is a sorry mismatch of these two totally inharmonious styles. Some reasonable acting, notably from Michael Sheen as Peer, is buried under a welter of special effects. A heavy penalty is paid for all this in extended scene-changes, slow cueing and the constant hum of the fans on the Starlites which provide some of Tamotsu Harada's clever-clever lighting displays.

I don't know how far he was simply obeying orders, but Harada's lighting is one of the chief failings of this fiasco. The rig is bigger than the usual all-season RSC rig in the Barbican, mostly Parcans and profiles, with fashionable rock'n'roll borrowings in a light curtain of aircraft landing lights, and the offending Starlites (with their own board and operator), going through their noisy, usually irrelevant paces with colour changing, automatic beam adjustment and all that jazz. They have their moments: Peer's eerie encounter with the mysterious Great Boyg is achieved entirely with moving spots. But for most of the time they, like the computer graphics, are time-wasting intrusions.

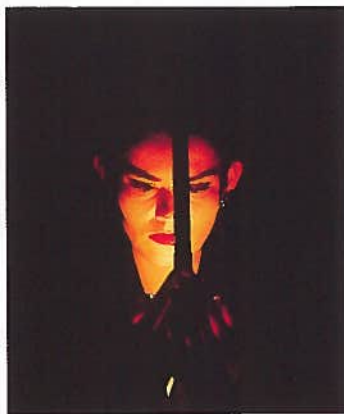
It's the mark of a director on the skids that he starts to recycle old tricks. It was a pain to watch recent work by the once-great Lyubimov and wait for the inevitable hand-held spots. Lo and behold, in the second part of *Gynt* Ninagawa gives us an entire repertoire of stale gimmicks, from falling leaves (*Macbeth*) to ye olde Oriental sea-cloth (*Tempest*) and even, heaven help us, a couple of bouts of Lyubimov-style hand-held torches. Take away all the projections, the noisy lighting, the appalling synthesiser sound-track and the irrelevant set-surround, and you'd be left with a show that's an hour shorter, old-fashioned perhaps in its cut-out scenery, but more true to itself. And since the whole point of *Peer Gynt* is learning to be true to yourself, this would be a most appropriate improvement.

Over at the Young Vic the technology is indivisible from the director's intentions and entirely there to serve the show. Take away the light and sound from *Omnia*, and you'd be left with a lecture. Designer Ashley Martin-Davies has simply supplied a shiny black pit into which the four actors, black-clad yuppies with TV studio headset mics, can move from four standing mics at the vomitories. Faces, hands are lit, rarely more, always with pinpoint accuracy. What's all this got to do with Greek tragedy (for this, dear readers, is what we're watching)? Rather a lot, actually, for in spite of its often highly emotive content, Athenian tragedy was principally a ritual, static, uncharacterised recital of poetry.

Its one element of movement was the dances of its chorus, and its visual strength the masks which made (a single) expression visible in a huge



Above, Michael Sheen in *Peer Gynt* (photo: Alistair Muir) and below Josie Ayers as Antigone in *Omnia* (photo: Michael Holder).



amphitheatre, both of which director Tim Supple has set aside. We are left with the interaction of four voices playing multiple roles, as in fifth-century Athens. To it is added some modern convention, a version for our times of the masks and chorus dancing. Glyn Perrin's sound score is present almost continuously, varying from gentle gamelan-type percussion to mock-triumphant fanfares, never interfering with the speech but underscoring, pointing, helping the ambience.

Above all Paule Constable's very specific lighting is forever setting up moods, situations, vibrations with a cleanliness that supports the ritual nature of the event. I asked Paule how she'd been able to achieve high tech effects on a low tech budget (and 80 circuits). She told me that she was, like most stage lighting designers, used to such demands. In another recent hit, Theatre de Complicite's *Three Lives of Lucie Cabrol*, her starcloth effect was achieved by the simple expedient of pushing Christmas-tree lights through the backcloth. In *Omnia*

there is a three-dimensional starcloth of individual hanging minispots which come right down to actor level then, as they are flown out, give an astonishing sense of the world departing from the doomed Antigone, daughter of the equally doomed Oedipus. These were 12v shopfitting lights, M16s to be precise, which give a tight beam near the ground but reveal a surprising arc when raised. Individual M16s also light the faces, or hands, of the four actors for much of the evening, with very little overall washing. When more than a face is lit, it is by sharp overhead beams from profile spots.

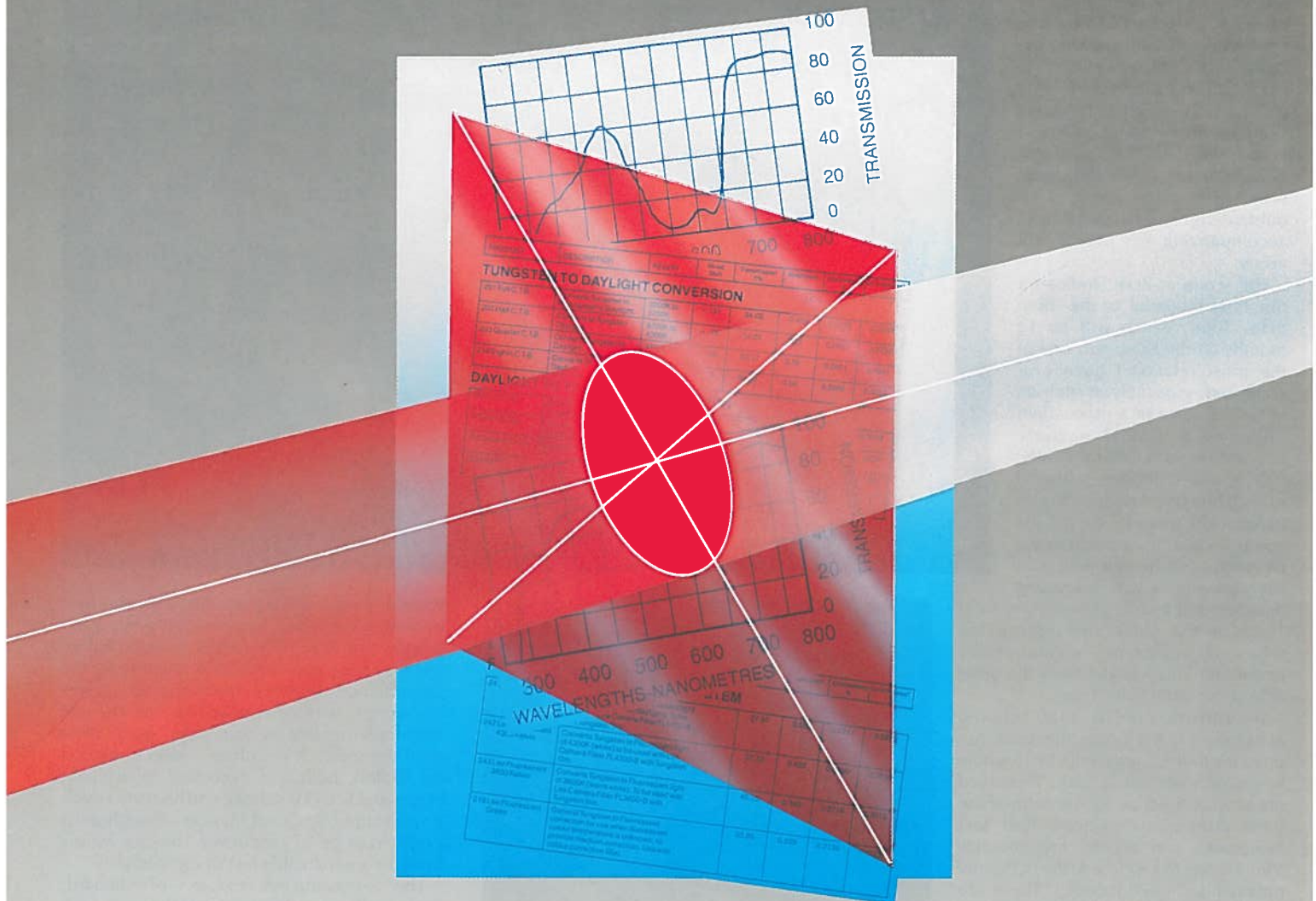
Another key special is a square central truss which lowers to create a light curtain effect for the appearance of the god Dionysus (not only the god of wine and ecstasy, but the god in whose honour the tragedies were performed). Around it, doughnuts create a defined square walkway. The outer edge of the truss is hung with disco pinspots giving white downward beams, while 500W fresnels in the centre illuminate the actor within them. The clear beams which feature in *Lucie Cabrol* could be created with the help of the dust from the peat which makes the stage floor.

In the cleaner confines of the Young Vic some artificial assistance was needed to enhance this crucially three-dimensional lighting, and in fact the largest item in the lighting budget was a DSS0 mist generator, immediate and blessedly silent in its effect. *Omnia* is not an easy evening - I had great trouble dropping off - but the demands it makes on its audience are worthwhile ones. You emerge with the feeling of having shared in an intense and cleansing ritual - which is what Greek tragedy, and in lesser ways all the drama that has followed it, is all about.

Ian Herbert



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# SU SU SUPER SHOW

Patrick Woodroffe lets Tony Gottelier in on a few of the secrets of his lighting for the Phil Collins 'Both Sides' tour

"I telephoned David Hersey, because I wanted to give a West End musical feel to the lighting," Patrick Woodroffe told me at the final rehearsal before taking the latest Phil Collins show out on the road. "David jokingly said, what you need is some Digital Light Curtains! But he also gave me some very useful advice." Woodroffe clearly went his own way after that and with outstanding results as the pictures accompanying this article will testify.

The scene at Bray Studios for this final rehearsal of the 'Both Sides Tour', which will be 12 months on the road, was one of the most relaxed I have ever witnessed, especially at such an advanced stage of a production. There was almost a party atmosphere with Collins' family, friends and supporters gathered to wish him bon voyage sitting on tiered flight cases to sample the goods. In fact, it's a credit to the performer that he can deliver in such conditions with his young daughter and friends playing hoop-la in front of the stage throughout his strenuous programme - a consummate performer. This was definitely the other side of the 'Both Sides Tour'.

Woodroffe credits that relaxed atmosphere to the longer than usual run up to the tour, coupled with three whole weeks of rehearsals at Bray. "It enabled me to write a 'script' for the entire show from conversations with Phil last November, and also for my associate Vince Foster to get close to the performer meanwhile," says Patrick. "These are usually tense moments, but by the time of the rehearsals we were all comfortable with each other and it was much more relaxed as a result." It certainly showed.

The tone of the entire production is established by the extraordinary (for a rock

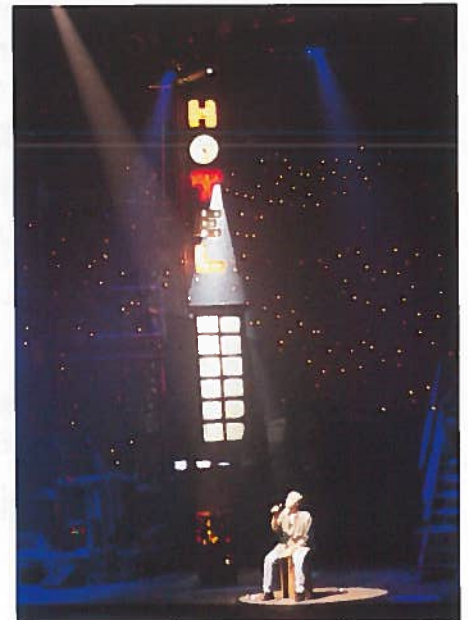
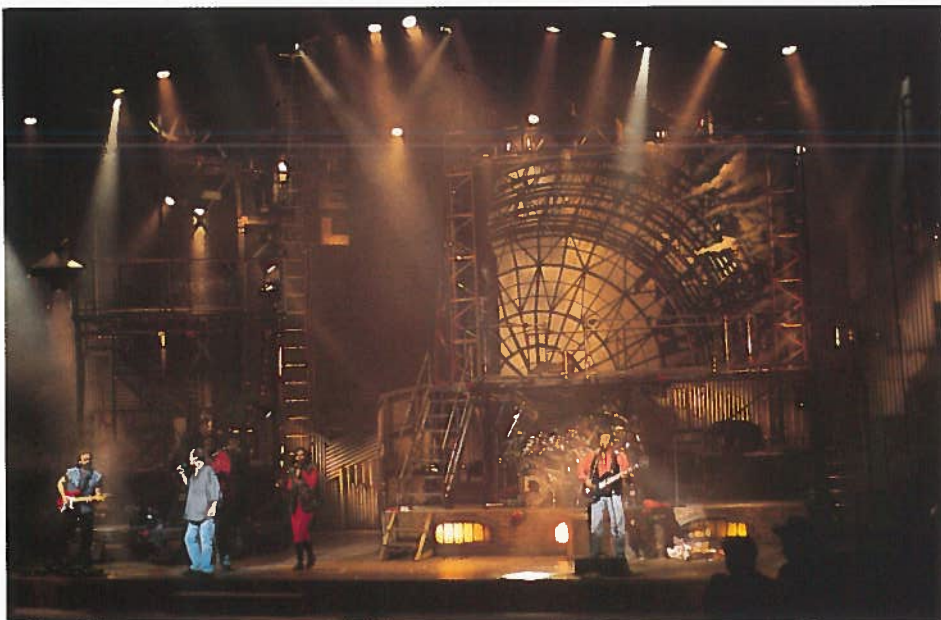


Patrick Woodroffe during rehearsals at Bray Studios.

tour) sets by Jeremy Railton. "Phil came to us asking for an urban theatrical set with the feeling of steel, iron and aluminium," says

Railton. "In translating that urban feel into a tour package we resolved to make every piece of the scenery practical." The results are remarkable, because aside from setting the structure for the performance, the show itself becomes a series of scenes, almost movie-like, as the set seemingly unfolds its own story, quite aside from the songs. It is Collins' vision translated by Railton, built and decorated by Brilliant Stages and lit by Woodroffe and his team which have realised this great illusion - though great credit must go to production director Morris Lyda for a remarkable feat of organisation.

The de-constructed mixture - of billboard, back wall, cage lifts and hotel tower with flashing neon, and the ever-present silhouette of a ventilation fan - conveyed to me one of those steamy black and white deep-south hotel room movies with additional echoes of various staged musical settings. Actually, there were







curious parallels to Eugene Lee's design for Show Boat currently in Toronto (see story pages 31-33) both in material, construction and imagery. The little train which ran along the back of the set at one point was another similarity. Other elements are a navvies' hut, which served as the stage 'entrance', and a brazier which is used to set up an intimate 'down-and-out' night scene.

The stage structure, made by Tait Towers, is such that there is a platform for the band in front of the billboard made from Mainstage Topdeck which incorporates a drum riser, and three 'followspot' positions, two of which are in cage lifts, and a keyboard riser which is incorporated into the hotel tower: in total, 20 8x4 sections of Topdeck are used. The monitoring position is stage-right beneath a sloping roof.

So the set is on several levels and these levels change throughout as the cage lifts track up and down: there are several mobile elements of

scenery which truck on and off stage, and there are also the risers. All of these moving items are under the control of Unusual Rigging's Automation Control System. The same system controls all the chain hoists required for the fit-up.

The billboard, as has already been well publicised, is actually a giant scroller 5m high and 6.5m wide, manufactured by Wybron. The scroll, made from Translite by JC Backings to allow back illumination, is 65m long and has ten scenes. From design to completion Wybron's Keny Whwright and Ken Fraser had less than three weeks to deliver. Translite is more commonly used in TV and film for window backing and, according to Railton, transmits sufficient light to compete with smoke and beams.

Showco provided their Prism sound system which is flown much wider than usual to give better stereo imaging. Robbie Colby, Phil

Collins' sound engineer from way back, controls the mixing from front of house with two Midas XL3 sound desks and an MX3 experimental automated fader system. "This automation enables me to create presets for each song and so spend less time setting up the next song and more time listening and mixing," says Colby. The presets took about five weeks to programme. A total of 96 Prism enclosures are used for the performance rig, and a further 19 for the foldback system.

The lighting, all supplied by Meteorlites, incorporates a number of firsts, as you might expect with Woodroffe who is a man that enjoys flying close to the sun, though he would probably deny it. This tour represents the first outing for High End System's Cyberlight, their colour-mixing 1200W automated mirror luminaire, of which 14 are used mostly on the front truss. Although 'hot-off-the-press', they had only been in the country for three weeks,





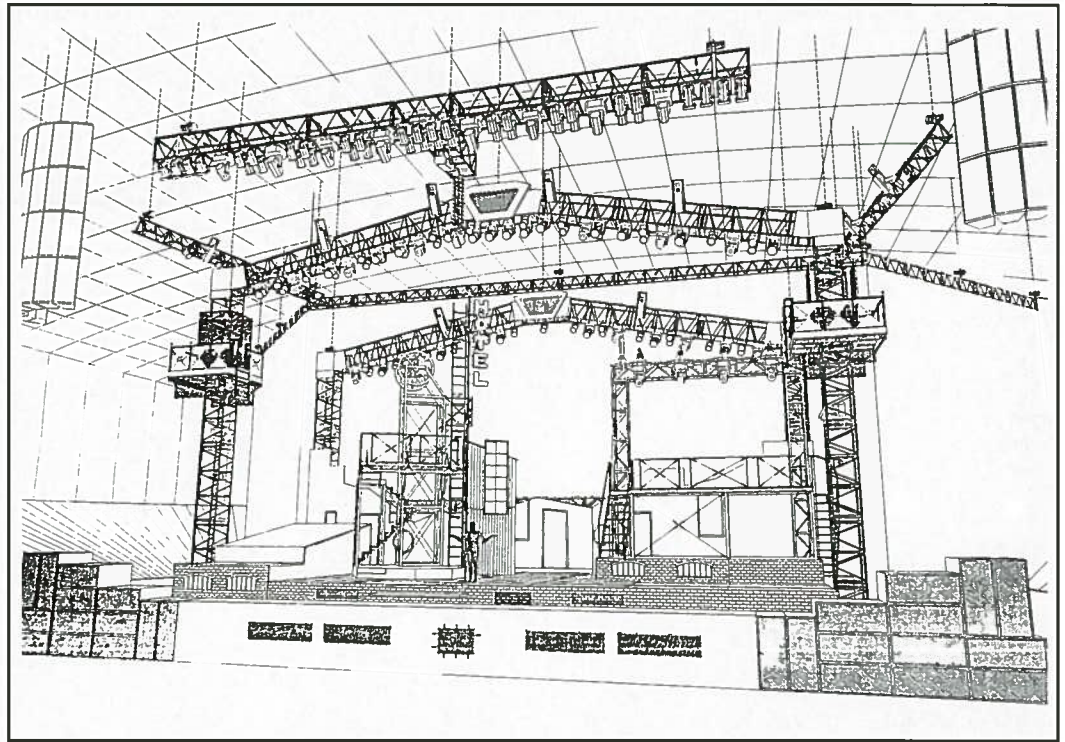
and Patrick had wisely taken a cautious approach not setting them too many challenges. "We had one or two problems as you would expect, but by and large I am very pleased." They were a good complement to the massed Vari\*Lite VL5s of which there are 62, a few VL4s and the 24 VL2Cs which provided gobo projections to the back cyc.

A Wholehog console, with DMX-to-Cyberspeak bodge box, was pressed into service under the soothing hands of lighting director Vince Foster, whilst the Artisan was programmed by Dave Hill and operated by Tellson James. In order to generate split colours from the VL5s Vince Foster came up with the simple expedient of smashing a few dichroics up in a paper bag and mixing the colours glued to a gobo. Pretty effective it was too, the uneven breaks giving an effect similar to stained glass. "Who says Vari\*Lites can't do split colours?" was Brian Croft's comment.

Another first is the use of Vari-Lite's pre-rigged Autotruss: this incorporates a motorised tray which lowers the lights out of the frame in performance state, while keeping them protected in transit. First launched at LDI last year, Autotruss is made for Vari-Lite by Tomcat who presumably also made the vertical truss on which the elevators travel. Other truss is Thomas with some Slick Mini Beam thrown in for good measure.

The rig also supports numerous other luminaires including 38 Wybron Coloram scrollers, 30 Diversitronics DMX Par-strobes and six 5k fresnels fitted with Pan Command XL Ranger scrollers. The dimmers are Avolites.

Then there are some magic touches of Woodroffe's own, especially the items designed to complement the set. For instance, the 'automated practicals' above the Billboard, consisting of industrial tin-hat shades with vertical VL5 as uplights below, which create chunky columns of colour; the three followspot operators live on stage, two on the moving cages in bibbed boiler suits and hard hats, hand cranking Pani 1001 beamlights like lime-lights (again shades of Show Boat), the real



The impressive stage set brought initially to life by Computer Aided Design.

followspots are Xenon Super Troupers; the rotating gobo fanlight; the quirky hotel neon; the Par 46 police beacons, which have always been a favourite of mine; and the strings of festive bulbs which appear lit only in the finale. All delightful effects. But perhaps the best of all is the exit when, in a 'last one to leave the planet switch off the lights' gesture, Collins turns off a main breaker as he leaves the stage. Blackout. "For me, the best moment of the show," noted Woodroffe.

Observing that Phil Collins and his manager Tony Smith are seriously interested in the lighting, which bearing in mind Genesis' involvement in the early days of Vari\*Lite isn't perhaps surprising, Woodroffe resolved to find a way to show them the lighting for real, to again build a sense of confidence. "With 4:1 closed I was in a bit of a quandary and video wouldn't have done it without great expense," he said. So, as it says in the tour manual, he let his fingers do the walking and called the local

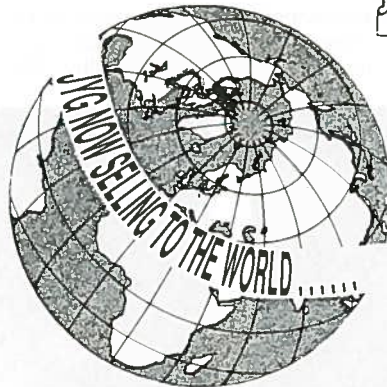
drama school in Maidenhead. "Later in the week a dozen kids and their teacher appeared and watched a run-through. Then without giving them the script or anything, but just notes made in the morning, we played back the whole show from tape and they acted it out. It was absolutely brilliant and Phil and Tony were captivated."

In his need to telephone his friend Hersey for advice, Patrick betrays a lack of confidence in his ability to light for the theatre. "It's a different discipline: I don't have the knowledge and I think it might take too long to pick up the technique." For a man who can focus lights for a post-Oscars party at Mortons in Hollywood from his car-phone on the way to Bray, nothing should seem impossible. Having seen this show, I would say that for Patrick the next stop without a doubt is a musical. But first, the Rolling Stones, and that's a tantalising prospect.

Photographs by Jonathan Gottelier

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## ERRATA

In a recent advertisement for the ID series of dimmers from Zero 88, the polyethylene case was described as 'fire resistant'. This should have read 'self-extinguishing'.

## LIGHT OPERA

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# PILBROW - FACING THE MUSIC

Tony Gottelier found maestro Richard Pilbrow lighting the latest revival of *Show Boat* in Toronto

When that doyen of theatre lighting designers Richard Pilbrow departed from London to Connecticut to devote his energies to his consultancy business, some suggested that he had lost the taste for live theatre. He seemed at the time to be handing the mantle on to his several protégés, the coterie of young designers whom he had nurtured so benevolently at his base in Long Acre over the previous few years. In particular, when it came to musicals David Hersey and Andrew Bridge, both graduates of the Pilbrow school, showed themselves to be natural successors by picking up a string of mega-productions.

So when it became known that the maestro had once again turned his hand to a musical, it was too great a temptation to miss, even if it did mean a trip to sub-zero Toronto in February. The show in question is the latest transfiguration of the oft revived *Show Boat* - that classic American musical with the haunting Jerome Kern score. The source of 'Ol' Man River', 'Can't Help Lovin' Dat Man' and 'Make Believe' was made into a movie in 1951 and, indeed, Pilbrow had lit the Harold Fielding revival at the Adelphi in 1971 which ran for a then, record 910 performances.

The original Florenz Zeigfeld production, first appeared on Broadway in 1927, yet there is still a modern connection. The vessel, which is the subject of the show's title, could be the forerunner of today's modern cruise liners - and a tradition which is continued by the great ships which daily ply their trade to and from the Eastern seaboard of the US, fitted to the gunnels with the latest entertainment technology in their huge cabaret theatres known in the trade as show-lounges. The show-lounge on the Mississippi barge 'Cotton Blossom' may have only been a wooden hut plonked on the deck, and the floating music hall may have had to rely on a steam tug (The Molly Able) for propulsion, but it was certainly evocative of things to come. The story on stage traces the progress of one such vessel, and the family and performers which occupy her over a socially significant period of 40 years.

As always, the warmth of Richard's welcome in the lobby of the splendid new Performing Arts Centre in North York, Toronto, quickly dispelled the exterior chill. This brand new Eb Zeidler designed theatre, opened on time for the production (without the benefit of input from Richard's TPC!), successfully combines the stark lines of a modern purpose-built structure with distant echoes of art deco in features crafted from space-age materials in the auditorium roof, in the best traditions of theatre baroque. The main house is a three tier, 1800 seat proscenium theatre with a 50 foot opening and a stage 120 feet wide by 55 feet deep, and with a spectacular rehearsal space alongside.

The show itself belies the humble origins of the show boat, for it is a large and lavish production and with the huge amount of flying scenery envisaged by set designer Eugene Lee, space was always going to be at a premium for the lighting requirements. Considerable ingenuity was thus required of Pilbrow using automated luminaires Vari\*Lite VL2Bs and VL5s, virtually inventing the pitching version of the DHA light curtain for the purpose and some interesting techniques for creating the ebb and flow of the old man river Mississippi which was to be a continuous metaphor of life's travails throughout. Yet in an understatement, typical of the man and his modest approach to his art,



The *Show Boat* Cotton Blossom.

Photos: Catherine Ashmore



Richard Pilbrow (right) checks out his notes with John Beirne, head electrician.

the whole show was plotted on an Apple laptop using a \$200 software package. (He owns up to having been bullied into abandoning his pencil by his good friend and partner, the late Wally Russell.)

This Harold Prince production, presented by Garth Drabinsky for the Live Entertainment Corporation of Canada, is destined to open on Broadway in October this year where the advance bookings already justify its claim to have been the most costly show on earth. At a time when revivals are already proving big box office, *Show Boat* plans to out revive them all.

More heat was generated by the opening scenes in the steamy setting of the Mississippi basin, and it is worth noting that all this, and the later cold Chicago scenes, were achieved without the assistance of stage smoke or fog, the company metaphorically putting down their collective foot and refusing to work in the atmosphere thus created. Even the tug's smoke-stack remains inert throughout. It is a credit to the lighting designer that an authentic feel is still achieved without this most essential of tools. Pilbrow also shows us that he is the master of flicker, whether it be for the essential ingredients of oil lamp, gaslight and candles.

Asked on the flight back to New York whether the production had been personally gratifying, Richard told me that the experience had rejuvenated his interest in living lighting design, especially as a distraction from his immensely busy and successful theatre consultancy. "I think I could probably manage

two or three shows a year," he told me, in a statement which belies both age and preoccupation. Where most people would kill for such opportunities, for Richard Pilbrow the productions will always be there for the plucking. If he had previously lost his nerve, there is no sign of it now.

*This, then, is Pilbrow's own story and description of the lighting of the 1994 version of Show Boat, accompanied by some of his own thumbnail sketches.*

'Epic' was the word that director Harold Prince first used when we began talking about lighting *Show Boat*. This new production was to be different from the original. Hal determined to strip away the varnish of show-business glossiness typified by the MGM movie version and he suggested I return to the original novel by Edna Ferber for inspiration. The fundamental themes of family, tradition and racial intolerance were to underpin the production. Eugene Lee's scenery, over 600 costumes by Florence Klotz and Martin Levan's sound and the lighting were to re-awaken a world of the past but with a new reality and grittiness against which the drama would unfold.

Ferber's novel is still a wonderful read, particularly for the lighting designer; her descriptions of storm and light are immensely evocative. The play encompasses 40 years: summer and winter, sunshine and storm, dawn and sunset, rain and snow; the constant passing of time is accompanied by technological change in artificial lighting from oil, gas and limelight to electricity. Real materials, wood, steel and so on would be used to recreate the world of *Show Boat*.

It was important that the lighting should follow through this evocation of reality; the humid heat of the Mississippi would be followed by Chicago winter. The constant passing of time across 40 years, accompanied by the technological change in artificial lighting from oil, gas and limelight to electricity. Sun, moonlight, and candle would be used, sometimes in a theatrical 'epic Brechtian' style, exposing the tough, grittiness of the play's physical environment. At other



moments the stage would be filled with the visual and emotional richness of an epic 'Gone With The Wind' type movie.

There's a lot of 'stuff': dockyard, saloon and the Levee at Natchez, cotton bales, a three deck 'Cotton Blossom', with galley, theatre and decks seen from every level and angle; 'Molly Able' - a tugboat, carts, carriages, superseded by the streets of Chicago with automobiles, nightclubs and a rooming house. Many meetings with Eugene, and my associate Dawn Chiang, sought to fit this huge array of three dimensional scenery onto the stage with accompanying lighting.

The play's first act is on or around the showboat in Natchez. The Mississippi is constantly present and indeed is the first 'image' as the curtain rises as well as the metaphor that runs throughout the performance - we needed an awful lot of water.

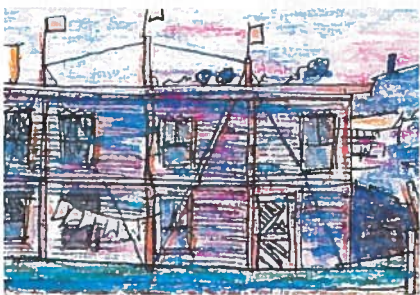
Experiment led us to employ a mixture of Pani front projectors with wave machines, Great American Market



'twin-spin' gobo rotators (a counter rotating superimposed gobo attachment) with ripple templates from DHA and tubular ripple machines. In addition, some real water troughs in traps below the stage would reflect MR 16s concealed below up onto the transom of Cotton Blossom to give the effect of 'floating'. The second act is principally set in a very real turn of the century Chicago, with a choreographed transition spanning the passing of 20 years before going forward again to Natchez in 1927 for the finale.

The many variations of natural light - sun, moon, dawn and sunset - seemed to require strong motivating light. An early problem that appeared was that with so much three-dimensional flying scenery, there was little room for overhead lighting. Clearly there was no room for very large luminaires. David Hersey's Digital Light Curtains had excited me in 'Miss Saigon', and their ability to both move and colour change (20 colours) a powerful sheet of light at any speed was impressive. Could they be modified to travel in another dimension? I sketched an idea for a light curtain that would both tilt up and downstage and pitch from side to side, and sent it to Philip Nye of DHA. He thought it made sense and so we decided to try it out. Three rows of 'pitching' light curtains (later reduced to two for economy) would provide strong backlight and high side/backlight from a variety of angles, capable of emulating 'sun' or 'moon'. Most importantly, it was an apparently powerful light source taking up only 15" of flying space. Philip came to Toronto to commission the prototypes. From the day we plugged them in they have performed without mishap. This, despite being quite frequently knocked by passing scenery, when the ability to re-calibrate any unit - on the fly - is priceless.

The huge variety of scenes and times of day and night suggest the need for a variety of instrumentation and colour. Vari\*Lite VL2Bs and VL5s provided a myriad of 'specials' and a wide variety of gobo and colour potential. These are augmented by Wybron Scrollers (with 30 colours on Lekos and 20 on 5kW



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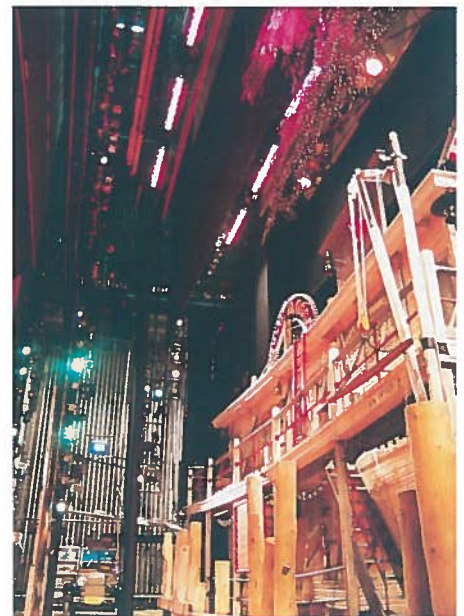
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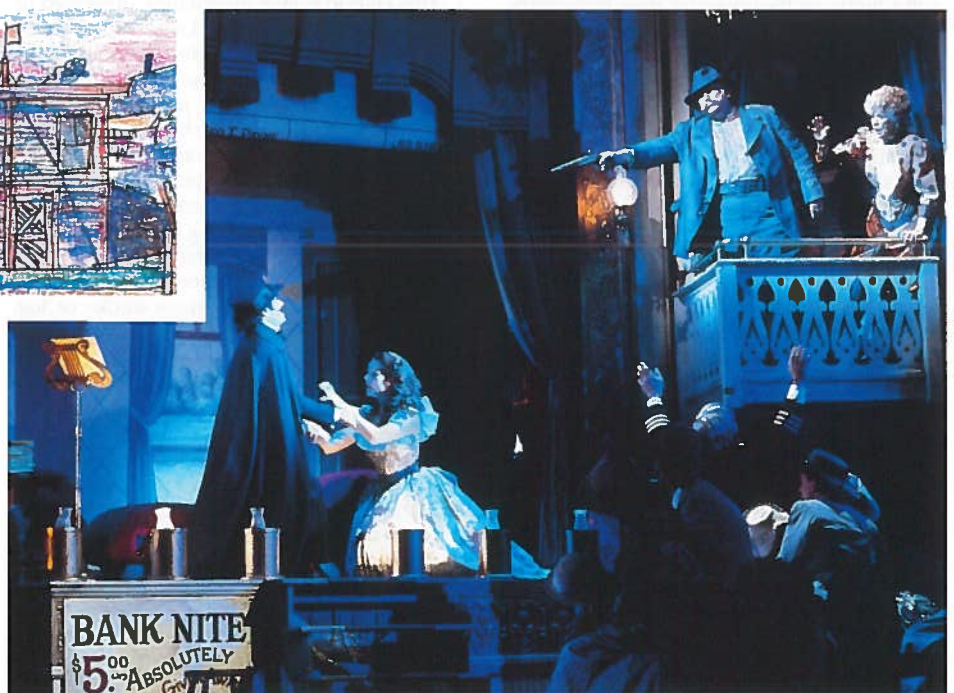
The 71-member Show Boat company taking their final bows.



Main auditorium of the Performing Arts Center.



Part of the scenery for Show Boat.



The Parson's Bride scene from the main production.



fresnels) all of which, of course, are capable of fast or very slow colour change through a scene. They are particularly effective in the first of two scenes in the Cotton Blossom theatre. It's late afternoon and evil is afoot: one of the show boat's stars, Julie, married to the leading man, is revealed by a rejected suitor as being a coloured girl. 'Miscegenation' (marriage between the races) was a crime in Mississippi then, and this dramatic scene is the hinge around which the whole of the rest of the story revolves. 5kW Fresnels and 500W beamlights with scrollers pursue a 'relentless' colour changing sunset - time marching on - as the ugly drama unfolds amidst the bigoted mortals on stage.

Act One begins in the oil lamp era and we move through gas to electricity. A second scene in the show boat theatre - in production - has flickering oil, foot and wing lamps (the latter with Victorian style colour change), and a limelight followspot. Thanks to Lindsay Lambert, an enthusiastic historian of the days of limelight, and a citizen of neighbouring Ottawa, my associate actually witnessed a demonstration of real limelight. We sought to faithfully reproduce its characteristics. In fact - and perhaps not surprisingly - a realistic reproduction was far too dim for modern eyes and the limelight's wooden case was later converted to contain a Reich & Vogel 24 volt 500W beamlight. The many actually flickering and guttering light sources are supplemented by more 'twin-spins' casting flickering light across the scene - hopelessly somewhat reminiscent of a Sickert painting. Incidentally, apart from the 'property' limelight, the show uses six followspots, two from the front, two from a high box boom position and two from a high, side 'perch' position onstage.

#### Scene/lighting Synopsis:

**Overture. Frontcloth.** Sepia view of levee, cotton bales and riverboat. Transforms to river - front ripple from Panis augmented by water sparkle from 6 x 16 Lekos and 'twin-spin' gobos.

**Scene 1. The Levee at Natchez, 1887.** River ground-row under backlit skycloth with lots of twin spin ripple. Dawn from stage right. 5kW fresnel from up right ladders across pilings. Work begins. Vari\*Lite specials to action, leaf gobos around fringes of stage. Sun brightens as the show boat Cotton Blossom enters pushed by tug Molly Able. Very bright sunlight with light curtain 'pitchers'. Clean cool, white, steel and yellow. Arrival of Show Boat company. Very cheerful. Then hints of villainy to come as stage cools in cloud shadow. Magnolia meets wandering Ravenal; they sing 'Only Make Believe'. Romantic warm pink glow (a rapid twilight or just imagination of a hot blush?).

Restore to daylight, Scene 2. 'Ol' Man River' sung by Joe, hot sepia downstage with white gobos cutting across workers - cloth in - very sharp.

Transition to Scene 3. Boat's Kitchen. Tight down centre area within set. Beamlights backlight through windows. Remainder of Cotton Blossom upstage shadowed in leaf gobos. Water ripple across stage. 'Fish Gotta Swim' starts in kitchen, sets break up and exits, move to wharf of Levee, bright sharp afternoon sun.

Scene 4 - 6. Interior of Cotton Blossom theatre. 'Misery', strange spiritual feel - cobwebs - coloured folks' song of pain and apprehension. Into rehearsal, late afternoon, setting sun cuts through dusty theatre, revealing the whole artifice and exposing the frailty . . . tragedy as Julie is exposed. They leave in disgrace. Magnolia takes



Change to Chicago - the first montage.

over Julie's roles, Ravenal is hired as leading man, they kiss in last rays of setting sun. To the waterside of the Cotton Blossom. Magnolia and Ravenal at their windows on two decks. Twilight. Water uplight. Very romantic. Ship side telescopes downward to bring them onto the top deck for ballad. Moonlight. The Box Office of the Cotton Blossom. Sunset some weeks later. Boat lit overall with oil lamp Chinese lanterns. 'Life upon the Wicked Stage'. Bright richly coloured number. Torches are lit (real flame). Night.

The boat revolves into Scene 7 - the Cotton Blossom auditorium. This time lit by oil lamps, footlights, wing lights and chandeliers. All illusion - smoking, flickering and theatrical. Joe is a great limelight operator. He misses his cue for 'twilight'. A colour change on limelight and wing lights to 'blue' stage.

Scenes 8 & 9. On the top deck. Magnolia and Ravenal meet by moonlight. Scudding clouds, moon and starlight. 'You Are Love'. Then the Levee again. Very bright morning - off to Wedding. Intermission

Act Two (1889) opens in a storm. We dimly see the Waterside of the boat in flashes of lightning. A section opens to reveal Magnolia's bedroom, candlelight. Her baby has arrived, Parthie sings 'Why Do I Love You?'.

Scenes 2 - 5. Change to Chicago - the first montage. The levee: Magnolia and Ravenal drive off in a horse and buggy. The Cotton Blossom splits and is magically transformed into the big city. A taxi drives down the sunlit street and drops our couple at the Palmer House Hotel. Limbo - all freeze as ten years passes - and we 'flash' to the Captain and his harpie wife sitting by the river wondering about their daughter Magnolia and growing grandchild in Chicago. Back to the city. All has changed - snow and cold as Magnolia and Ravenal are thrown out of their luxury hotel; we track to the interior of their new home, a squalid gaslit rooming house. Ravenal deserts her. We see the convent where he says good-bye to their child.

Scene 6 - Curtain. The Trocadero Night Club by the cruel light of day. Cold, bleak without illusion. A much older Julie sings 'Bill'. Magnolia auditions for a much needed job. Julie slips away. Magnolia is hired. New Year's Eve. Captain and wife have come to Chicago seeking their daughter. By chance he comes to the Trocadero, now transformed into a glamorous night-spot (with electric vacuum lamps). Magnolia sings - reunion - and 'Happy New Year'. A second montage takes us through the streets of Chicago over 27 years. Night, dawn, summer, winter, sunset, the years pass and now we are in a new (1927) industrial Natchez. Electricity and radio have arrived as Andy talks with a contrite Ravenal, at last returned. The sun sets through the industrial smog as we move into the last scene. The Cotton Blossom

again, this time dressed by electric lights and signs in the moonlight. Granddaughter Kim, now a Broadway star, dances a 'rave-up' Charleston (followed by moving, colour-changing, backlight curtains) - as the crowds throng onto the show boat. Susan Stroman's constantly inventive choreography is a treat to light. In the deeply shadowed moonlight (Vari\*Lite gobos) Ravenal at last is reunited with Magnolia. Joe reprises 'Ol' Man River' as the curtain falls.

A very big production was managed electrically with consummate efficiency thanks to the high skill of the lighting crew led by New York's Greg Husinko. They bring the world of Show Boat to life by filling the stage, the world of actors, with a special quality of light. The show is a big one. Garth Drabinsky is an amazingly dynamic and far sighted entrepreneur. It seems certain, with his leadership and support for Hal Prince's vision, that their Show Boat will out-steam any of its predecessors.

#### Lighting Team

Dawn Chiang - associate designer  
James Milburn - first assistant (Vari\*Lite tracking)  
Charles R Kaiser - second assistant (Express Track)  
Greg Husinko - production chief electrician  
John Beirne - chief electrician  
Douglas Gentile - Vari\*Lite programmer  
Brent Oakley - head followspots  
David Baer - Vari\*Lite operator

#### Equipment List

##### Luminaires

18 5kW fresnels  
2 2kW fresnels  
74 6x16, 1kW  
192 6x12, 1kW  
66 Altman 1KL/12 degree ellipsoidals  
13 Altman 1KL/6/30 degree ellipsoidals  
17 Altman 1KL/20 degree ellipsoidals  
10 Par 64/VNSP, 1kW  
8 Par 64/MFL, 1kW  
4 Reiche & Vogel Beamlights, 500W, 24 volt  
40 Coda Striplights, t-3 500W, 3 lamp  
9 6' L&E Mini-Strips, MR-16/Flood, 75W, 30 lamp  
12 6' L&E Mini-Strips, MR116/Spot, 75W, 30 lamp  
7 6' Par 56/NSP striplights, 500W, 9 lamp  
4 Jauchem & Meeh Par 64 Strobes  
4 Par 64/ACL, 28v

##### Automated Luminaires

13 Vari\*Lite VL2Bs  
23 Vari\*Lite VL5s  
10 DHA Pitcher Light Curtains/VNSP with custom pitch control

##### Effects Projectors

7 Pani BP 1.2kW/HMI scenic projectors with:  
7 Electronic dimming shutters  
6 High resolution objective lenses, f=33cm  
1 High resolution objective lens, f=60cm  
4 Film loop effects attachments  
3 Wave machine attachments  
ETC 15M Splitter  
ETC Response DAC  
1 Great American Scene Machine, 2kW with:  
OL-8 lens  
Disc motor with Snow Disc

##### Accessories & Miscellaneous

18 Wybron ColorRam Scrollers for 2kW-5kW fresnels  
1 Wybron ColorRam Scroller for R&V Beamlight, 500W, 24v  
20 Wybron ColorRam Scroller for 6" ellipsoidals  
35 Great American Market Twin Spinners #5500  
4 Color wheels for Par 64/ACL, 28v  
2 Mirror balls, 12" diameter

##### Followspots

4 Lycian short throw followspots 400W HTI  
2 Xenon Super Troupers, 2kW (house equipment)

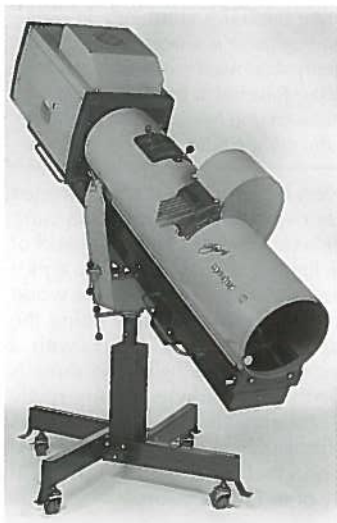
##### Control

Strand Light Palette (Conventional luminaires and scrollers) with Remote Go for:  
Macintosh LCII (DHA Pitcher Light Curtains) with DHA Light Moves application  
Artisan (Vari\*Lites) with:  
Amiga 3000 with Richmond Sound SM500 Stage Manager application.



# GLADIATORS AND SUPER TROUPERS

John Offord searches for the home of the followspot giants of Middle America



From left to right the Gladiator III 3kW xenon, the Super Trouper 1.6-2kW xenon, the 400W HTI Roadie and the 1000W Trouperette III.

After a 24-hour journey from Eastbourne Sussex to Omaha Nebraska via London Heathrow, Washington (PLASA's travel agent hadn't informed me of that stop), Denver and de-icing (did you know that in aviation tech-speak the first fluid they now spray on the wings is 'Type 1' and the follow-up fluid 'Type 2?'), I arrived very late into the night at the home town of Strong International, who make those huge machines that fire emotive beams of light onto the performer from miles away at the back of the arena. It was a long first leg, but I'd promised Strong's product manager Jack Schmidt that I'd use the best of my navigational skills to locate him during my next mini-tour of the US.

The history of Strong International turned out to be as confusing as my flight(s), but Jack gave me a little book that charts the various strands of intriguing company and product development that have now become welded into the present-day corporation.

Before delving deeper into the background of the followspot story, I should acquaint you with the fact that around 80 percent of the corporation's business comes from its motion picture division, and it is the area that has the longest history, dating back to the turn of the century and the origins of the Simplex projector range.

As the little book says: 'The Simplex can be seen as the most productive branch of the American technology tree'. In fact, the range numbered a great many firsts in projector design. Take a look at these: synchronous front and rear shutters, removable film gate, one-shot oiling system, spiral bevel gears, quickly interchangeable intermittent unit, automatic fire shutter trip mechanism, shutter timing adjustment while machine running - and so on. Yet, despite all that, the basic 1909 design can in fact be recognised easily by anyone who has ever worked a Simplex to this day, when the units are still going 'strong' and a part of a division of the company that reckons it has a 65 percent share of the North American market and 35 percent world-wide.

The second important historical strand links through from the expertise of Robert Scott Ballantyne (1888-1978) of Hartington Nebraska, who began his life in the theatre industry in 1910. After a career in the early cinema business, he started his own firm in Omaha in 1932 for the supply of sound and air conditioning equipment and soon widened its scope to cover the theatre market. A close relationship with Largen Manufacturing Company who manufactured the Soundmaster line of amplifiers and soundheads and Light-Master and Arc-Master lamphouses, saw all these products marketed by Ballantyne together with projectors very similar to the Simplex.

The company was instrumental in the development of the post-war drive-in movies and kept pace with new developments in sound and projection along the way. Their revolutionary PRO-35 projector was introduced in 1970. Further developments followed, and in 1976 Ballantyne was purchased by Canrad-Hanovia of Newark, following its earlier acquisition of Strong Electric of Toledo (the next part of the story). Simplex Projector Company was added to the operation in 1983 and by 1985 all fabrication of Strong International products was housed under one roof in Omaha. A separate prewire

department was established enabling the company to offer any combination of Highlight, Super Highlight, X-90 or VIP consoles with either Ballantyne or Simplex projection and the customer's choice of sound and automation.

Moving to the third and final source of Strong's individuality, the namesake of the present-day company is Harry H. Strong (1887-1956), a self-educated inventor from Toledo, Ohio. He became interested in the problems encountered by early projectionists, in particular the constant attention paid to maintaining the arc in the carbon arc lamphouses.

By experimentation, he evolved motor windings which were very sensitive to the voltage across the arc so that the feed motor would automatically speed up whenever the arc became too long, or slow down if it shortened. This way, a uniform arc gap was maintained without the operator's constant attention. In 1923 Strong took the decision to develop a complete lamphouse incorporating his own devices along with a German invention involving an elliptical reflector. The light output showed a huge increase, and the first Strong Standard units were installed in late 1926. (Unit number one is on display in Strong's foyer today).

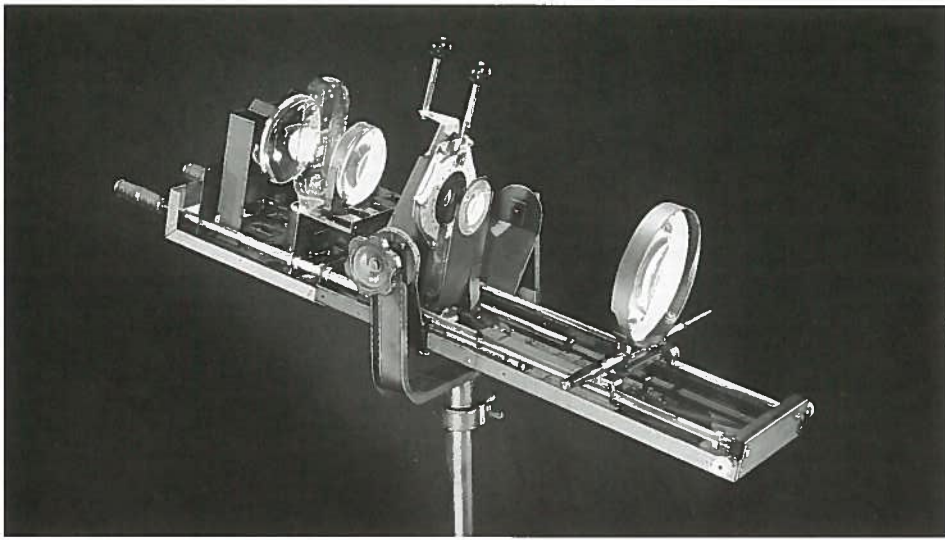
Development continued throughout the thirties and with the Mogul (1934) and later the 1kW Utility Suprex lamp (1940), Strong was established as the leading manufacturer of projection lamphouses. Its own optic department had been established in 1936, and the company set the pace as the industry evolved, supplying more, bigger, and brighter lamphouses. Legendary carbon arc lamps from Strong included the Mighty 90 (1949), the Super 135 (1955), the 35/70 Special (1959), and the Futura (1963). The Jetarc (1958), using a 21 inch reflector and blown arc, the most powerful projection arc ever developed, was honoured by an Academy Award for Technical Achievement.

The key to Strong's involvement in followspot manufacture came in



A carbon arc Gladiator, late sixties.





Prototype incandescent Troupette followspot, circa 1950.

1948 when the ice show industry approached them looking for a lightweight, high intensity follow spotlight which would be easy to 'troupe' with their travelling shows. Having a small AC lamphouse used for 16mm and slide projectors which would lend itself to such a purpose was the relatively easy bit; developing the optics was new territory. The result was an ingenious lens mechanism which provided a convenient means of changing spot sizes, intensifying the light as the spot size was reduced. The eventual 'Troupier' spotlight projected an intense white spot even when the arc was burned at low current. Plugging into any convenient outlet, it made the use of a large motor generator unnecessary.

Using a similar lens system, but with a 1000W incandescent bulb as the light source,

the Troupette spotlight was introduced in 1950. It again has evolved over the years, and the Troupette III is still in production. Designed for schools, night clubs and small auditoriums, it operates on normal household current.

The famous Strong Super Troupier was the brightest in the world when introduced in 1956. The lamphouse, a modified 1 kW Utility, was lengthened for a longer positive trim, thereby increasing its operating cycle. Designed for arenas, stadiums, and large theatres and auditoriums, the Super Troupier soon became the standard for this type of venue, and numerous big name entertainers were so impressed with its performance that they would appear under nothing less - and stated so in their contracts.

As arenas and stadiums increased in size, so



Optical system of a carbon Troupier, circa 1970.

too did Strong's spotlights. When the Gladiator was introduced in 1968 it was called 'The Brightest Spotlight in the World'. The lamphouse was a Strong Futura, burning an 11 mm carbon and using an 18 inch Tufcold reflector. This powerful light source permitted throwing a 100 footcandle spot over 500 feet. Designed for permanent installation, the Gladiator required a 208/230V AC three phase rectifier, which was built and supplied by Strong.

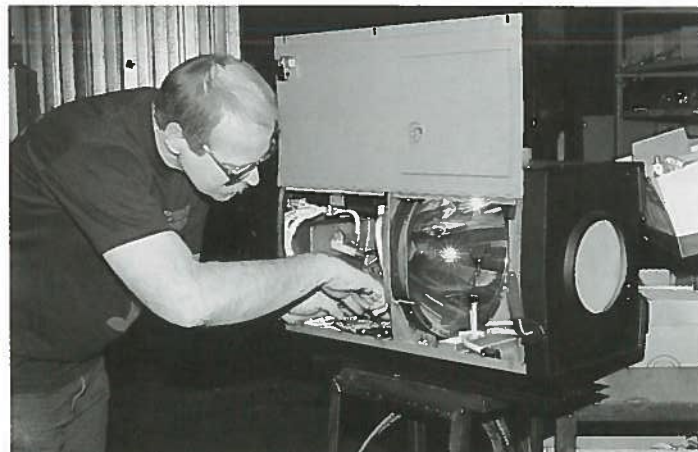
The introduction of the xenon short arc bulb as a projection lighting source in the mid-fifties was the beginning of the end for the carbon arc, but not for Strong Electric. The company's engineers immediately set out to design xenon reflectors. In 1962, the first X-16 lamphouses were introduced and these featured a vertical



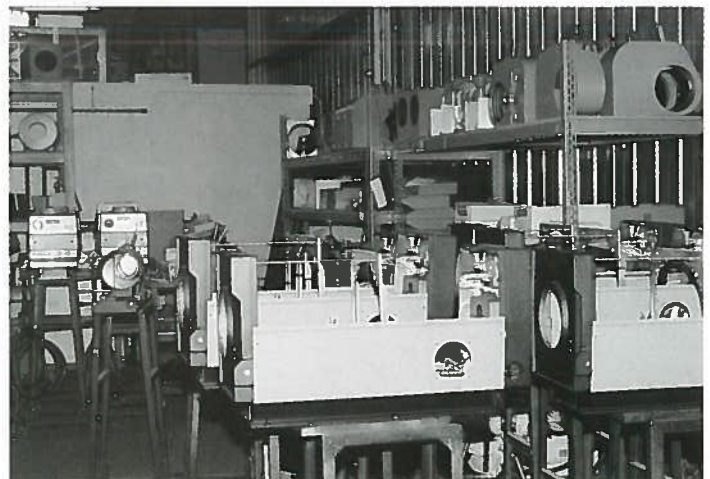
Louis Walker tests a Gladiator III bound for Thailand - part of an equipment order for a major project involving both film and followspot equipment for the Landmark Entertainment Group.



Dan Edgington assembles a Super Troupier lamphouse.



Denny Overholtzer works on a Super Lumex motion picture lamphouse, similar to that used on Gladiator II followspots.



Spotlight assembly area with Super Troupier lamphouses in foreground.



1600 watt xenon bulb mounted in front of a 14 inch glass reflector. A smaller auxiliary reflector was mounted in front of the bulb, and a Peerless Magnarc housing was adapted as an enclosure. Strong, once the standard in carbon arc lighting, was now producing more lumens per watt than other xenon lamps.

Development of a xenon bulb which burned in a horizontal position permitted better light collection of the arc by an elliptical reflector, yielding higher light output. Also, the American manufacturer, Westinghouse, introduced a 6000watt horizontal bulb. Strong answered in 1968 with the first X-60 lamphouse. The X-60 met or exceeded light output of the largest carbon arc lamps then in use, and was able to illuminate the largest indoor or drive-in screens. The X-60 underwent modifications to adapt to changes in xenon bulb designs, and production continued through to 1983.

Xenon lighting was not to be limited to the motion picture industry. In 1971, Strong introduced the Xenon Super Trouper, using an X-25 xenon lamphouse behind its now famous optical system. This unit threw a 100 footcandle spot over 350 feet. It also introduced a new element to spotlight operation - continuous duty cycle; there was no need to shut down and re-trim. Also, since the lamp required no operator attention after ignition, stagehands could give full attention to their cues.

For all its advantages, the first Xenon Super Trouper had its drawbacks. In physical size, it was almost as large as a Gladiator, and it required use of a large, three phase xenon power supply. Realising the potential of their little powerhouse, the Lume-X, which had been introduced in 1972 for smaller indoor theatres, Strong engineers went back to work.

The introduction of the new Xenon Super Trouper (Type 83050) in 1975 began rewriting the standards for follow spotlights. Comparable in every way to the size and performance of the original Super Trouper, all the advantages of continuous operation, plus the inherent economical advantages of xenon versus carbons, were retained. By simply reversing the bulb in the Lume-X, the lamp that worked wonders in mini theatres went on the road with live shows. Reversing the bulb enhanced cooling in a lamphouse which is normally pointed in a severe down angle. The lume-X Xenon Super Trouper used a 1600 watt bulb, but is now available in the more popular 2000 watt model. By October of 1978, production ratio of Xenon Super Trouters to carbon arc Super Trouters was one-to-one. By 1980, production of the Xenon Super Trouper so far surpassed the carbon arc model that the carbon



Chief engineer for Strong International, Bill Englesman.



Tom Knipe prepares for the shipping of four crated Super Trouters bound for Mexico for LSD.



The stock room houses over 28,000 different part numbers.



Rick Goette pictured in the Research & Development machine shop.



Jack Schmidt checks out a crate holding a Super Trouper bound for his Argentinian dealer and an INXS concert in Paraguay.



Carbon Trouper number 11 dated 1949 - recovered after 40 years with a hire company and still in service.



The motion picture console pre-wire area.



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arc Super Trouper was discontinued in 1982.

Combining two good ideas to make a still better one, the Xenon Super Trouper lamphouse was combined with the Xenon Trouper optical system in 1982 to create the Short Throw Xenon Super Trouper. Designed originally for Las Vegas show rooms, it projects a small, intense, flat field of focused light at throws under 100 feet.

As new light sources were developed, Strong was ready to adapt them for follow spot use. The HMI bulb was first used in the mid-size Strong '575', introduced in 1979, and later in the Trouper 1200 in 1986. The 400 watt HTI bulb is used in the Super Trouperette (1985) and the Roadie (1991).

Developments made in lamphouses also found their way into the spotlight industry. The Super Lume-X, with a 2500 watt bulb mounted cathode forward, was the light source for the Gladiator II, introduced in 1979. Designed like the original Gladiator for arenas, the Gladiator II throws a 100 footcandle spot almost 400 feet. Larger auditoriums are offered the 3000 watt Super 80 Gladiator III (1983) throwing a 100 footcandle beam over 450 feet.

The company rapidly outgrew the Ballantyne site and in 1989 moved to their present headquarters on McKinley Street in North Omaha. Here they have 145,000 square feet of space at their disposal and do everything except metal casting which is still handled by the Largen operation.

Jack Schmidt, who showed me round, is the man who fronts the Strong followspot brigade at most of the world's international industry trade shows, and he started with the company nine years ago after a distinguished career in theatre. He had been brought in specifically to develop this aspect of Strong's operation.

Across the relatively short time he's been with the company, the quickening pace of development has been noticeable, but he was anxious that things were kept in perspective.

"Basically, we earned our name on output, dependability and service and the fact that we build a quality product," he said. "People have accused us of building the biggest and heaviest followspots, but on the other hand there is a 44-year-old spotlight there that I rescued from an active rental department - simply because it was the oldest one I'd yet found. We may build things like tanks and people complain about the weight, but they keep running, virtually for ever.

"Also, maybe we haven't necessarily been the most innovative of companies, but we are capable of engineering a new product for a long haul. We've had our failures along the way, like everyone else, but on the whole when we've designed something and built it, it's acceptable to the market and people are prepared to pay a premium for it. And it's not a question of going out to get more money from customers - it's the fact that we set a high standard of manufacture and it costs us more to make our products."

The flood of demand for followspots in recent years came about, according to Jack Schmidt, because of changes in the general lighting market. "When I was working in the touring industry in the early seventies, a show that came through with 48 Pars was a big show, and with that amount of light on stage you didn't need very much power to cut through it. But suddenly, with the growing availability of inexpensive light sources, and the Par 64 growing in prominence, show promoters could afford to put up 200 units. Another aspect was the increase in control ability whereby lightweight computerised equipment meant you could control so much more.

"As a result of these factors, the demand for greater intensity from followspots has pushed



**Spotlight product manager Jack Schmidt holds a Master of Arts degree in technical production/design from the University of Northern Colorado. He became technical director of the Omaha Community Playhouse for five years before moving into freelance work in concert touring, theatre, dance, TV and pageants in the US mid-west. Prior to joining Strong's sales staff in 1985 he was technical director at the Omaha Opera for three years and designer/production manager for Omaha Ballet for 10 years, during which period he also undertook freelance lighting design for numerous productions. He is a director-at-large of the USITT and an active member of the Theatrical Dealers Association.**

along an insatiable demand for bigger and brighter units. Luckily for us, this is the area we specialise in with the big long throw units, and they've become industry standards as a result.

"The problem now is that there are arenas that seat 25,000 people and the throw distances can be anywhere up to 400 feet - but you still have to have something powerful enough at that range to cut through 300 Parcans and all the Vari\*Lite that go with a modern show. As a result we are seeing an increase in demand for our Gladiators and are currently in the process of looking at bigger sources and a new product line of even bigger followspots. The intensities have gone up on stage, and the followspots have to follow."

Typical examples of what we had just discussed were visible in Strong's assembly and packaging area. Four Gladiator 3's were being prepared for Pink Floyd, one of 'the' tours of 1994. The factory was also building four Gladiators and four Super Troupers - all with automatic shutters - for a major installation in Thailand for the Landmark Entertainment Group as we walked through.

I moved our talk to the subject of followspot automation - how far would it eventually go?

"A few years ago at the USITT exhibition at Anaheim in California we exhibited a followspot that was animated in every facet except tracking," explained Jack. "You still had to have an operator to aim it, but essentially it was an extreme case of what was possible. We could now do all that at less cost and also more efficiently. However, the problem with automating followspots and the like - and this an LD speaking! - was brought close to home when I watched a show The Cure did in Boston about five years ago. They had an all-Telescan rig, and at a mid-point in the show I was beginning to tremble in my boots as a manufacturer of followspots because they were switching the Telescans back and forth from a tracking followspot to a special effect device at will.

"There then came a point in the show where the lead singer spotted someone in the front row he wanted to investigate or talk to and he walked out of his spot, down to the edge of the stage. The Telescan operator looked at me, grinned, and punched a couple of buttons and took immediate control of a couple of lights. But then the lead guitarist decided he also wanted to check out a pretty girl in the front row and walked out of his spot too. The operator looked over his shoulder at me, shrugged (in French) and indicated the message that there was nothing he could do!

"As a lighting designer there have been many times in my own career where I've seen a situation where the thing that's saved the situation and kept a show rolling was the intelligence standing next to that followspot, with the ability to influence directly what the light did on a moment to moment basis.

"The followspot has its own charisma and as the ultimate fallback is one of the fundamental pieces of entertainment lighting equipment. Taking nothing away from automation, there is an immediacy about a followspot and I'm convinced that there is always going to be a place for manually operated units. Some features will obviously end up being remoted, but the danger could be that if you take away such things as beam shaping, colour changing and so on, you could arrive at a position where the operator becomes an automaton. He will then get bored, and - God help your show - lose his 'edge'."

We can expect to see a new generation of Strong followspots in the not too distant future as technology becomes ever more involved with design and production. They will be more portable, optics will have improved, and so on. "All this is not going to allow us to replace the operator however," said Schmidt, "but it will allow us to enhance the operation, and to make smaller packages that are brighter. We have on-going projects in-house and our entire product range will be studied carefully over the next few years. It's great fun to be part of, as the latest technology is going to allow us to develop a lot of ideas."

Strong's exports world-wide have shown a big increase over recent years, most particularly in Europe and the Pacific Rim. "In the past few years we've been targeting major distributors such as AC Lighting in the UK and they have played a major part in our increase in sales, and the demand for the large long throw lights has grown dramatically. Also, our ability to customise units as a direct result of specific requests has given us the opportunity to continue to develop on from there; a major benefit to both customers and our company."

I stated at the beginning of this article that Strong's motion picture division accounted for 80 percent of the corporation's annual turnover. The spotlight and audio visual division accounts for a further 10 percent. The final 10 percent comes from the restaurant division, which is of no interest to us at all, except that your lucky editor arrived on a day that they were test frying chicken pieces in the famous 'Flavor Crisp' machines. Six inches of snow had landed outside and closed down the airport, but that didn't seem to matter.

#### THE PEOPLE AT STRONG

Ron Echtenkamp - president  
John Wilmers - executive vice-president  
Ray Boegner - vice-president international sales  
Jack Schmidt - spotlight product sales manager  
Bill Ebglesman - chief engineer  
Tom Knipe - head of spotlight assembly  
Michael Clark - electronics and optics engineer  
Louis Walker - test engineer



# COPACABANA: THE SONG WRIT LARGE

Robert Halliday reviews Barry Manilow's new musical

Copacabana is a musical formed from a combination of strange combinations. Barry Manilow (a 'giant among entertainers', as the press pack describes him) and musicals, for example. Or a brand new musical and Apollo Leisure/BCC, who in recent years have been better known for taking established West End shows and touring them to the regions. Or, indeed, the overall combination of groups behind the show - Apollo/BCC, the Theatre Royal Plymouth and recently formed Imagination Entertainments.

It's also a big show. With a final budget of over £1.25 million it is the equal of many of London's 'mega musicals' in terms of cost and, with 26 Vari\*Lite's, 56 projectors and a host of sound gear, their equal in technical

terms as well. With one small added complication - instead of going into a West End theatre for several weeks of technical rehearsal, the show opened in Plymouth, has to tour to Manchester and Edinburgh, and then slot into London's Prince of Wales Theatre at the same speed as it fitted up on tour. Quite a challenge! These limitations have meant that it has been designed and built from scratch to fit within the Prince of Wales' limited space. Which isn't to say that the design is simple; far from it.

I suspect that part of the reason for the involvement of Imagination Entertainments, who are billed as being responsible for the overall design of the show, is that the musical itself is fairly old-fashioned in structure. The through-sung, fully formed, fully 'characterised' structure, where the work is treated throughout with great seriousness and which has become the trademark of the current generation of musicals, is not featured here - the stars talk, then drop into song; there are comedy turns, extravagant dances and very little coherent plot. The storyline isn't taken from a book, as with Phantom of the Opera, or a film, as with Sunset Boulevard, but from a song. Copacabana is the plot of Barry



The dazzling choreography of Dorian Sanchez brings the show to its climax. Photos: Clive Barda

Manilow's song of the same name writ large. For the thousands of Manilow fans I suspect that this will not really be a problem but the feeling has perhaps been that the London critics will complain about the structure, and so something 'extra' has to be offered in the way of a high-tech, spectacular set. Such lines of thought inevitably lead to Imagination.

The company have been helped by the fact that most of the show is a dream - the dream of songwriter Stephen as he sits in his New York apartment trying to write a song about a showgirl in a club. In dreams, of course, anything goes. But as a dream can also jump quickly from location to location, the settings had to be able to keep up. In Gary Withers' original concept design this led to the idea of using projected images on moving screens. Set designer Martin Grant then formalised this scheme, giving the show four 6m high frames, each containing three projection screens which can rotate about their centre point to open within the frame. The frames themselves can also pivot, to create a huge variety of different acting spaces. A further two frames are flown, one with four, and one with five projection screens. These screens, again, can pivot. The

automation systems for the screens, all of which are individually motorised, were created by John Hastie of Electric Stage. To differentiate certain scenes, and because it would be hard for anyone to sleep on a projected bed, for example, Grant has also provided a number of three-dimensional pieces, some trucked using tracks in the 250mm show deck, and some flown. These set the scene for nightclubs, bedrooms and the like.

Much of the scene-setting work falls to the projections, and this fell into the hands of Jon Turner, who created the original projection artwork, and Chris Slingsby, a veteran of Hunting of the Snark and other Imagination events, who had to work out what to project the images with. Turner

took the basis of many of the projections from original 1940s images, creating bolder but less detailed versions for the show. These were then scanned into Apple Macs to be worked on by Lee Munden and Roland Villiers at Imagination; images that needed correction to compensate for key-stoning were also corrected using the Macs. A more expensive computer system, an IQ Videographics Paintbox, was used to create some of the images from scratch, most notably the cityscape that forms the view from Stephen's apartment when reality intrudes on his dream.

As Turner worked on the images, Chris Slingsby worked out how to get them onto the screens, his work preceding the show's opening by "about six months, which is about average. The first thing I did was to work out the technicalities of the show - the kind of projectors we needed and whether they would all fit. It was vital to have this worked out so early because much of the equipment had to be specially made for us, though it did mean that many of the decisions about the show, such as the positions of the screens in various scenes, had to be taken early on."

The large equipment list shows why this



A brilliant blue wash for one of the early dance sequences.



Lola Lamarr is kidnapped by villain Rico.



advance planning was necessary - 52 400 watt Simba slide projectors and four Pani 2.5k projectors, in their first appearance in this country were used with ETC film scrollers for the first time anywhere. Most of this equipment is deployed on stage doing back projection work, since the tour, with its differing auditoria and short fit-up times, ruled out the kind of front-projection booth Imagination installed at the Prince Edward Theatre on the short-lived *Hunting of the Snark*.

This still left Slingsby with problems, though. "The practical design was based around the Prince of Wales Theatre, where we will literally have projectors touching the back wall; the limited set-up time on tour and in London means that the equipment we are touring is exactly that which will end up in London." But this limited space meant that large, bright images were being generated from small projectors with a tiny throw. "This meant we had to use very wide angle lenses, which had to be made specially for us in Germany. We then had to have the projectors firing straight into the screens, because keystone correction doesn't really work with very wide lenses. The size of the images meant that we then had a brightness problem," Slingsby noted.

His solution is ingenious. Each screen is divided into a top and bottom section, and each section has a pair of projectors on it. Each pair carry the same image and are on at the same time, giving a brighter image. The clever part is that instead of adding another pair of projectors, to allow cross-fades of images, Slingsby 'cheats'! As he explains: "to change images we fade one of the projectors slowly and, at a critical point, change slides - and the effect is to look like a dissolve. It's surprising how well it works."

Slingsby is also very impressed with his new 'toys', the Pani projectors with their scrollers. These contain a film strip and so allow images to be moved without the need for a cine-projector. The effect is used a few times in the show and, at its first showing in the 'slide out' of the apartment set into the dream, has been receiving a round of applause every night. Again, though, an apparently simple effect has taken a lot of effort from Slingsby and his team, because two of the Panis are mounted front-of-house, on the lower circle rail. The throw, and so the lens used, thus changes from venue to venue, and Slingsby feels that his "biggest achievement on the show is to have made the film loops so that they work with the different lenses".

But he is also careful to mention the more seemingly mundane elements involved in getting the show on. "The projectors have to be very tightly packed together, so all of the truss rigging has been specially made. A large part of my job is working out the practicalities - having lots of expensive gear is great, but it won't work without the right piece of metalwork to hold it all." The results on Copacabana seem to have made the effort worthwhile, despite the tight schedules. "We had much of the programming done before we went near a theatre," he told me, "and despite being quite a big rig it all went together remarkably well, with only one head-scratching moment. Line-up time has been very tight, though - it takes six to eight hours to line things up properly, and that time always gets squeezed."

Despite the pressures, Slingsby has enjoyed working on the production. "We're fortunate in having people like John Del'Nero and Hugh Vanstone, most of whose experience is in theatre, to give us the benefit of that experience," he said.

For lighting designer Hugh Vanstone,



Pani projectors provide the stunning New York skyline backdrop for Stephen's apartment.

Copacabana formed part of a busy period, sandwiched between a production of *Macbeth* for the National Youth Theatre, and a much smaller new show, *Butterfly Kiss* at the Almeida. By the time he became involved with Copacabana the set was largely complete, and he immediately faced the now-familiar musical problem: "There didn't seem to be room for any lights anywhere - yet we were being asked to produce a 'spectacular' show!"

After negotiating some space, but before finding out the budget, Vanstone had an initial plan to do it all with moving lights, with a large number on stage and also with them front-of-house. "I got up to a total of 92, which would have been expensive, but this plan would have meant using no steam lamps, so it wouldn't have been that expensive overall," he explained. "Given the nature of the production I thought they might just go for it!"

The budget would not stretch that far, however, which caused a re-think and the eventual design is much smaller, with just 26 moving lamps (9 VL2B spots and 17 VL4 wash units) scattered amongst a mixture of Cantata, Leko, Alto, Prelude and Optique profiles, Cadenza PCs and fresnels, Cantata PCs, effect projectors and Parcans on four electric bars and a boom and a big ladder per side.

Only a comparatively small number of the lamps, around 22, carry Rainbow scrollers, and these, along with the rest of the steam lamps, are supplied by Stage Electrics. "The rig is actually quite worryingly small, given the size of the set," Vanstone noted. "Because the set is designed around the Prince of Wales it is actually quite low - the upstage electric bars are at 6.9m, and the downstage bar is just above 6m. With all of the VL4s pointing straight down, we can only just get a coverage of the whole stage - with no lights spare to do anything else!"

This has, however, been dictated by budget. "An intermediate plan had a grid of VL5s, so that we would be able to light or colour the projection screens and give a backing to slides or, when the screens were moving and slides would go out of focus, the lamps would be able to follow the movement of the screens. This went because of the budget - it was a deliberate decision which we knew might cause problems, though in practice the problems aren't immediately obvious in the show."

The budget also hampered the choice of control for the conventional rig. Originally Vanstone had requested a Light Palette 90 driving touring dimmers since he feels that,

because of its move-based operating philosophy, it is the best board for plotting big musicals. But the budget limitations struck again. "I eventually had to say that I couldn't make the rig any smaller," he recalled, "but that some cost savings could be made by using house dimmers and the house board." Plymouth's new Strand Galaxy Nova thus swung into action.

Aside from the technicalities and budget problems, the show also presented Vanstone with design problems, both in terms of giving different lighting looks to the production's many scenes, and working with the projections - all within a very tight schedule. Vanstone tries to work out most of his lighting 'looks' in advance, so as to maximise the time available to actually create those looks in the theatre. In going through the script he jots down ideas and rough looks, colours and gobos for each scene. Those ideas would then be passed on to Alistair Grant, acting as assistant lighting designer in a slight change to his normal production electrician role, and Vari\*Lite programmer Richard Knight, for discussions leading to the production of a clear cue synopsis. "I also made sure that Richard and Alistair got scripts, show tapes and videos of the dances so that they knew exactly what was going on, which I felt was vital given that in the technical period we would often only see a scene once or twice before it vanished for a week."

The lighting was roughly plotted in a pre-production technical week at the Royalty Theatre, though some elements of the set were missing and the cast was only present for three sessions. "When the cast weren't there, Richard and I would watch a video from rehearsals then try to light the scene; I'd plot the still lights and, based on our earlier discussions, Richard would plot the Vari\*Lites via his Artisan - it would be impossibly time consuming to have to describe every stage of a movement sequence to a moving light programmer. Fortunately, Richard and I have now done so much work together that we tend to see things in much the same way," he said.

His other problem arose from the projections, though unlike earlier projected shows there were no problems with trying to get the projections bright enough to show over the lighting. The simplest problems to solve were where items of scenery were positioned too close to a screen, making them impossible to light without hitting the screen; slight re-blocking cured these quickly. But a bigger



problem was the "even brightness of some of the images whereas, when lighting scenery, you'd often allow the top of a wall to fade out gently. This made it very difficult to close the lighting down to tight areas, and washed out much of the backlight."

Vanstone would like to add extra backlight to overcome this problem, but is hampered by a lack of space in the grid. Extra 'atmosphere' has, however, been added through the use firstly of smoke and then, when the smoke tended to drift into the audience, with a DF50 haze machine. And, as well as the wide range of deep colour in the scrollers, Vanstone has used one further trick: Devon Glass deep blue filters in some of the Parcans, an effect which he loves. "You can hold them next to a supposedly identical plastic filter and they are still more 'sparkly'. People laughed at me when I made a fuss about having these filters - they are fairly expensive - but they are now used to 'lift' all kinds of scenes in the show."

Thanks to the effort of his team, including Grant, Knight, Jim Hepplethwaite, Paul Cook, Tim Stephens and Ben Jeffrey (and Barry Manilow himself - "he still phones me up from time to time going 'Hugh, you've got to help me with this scene, it needs to sparkle'"), Vanstone feels he has had a comparatively easy time for such a big show. Their efforts also mean that the rig should be easy to tour and move into London, though in an ideal world he would like to move up to VL2Cs and add a few more lamps for the West End. Even without them, though, he has managed to coax a wide range of looks from his rig, the deep, saturated pinks and purples adding greatly to the clubby, dreamlike feel of the show. And, with Knight, he was worked the Vari\*Lites hard, with great sequences over some of the dances.

The sound system has also been carefully managed under John Del'Nero's direction to give a beautifully clean, clear sound. Del'Nero admits that the rig is "now fairly standard stuff - a 74 input Cadac J-type mixer, a 15 way Micron diversity radio-mic system, and a mixture of largely Meyer loudspeakers." He has, however, used two d&b F2 loudspeakers. "Autograph were very good, and said that we could have whatever we wanted. We did some trials, and to me the F2s seemed much more sympathetic to the synthesised, rock and roll feel we were going to have in this show. Their good vertical dispersion meant that they could be placed to get sound to the stalls and the

circle." The rest of the rig is split into a band system and a vocal system, with the F2s complemented by Meyer UPM and UltraMonitor units. UPMs and UPAs are used for monitoring.

The time limitations going into London have also led Del'Nero to try and standardise his system for the tour. The band are boxed into the pit, for example, "because that'll be the case in London, and we don't want to suddenly hit a completely different sound when we get there." He has also tried very hard to keep the relationship between operator Tom Button and the loudspeakers as consistent as possible, though Edinburgh will be completely different, because it is so large. "We'll be putting a double delay system in, and the operator will be in the circle rather than the stalls."

One trick that the sound team have brought off so successfully that the audience don't notice is the use of taped vocals for "a couple of the really big dance numbers where the cast were running out of steam". To ensure that the changeover was unnoticeable, Del'Nero "recorded everything through the radio mics, to the horror of the studio people." Everything was recorded onto ADAT, using the six channels available to keep male and female vocals, and the different vocal lines, separate to be mixed on site. In the show the control computer cues up the tape and the musical director presses a go button to trigger the click track and sound.

Like Vanstone, Del'Nero speaks very highly of his team - operator Tom Button, no 2 sound Jill Rowley, assistant Mike Furness, and production sound engineers Chris Full and Nick Gilpin. He also speaks highly of the composer, Barry Manilow. "Initially you have to go with what Barry wants," he explained. "But once he gets confident in what you can do he's very open to ideas." More importantly, Del'Nero himself is largely happy with the result, though of course it will continue to be tweaked on tour and into London.

Like the structure of the show itself, the idea of touring a new show on the way into London is an old one - in America, in particular, new musicals used to try-out out off Broadway, adapting and re-writing as necessary until a 'perfect' show opened to the New York public. This tour will probably also generate some valuable word-of-mouth publicity to help set the show up for a long run.

A lot of people have thus been kept very busy by this show, particularly Imagination. Indeed, Chris Slingsby feels that elements of it would

have been "almost impossible to do with lots of separate designers rather than Imagination. Here, if I discovered a problem I could be talking to someone about it very quickly to generate a solution. Otherwise, it might have been put off until an end-of-day production meeting, and that would have been a day wasted." On the road their efforts have been matched by those of a large army of experienced technicians. So, is it all worth it?

Well, for what it's worth (i.e. almost nothing!), my prediction is that the London critics will hate the show, but it will run. Indeed, I can foresee coach parties bringing in mother-and-daughter teams, the daughters then going to see Grease while the mothers shout, applaud and laugh through Copacabana - the reaction to the two shows is exactly the same, but with different generations of audience.

The technology is very impressive, even if not every element of the design seems to gel perfectly as yet (some of the projections don't seem to mesh with some of the set, and neither seem quite right against some of Hugh Durrant's gorgeous, outrageous, wacky costumes). What's most impressive, though, is that the technology doesn't dominate. Despite it all, the show is actually made by the performers, led by the great Gary Wilmot. It's them, rather than the projectors and Vari\*Lites that the audience are applauding at the end of each evening and that, after all, is what theatre, with correct technical support, is all about.

## COPACABANA

Directed by Roger Redfarn, choreographed by Dorian Sanchez, design concept by Gary Withers for Imagination Entertainments, Scenic design by Martin Grant, Projection design by Chris Slingsby and Jon Turner, Costume design by Hugh Durrant, lighting design by Hugh Vanstone, Sound design by John Del' Nero. Technical manager, Graham Lister.

Lighting equipment supplied by Stage Electrics and Vari\*Lite (Europe) Limited.

Projection equipment supplied by Visual Techniques Limited. High Definition Paintbox Graphics by IQ Videographics.

Sound equipment supplied by Autograph.

Rigging and trusswork: Unusual Rigging Ltd. Automation: John Hastie of Electric Stage Floor and Hydraulics: Delstar Engineering Projection screens: MetalMasters Scenery built by: Theatre Royal Plymouth Workshops.

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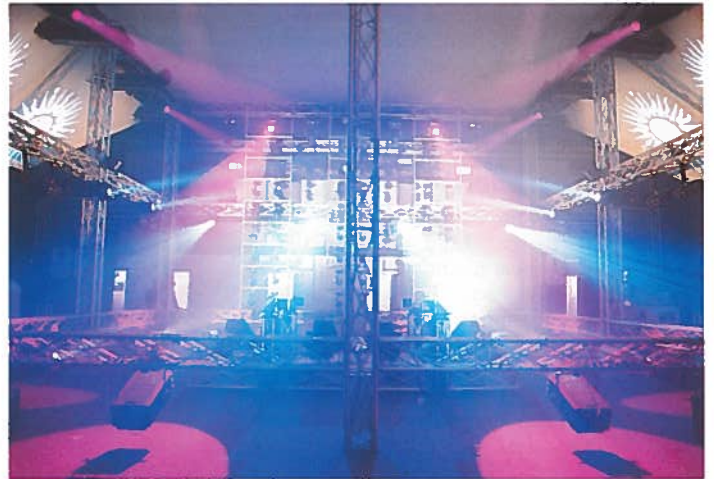


# IF IT'S SPRING IT MUST BE RIMINI

The L+SI team of Ruth Rossington and Tony Gottelier brave the rigours of the year's first major international lighting showcase in search of new growth



The Superscan Zoom presentation on the stand of Clay Paky/Pulsar.



Coemar officially launched the NAT in their home market.

We could have titled this piece 'bun fight at the BA coral'. As usual, the Saturday crack-of-dawn to Bologna, and onwards by coach to Rimini, was singled out for that special 'let the customer suffer' routine we have all grown to love. So used to it are some industry perennials that they arrive two and a half hours before the flight is due to leave, and then make it by the skin of their teeth! Mind you, they would suffer withdrawal if all went smoothly.

This year was not to prove an exception to the rule, the queues at the check-in counters at Heathrow's Terminal One (the 'terminal', incidentally, obviously refers to the boredom, or worse, thus engendered) were so long, and so strategically placed to pass in front of the entrance ways, that if you weren't already in one, you couldn't get into the building at all. Your intrepid crew took a short survey and carted their bags straight to the flight.

So now we were onto the high point of the entire trip: Which of us was to be the victim of this year's lost baggage award? Before announcing the name of the happy winner, I am minded to enquire why it always seems to be this flight which is singled out for the 'bags in Cairo' treatment. I mean, I know things go wrong, but so spectacularly wrong time after time? Anyway, this year's proud owner of the golden BALLS-up trophy was Rowland Hughes of Axon Digital; commiserations to any unlucky runners up. (To the airlines credit I understand that Rowland's bag was delivered to his hotel the following morning which, in itself, is a significant advance on previous years where DIY was the rule).

After a couple of hours in the pleasant company of Chris Cronin also, with Peter Johns, the victim of savage cuts at LSD (haircuts that is), the question now is have Terry Lee and Simon Austin followed suit and joined the

skinhead brigade? A bottle of John Offord's cheap Methode Champagne for the first industry watcher with a picture. And something is else definitely in the 'air at LSD these days, but neither gentle persuasion, nor alcohol, nor money, nor strong arm tactics would drag it out of the affable Cronin. Watch this space.

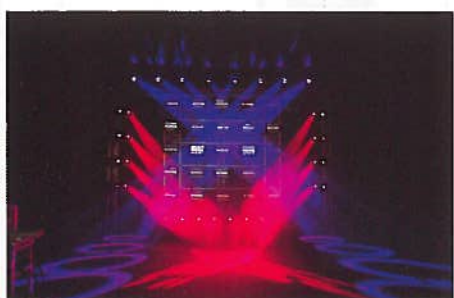
So to the serious business of the Fierra itself and SIB'94.

This year's star attraction, and not only for the amount of money put behind it's promotion, was the **Clay Paky Super Scan Zoom**. First we had the 'not the launch' show at the Grand Hotel on the Saturday night when, fresh from the plane, we journos were having serious problems with our attention spans, as were the Rock-N-Roll and TV contingent led by The Spotco's Pete Miles though with slightly more raucous results. The Theme of the presentation, indeed of the entire Clay Paky effort at Rimini was 'Clay Paky - Or Darkness' which has a somewhat threatening tone to it. Indeed, it seems that we were there with all their international dealers to be sure that we had got this 'Clay Paky - or else' message firmly in place. I can tell you that we were all glad to wake in the morning and not to find a freshly cut thoroughbred Superscan head in the bed. (Or even worse, the inert body of Pulsar's Derrick Saunders whose, otherwise excellent speech on his company's contribution to the CP&P family, was peppered with references to

"getting into bed with us" - much to the amusement and slight concern of the assembled Italians who were last seen shuffling their chairs towards the wall!).

Clay Paky are clearly another company with a plan for world domination, and they certainly put down another giant maker in their campaign with the Superscan Zoom. The product is undoubtedly a thoroughbred and the addition of 2:1 zoom optics, allowing the field angle to range from 8 up to 16 degrees, adds a further useful dimension to a versatile tool which will, without doubt, prove popular with television and concert users. Their very slick product promo, in a choice of two languages, gave new meaning to 'Talking Heads'.

For once, **Coemar** and Clay Paky seem to be headed in opposite directions which is probably a good thing in that we get a wider choice of product as the result. So as Clay Paky added zoom, Coemar dropped the zoom from the new, 'revolutionary' NAT for it's official launch in the home market. While CP's product retains an almost reasonable 12 control parameters, NAT 2500 has eased back to 22, which still seems more than most mere terrestrials can cope with. While CP concentrated on corporate presentation and style, Coemar were still hammering away with the mega light show choreographed by Carl Dodds and John Lindsell in partnership with Axon Digital's ShowCAD. This year an open stand with light-excluding curtains on tab track around the perimeter, revealed a stunning show based on flying sails angled from the roof. Take my tip, never try to hold a meeting in the confessionals at the back of this stand while the show is in progress - the bass at the beginning of Pink Floyd's 'Run' literally blew the roof off! The stand was entirely constructed of Coemar's



Sagitter's Prince in action, along with a battery of of their new DMX Strobes.



ShowPro's mirror luminaire designed by an international three-man team.



Martin luminaires featured in the continuous live performances running in the Ampilux enclosure.





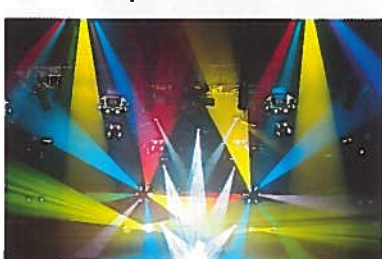
The new Shuttle centre-piece from Griven.



Studio Due impressed with the Stratos.



High End's John McDowell (Left) with Patrick Rappard of High Street.



Lampo: a prolific number of new products.



Lights-up for FAL.

new extruded, anodised aluminium, 30 cm square-section truss which, with the addition of the matching die-cast cross braces, really gives a designed look to rigging.

Coemar also announced the NAT 1200, which should bring the product within the reach of a wider audience, while smaller aperture models will follow. After the massive development effort which went into the NAT it is a pity that they have not had a little more time before competition has materialised in the shape of German Light Product's 1200 HMI Patent Light which has adopted a similar optical principle. The same company also produce StarTec with a choice of three lamps from 250W mains, to 575W and 1200 HMI and the 24V 150W Mini StarTec, which are all conventional waggly mirrors.

High End Systems, who are also heading the trend ever upwards to greater attributes with their new Cyberlight, stayed cool at Rimini, as promised by president Bob Schacherl during LDI, and kept their heads down. Their stand was cleverly spilt across an aisle, actually two stands positioned to form a single cohesive unit, with the smaller portion providing hands-on-product opportunities and the larger providing a shooting gallery for continuous run-throughs. 'Cyberlights are Go' - according to a recent press release and they certainly showed their potential here, as they did on their first road outing with Phil Collins (See 'Su, Su, Super Show', pages 28-30) this issue). Tim Grivas, High End's creative tight-end, told me that Status Cue, their 'proper' desk for automated lights is also all-but-ready to go.

And they're a very organised lot these Americans. When I returned to their booth later with our intrepid photographer, my old soul-mate John McDowell snapped to it immediately with the following instruction: "Press-look 'A' please Timmy!" If only some of the Italians were that efficient - only in your dreams.

Not a million miles away from High End was

another US importer, turned manufacturer, known to most of us originally under the Ness name, but appearing here under the Show Pro banner. These guys have developed their own 1200W or 575W HMI driven mirror luminaire, designed by a three man international which includes a British optical engineer, and called - wait for it - Cyber Scan. Aside from 170 by 110 degrees of pan and tilt with 16 bit option via DMX, the unit also offers 11 colours, 7 gobos, gobo rotation, remote iris, remote focus, dimmer and strobing shutter. Despite several innovative technical features too numerous to mention here, and their own 64 attribute controller called Mentor, one must have doubts as to whether Cyber-Scan, and I feel the same way about the GLP product previously mentioned, will ever develop a substantial enough market to justify its development in such an already overcrowded arena, especially as far as Europe is concerned. Though I wish them both luck, deep down I regret the effort and resource which has gone into such duplicated development.

The Martin Professional stand was, as usual, slap next door to Clay Paky, but no longer, one suspects, for the marketing advantage. This is a company which clearly has its sights firmly fixed on the market-place and whose helmsman Peter Johansen knows exactly where to steer the ship without the aid of navigation charts. This year, they were celebrating the appointment of a new Italian dealer, which may herald a breakthrough in that market which is notoriously difficult for outsiders. Videosel are the international distributors of professional video products for the giant Seleco consumer electronics company. Owl Video, who sell these products in the UK, made a nice feature on the stand with a circular video wall, which consisted of 36 wedge-shaped monitors in-the-round driven by two Videosel controllers, and based on a Lite Structures frame which will subsequently be configured

for flying or free standing.

The Martin company, now with a senior Danish politician on board preparatory to a market flotation, announced enhancements to their flexible Pro 1220 product. A new standard module is a saturated colour wheel with additional colour modifiers which enables up to 160 colour choices. Two new optional modules are Magenta, Cyan, Yellow, full-colour mixing and a new zoom module plus the 1220 is now available with autosensing, tracking DMX control or Martin protocol. Martin are threatening a brand new Jonathan Smeeton designed light show for PLASA and LDI later this year and this promises to be a big event for the diary.

Martin's own products were well presented in the new light show developed for this year's exhibitions by Mark Ravenhill and Steve Rawlins, while the go-go girls on the corner of the stand provided the attention-getter. Down the hall in the area which must have been part of the new SIBling 'Concert World' though I was never quite sure, on an enclosed stand credited to Ampilux continuous live performances took place throughout the day under a barrage of Martin luminaires, including Pro 1220s and 218s. All being run from a Wholehog desk and a Martin 3032 with Direct Access panel, by British lighting designer Steve Hall and associate John Barnes who hail from the Supermick/Robomick stable. A C Lighting's Glyn O'Donoghue was on hand to provide support for the Hog, though he was piggy-backing his own demos on the Spotlight stand most of the time.

While Abstract launched their much ballyhooed Gladiator special effect light, there were also, of course, a whole layer of Italian makers of moving mirror devices and other effects mostly for the disco market. I have singled out Sagitter for special mention, not just because my mates from Axon Digital were showing their ShowCAD wares on the stand



FLY launched no less than eight new effects.



SGM: the new Galileo II first shown at SIEL.



B&K's Terminator at work.





Coe-Tech's Ian Brown and Graham Barron with Peter Kemp of Coemar DeSisti.

(and incidentally providing the control on five others including Coemar, FAL and Studio Due - can it be a coincidence that these, and Sagitter's own, were among the best light shows at the Fiera?), but because their little Prince automated light is a very impressive performer. They have also introduced a DMX controllable strobe called Digflash which was quite a stunner. I wonder where all of that leaves them, once again, viz-a-viz High End Systems (Dataflash) for whom they distribute in Italy.

Griven's Helios centre-piece, itself a strain of La Novalite's Galaxy, launched at last year's show, was probably the most emulated product this year in this sector of the market. Now they have come up with the biggest central effect yet which must surely be delivered in kit form. If not the Shuttle will almost certainly arrive that way in export markets. The packing must be a sight to behold. They also revealed Baccarat and Sting, two effects lighting projectors for which optional scanning mirror heads are available.

FAL's show, in the safe hands of Paul Dodd with a little help from ShowCAD, was their most ambitious yet. Launched were Mega Octopus, a centre-piece which owed not a little to Griven's Helios but with some additional effects, the DuoScan, a twin moving beam effect with changing colours and gobos, a 2500W HMI skytracker called Comet and a performance version of their 1200W scanner called Pro 1200. They also offered enhancements to their two scanning projectors. We will have to wait to see if Avitec bring these and other new products from Kremesa and LED to the UK market.

As usual, one of the most prolific new product producers were Lampo whose products appear in the UK courtesy of Batmink in Glastonbury. From the same genetic root as previously



Herman Froom of Laguna with the MS200.

mentioned, come two new centre-pieces called Vortex and Ghost respectively. The former with 16 arms and the latter 8, fully controllable on DMX, one with 575 HMI or 1200 MSR, the other 1200 MSR only, whereas Ventaglio is a kind of cut-down, half, fan-shaped 1200 MSR version. In the projection sphere they offer three new effects generators Titanus, Peter Pan and Columbus 2, which is an upgrade of their original scanning projector with a high performance-to-price ratio.

Novalite, who are definitely originators in a sea of clone-alikes, were keeping their powder dry this year with only one new addition which will be available from Debbie Clayton's Nu-Light Systems - the ZigZag is a starburst strobing effect. Debbie's other supplier FLY, launched a further eight new effects. Phew! The company show as much invention with their choice of names as they do with their products. Two of these are primarily for stage and theatrical use: the Chroma is a projector with internal dichroic colour changer, dimmer and scroller. The Trichoma with trichomatic colour fading system has 256 colours that can be selected in crossfade mode. For both stage and discotheque comes the Sun, a small scanner with 24 dichroic colours, electronic dimmer, five interchangeable gobos and adjustable focusing. All three products are available in either 1000W halogen or 1200W discharge lamp. The Flaser, a laser emulator with four outputs of collimated light, continually projects patterns which zoom, rotate, split and re-join



Ian Potter of Leamington Sight & Sound with Owl Video Systems' Dave Juby.

in tandem with the music. The beam of Mambo reflects off two continuous rotating prism columns splitting into narrow fingers of light which change colour, direction and speed to the beat of the music. The Bladerunner has the same technical features but projects wide blades of light. The Movida is a budget effect simulating that of a double moonflower. All three effects are available with 1000W halogen or HMI575 lamp. To complete the new range a DMX strobe is also available with either 1500W or 2500W of power.

As last year, Studio Due impressed with the Stratos driven-yoke projector and their set show had a lot of flair. Coef, Litebeam, SGM, Tecnitron and Best Light all showed varieties of waggly mirror and moving light technology. Litec introduced a compact low-noise gel scroller called Pastello and promised 2 and 5k fresnel versions.

The stalwart British contingent nestled together in the DTI sponsored group between Halls F and E. For Lighting Technology, on the corner, this was the official launch of Caterpillar for which there appeared to be terrific interest. (I certainly hope so coz we need the royalties gov'.) The matrixed arrangement in the roof of the stand was particularly effective. Lower down, there were a couple of other fascinating items: clever little 30W fluorescent tubes, which use the RGB trick to change colour proportionally and, hey presto, you have a fluoro colour mixing system. The same LDDE company from Austria also offers A4 sized (and bigger) paper-thin electro-luminescent 'sheets' in several pale but effervescent colours. OCLI, who supply many of the dichroic colour filters seen in today's automated luminaires, have tackled the issue of their colour consistency. Their new range of DicroXP filters offers far more precise spectral



Audio Equipment's Marco Cecchet with the Spirit Studio LC 8-bus mixing console from Soundcraft.



Marco Bartellini of SGM (left) with the new Pilot 168 programmable control unit which can drive up to 16 scanners.



Lou Magliaro and Sid Warren of Audiotec with PLASA's Anna Pillow.



Computer Aided Showlight Engineering from R&D.



Guy Hawley and Doug Daniel of Harman were showing off the Soundpower Series.



Joe Chung of ACME/Antari with Charles Davies of American DJ Supply.

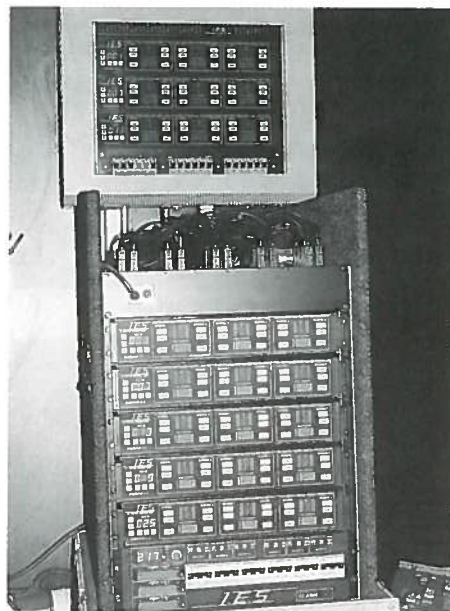




Mike Bell of the DTI and Ray Wilkinson of Northern Lights flank Anna Pillow of PLASA.



MA Lighting - in their own light.



IES dimmers on the stand of Teatro.



AC's Glyn O' Donoghue (right) demos Wholehog.



Chris Aberdeen of Smithfield Electronics with Harry Koch on the stand of SLE.

positioning so that the same colour coming out of the end of each instrument should always match. Seems pretty fundamental to me, but it seems there have been some difficulties with this in the past.

Ryger, who seem to be developing quite a reputation for their effect lighting innovations, introduced Strobe Star, a stroboscope which generates eight flat beams. First time exhibitors at SIB, 5 Star Cases, took the opportunity to show Europe their two recent arrivals on the flight case scene, Powerack is a modular system for distribution facilities, and Soundpack is a range of fully flight-cased speaker cabinets. While on sound, Audioteq offered up their Megamix range of stereo power amps based on mosfet technology, with audio processing via live performance mixers from 6 channels up to 16-2, 2 and 3 way active crossovers plus a series of compact speakers and foldback boxes. This company have cleverly built a one-stop range of audio products for the small to medium sized touring band, whereas Cloud and their international representatives at the Fair Northern Lights continue to concentrate their range in their traditional disco arena.

While Avolites were busy throughout with seamless demonstrations of Diamond II and Sapphire, Zero 88's Freddy Lloyd, who had not exhibited in their own right here before, told L+SI on the first morning: "Just the first three hours have been well worth the trip!"

Other Brits, such as Abstract, Celco, JEM, Light Processor, Le Maitre, Lite Structures, Optikinetics, Pulsar and Wembley preferred to go their own way, or to provide support to their local distributors. Celco's Aviator is now flying, after a bit of a false start in previous test flights, and flying instructors Keith Dale and Colin Whittaker were on hand to give lessons. Le Maitre, now in a more settled condition

according to Sales Director Rick Wilson, were teasing us with Touch-Tell, a touch-activated interactive voice and switching system which they are thinking of importing from Australia. Otherwise the big push this year was on the new generation SP3 Genesis smoke machine. It is sometimes easy to forget that Pulsar exist in their own right during SIB, as they tend to get somewhat submerged under the tidal wave of Clay Paky hype, though Jane Dorling is on hand to ensure that they don't get totally ignored by the attending hacks. This year Pulsar came armed with a raft of new products and enhancements developed by technical director Paul Mardon and his team in Cambridge, who have also been very busy with the electronics and software for the new Clay Paky luminaire products. Zero 4001, one of their biggest selling lighting controllers ever, inherits most of its parents' characteristics. Now you can add a foot-switch and a four channel desk with flash buttons. The digital dimming Datapac has been upgraded to version Two, in 12 and 18 channel models of 5 and 10 Amps and a 9 by 20 Amp version added. Masterpiece has a new software issue and now offers, as options, a screen driver and a stage mimic. 12 and 18 channel, single preset desks with Grand Master and Flash buttons have been added to the Pulsar range of small desks.

Wembley, the loudspeaker specialists starring nightly in the Rose and Crown's live audio system, were there with their full range of Maxi Cube, Deuce, 2828 Bass and Spyder enclosures. However, Paul MacCallum was keen to persuade me to give another plug to the Sound Kinetics three dimensional sound processing system, known as 3-D Storm, which has become a protégé project under his benevolent wing. He knows that I am a fan of this system, for which the graphical interface

and overall performance has been much improved since I last saw it. Those interested in creating interactive environments should beat a path to Wembley's door for this one.

While we're on sound, RCF's Monitor series made its first outing following the launch at Frankfurt (see our review) with a new sub-woofer with band pass design down to 35Hz. At PLASA, the Italian speaker specialist will launch their Event series which, in the absence of any firm information, looks as if its aimed at large and medium sized concert venues. Get the ear plugs warmed up!

Nor was the rest of Northern Europe unrepresented, for we are starting to see the emergence of both German, and in particular, Dutch manufacturers. B&K Braun, sister company of GLP, showed the Terminator first seen by us at Frankfurt, but it's another Helios/Galaxy product described as 'der super zentrumseffekt' - there would be no misunderstanding that, would there? Luna from the Netherlands gave us Multiscan, a 1200W, six attribute, DMX-controlled driven mirror projector amongst a comprehensive range of special effect lights not previously familiar to me. Laguna, also from Holland (so why the Latin logo in both these cases?), market the MS 200 a compact MSD 200 moving mirror projector with 20 gobos and 24 colours controlled from DMX. And a crying need for an English spell checker. They also import a range of steel trussing from the Czech Republic called Sinacol, described among other things as suitable for designing boots at trade fairs, so you see what I mean-about the checker!

Another visitor from the low countries was R&D International from Belgium who presented their CASE, which stands for Computer Aided Showlight Engineering, a moving light control system based on the

#### THE CLAY PAKY GALA DINNER AT THE GRAND HOTEL WHICH PLAYED HOST TO OVER 150 INTERNATIONAL GUESTS







Martin Audio's Martin Kelly with the Waveguide set.



Chocks away for Celco and the Aviator.



Ryger introduced Strobe Star.



Cloud, Soundtracs and C Audio find a niche for their product ranges.

PC-486 but with a hard front end. It looks like a cross between a Mini Artisan and the smallest Aviator, but only because they are one of the first companies outside Celco and Penny and Giles themselves to use the P&G caterpillar-track faders, accompanied by banks of illuminated buttons. The system relies a great deal on its graphical interface to make programming and set-ups simple. At first sight it does look complex with so much on screen at the same time, but I had no difficulty following the demonstration, which is not always the case. This GUI includes a stage mimic for assisting with programming and soft patch. There are five levels of complexity of control available and therefore, presumably, software to match, from entry to full touring and the system offers up to 2048 channels of control and can run any of four selected protocols simultaneously. This system probably warrants a more thorough review which we will try to include in one of the forthcoming L+SI Automated Luminaire surveys.

Next door on **Teatro**, Mike Lowe was offering succour to two more Hollanders, in the generous way he has with serious innovators. International Electronic Service produce a range of DMX controlled, digital, racking dimmers called Executor/AI, which use reverse phase control from recently available high voltage IGBTs to eliminate the inherent noise associated with incandescent lamps with conventional phase controlled dimmers. This allows each dimmer to be more compact, lightweight and able to deliver more power to the load. Consequently, from 6 by 12 Amps, up

to 6 by 50 Amps and sizes in between, are available. This solution enables you to sit your controller on top of the dimmers should you wish to. Ah, you will be saying, what happens when it comes to heavy inductive loads? The clever guys at IES are ahead of you, you switch to standard phase control and use the inductance of the load to suppress the noise. IES also offer a series of 24, 48 and 72 channel, 2 preset, real-level lighting desks, and will use this year's PLASA Show to launch a complete range of their, so called, direct luminaire dimmers.

Theater Technich Lab, who are distributed by Lighting Technology in the UK, are making a couple of compact theatre-style memory desks of 24 and 36 channels which are very simple in their hands-on applications but very powerful in their programmability and very worth while looking at for small productions. They also have what looks like a very useful remote memory station.

Mike Lowe also dispenses succour of another sort from his famous Teatro bar whence his hospitality is justifiably renowned. Not only for the quality of the victuals but mostly for the wit, charm and reportage of the genial barman whose famous Parmesan cheese-pairing, in the reverse of the traditional meaning, is legendary. (I would love to be a fly on the wall when Mike tries to explain that one to his Italian friends.)

After the serious business of the sustenance, the serious business of the products. Lowe has built up a brilliantly conceived and comprehensive range of theatre luminaires and accessories, with every little detail carefully thought through to iron out the perennial snags

traditionally served up by others. An eye to the practical use, and the pragmatic solution, is the Teatro product philosophy. Even the cute little clip on his gel frames is unique. This year's additions are no exception. Two silent but deadly, DMX dimmable and controllable strobes of 1.5 and 2.5k capacity. The Diluvio Floodlight system, which is available in either symmetric or asymmetric versions, the Riga borderlights and floodlights and the Linea borderlight in various lamp sizes, can be linked together mechanically in a line of four or less fittings, or in a square, and can be hung or floor-mounted. In fact, there's no reason why you couldn't link the borderlights together add infinitum, as far as I can see. The Spazio fresnels and PCs are now available in both compact and lower wattage versions of 1 and 1.2k. In all these fittings, there are far too many clever features to mention, but you can be sure that they are there, and the latest safety features are incorporated. Lastly Mike is justifiably proud of the Talento 2.5k HMI long-range followspots he rushed out at short notice to Norwegian Television for the Lillehammer Winter Olympics outdoor coverage - only one problem, they got so cold overnight in the sub zero conditions on the towers, that the lenses cracked on switch-on, unless pre-warmed.

So that was Rimini. As usual there was a lot of fun surrounding the Fiera, I particularly enjoyed watching the mechanical surfboard simulators, which will no doubt take over from mechanical bulls, especially at seaside resorts later this year. Otherwise, 'all smoke and mirrors' about sums it up.

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# ADB'S TELEVISION SHOWPLACE

John Offord visits the studios of the Flemish Television Company (VTM) in Brussels



Above left, ADB's Raph Janssens with VTM's studio manager Ivo Decat, and right the news studio ready to broadcast the evening news programme.

You can only do so much within your own premises, and building a full-size TV production studio isn't even an option for consideration. But getting closely involved with such a facility just a few kilometres down the road is a very useful ploy, and ADB have put every effort into ensuring that their involvement with VTM will result in a complex that will see them recommended elsewhere, and also give them the chance to 'show-off' the installation to prospective clients.

It seemed to me a very practical situation all round, with VTM able to call on the best from ADB, and in return, ADB have something that is as near as you can get to an 'open house' arrangement. Not, of course, that ADB wouldn't put heart and soul into a project in any case, but one has to applaud the practicability and commercial common sense involved.

So, into the sparkling new premises of VTM I went, in the company of Michael Musso and Raph Janssens of, guess who, ADB. It's an exciting and totally new purpose-built complex on a green site just outside the Brussels 'ring', and quite likely the envy of many a crushed-up TV programme producing company. The whole complex has been designed to be conducive to creativity, and includes, in addition to all the necessary administration areas, a major production studio of 900 square metres used largely for audience events, a multi-purpose production studio of 600 square

metres (it was set up for three regular shows when I visited), a news studio of 300 square metres, a small presentation studio of 60 square metres, and a news room with TV lighting for news flashes.

ADB were involved with VTM from the beginning, five years ago, when the company commenced operations on its old site. "It was the first commercial television station in Flanders and most of the start-up knew ADB well," explained Raph Janssens. When the time came to expand into new facilities, ADB were on the scene from the beginning, and very closely involved from the drawing board stage onwards.

Raph Janssens: "We followed the same procedure as before. The architects, technical management of VTM, an ADB project team, the acoustical contractor and the air conditioning contractor all worked together as a team, under the supervision of Jozef Mertens, technical director of VTM. We were involved from the very beginning, and in the discussions of all the various options through to the design and budgets for the final specifications of each of the studios."

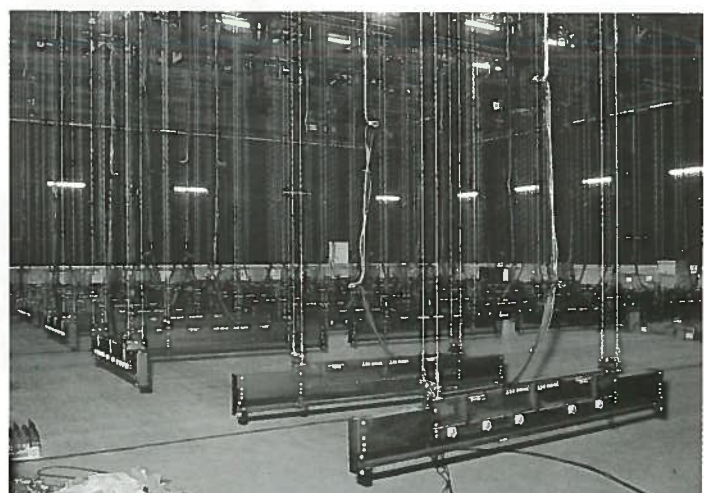
The ADB project team had the additional task of co-ordinating the execution and timing schedules with all the various contractors so that occupation of the studios could be achieved as quickly as possible. "One important element of the specifications stated

that the studios had to be operational with the minimum possible level of staff," explained Janssens. "Therefore, the lighting grid design stated that every luminaire should be within reach and avoid the necessity of having to move scenery elements on the studio floors. The layout we employed as a result means that rigging and hoist loading can be done from the catwalks while the design department is preparing sets down on the floor."

Every hoist has a minimum of one patch line allowing a dimmed or direct 25 amp load. Any lighting elements, including halogen fresnel spots, HMI or motorised effects luminaires can therefore be fixed to a hoist and receive the appropriate power supply without additional wiring.

In the big production studio a total of 112 hoists are involved with 30 for back lighting, 22 for cyc lighting and 60 for key and soft lighting. These are controlled from a push-button panel on the stage floor level allowing up to five hoists to be controlled together, and with an individual infra-red remote control for individual adjustment. The corners of the cyclorama are further equipped with four motorised telescopes, each with two quadruple cyclo lights. The second studio is equipped in similar fashion, with a total of 70 hoists, and the news studio with 46.

All dimming systems are ADB Eurodim 2, all 5kW, with 392 channels in the public



Left, one of the two banks of ADB Eurodim 2 dimmers and right a parade of hoists in the public production studio.





Above left, the entrance to VTM's new complex in Brussels and right a relaxed atmosphere of quiet and calm inside.

production studio, 270 in the smaller studio and 156 in the news studio. As an example, the set-up in the big studio is allocated as follows: 1 to 240 are wired to lighting hoists, 241 to 290 are patched to lighting hoists, 291 to 338 are wired to studio wall boxes and 339 to 392 are wired to cyclorama hoists. Luminaires are obviously ADB and include 1kW, 2kW and 5kW studio fresnels, 2.5kW and 5kW softlights, 1kW and 2kW condenser profiles and 1.2kW HMI followspots. A total of just over 300 ADB lanterns is employed.

For control in all three major studios, ADB's new Vision 10 is planned for installation at the end of the year, but meantime Tenor consoles are being used.

The small presentation studio has a fixed grid, allowing lateral movement by trolley of spotlights and/or pantographs. Dimming is again based on Eurodim 2 dimmers, with 18 x 2.5kW and 6 x 5kW channels controlled with an ADB Tango 24 console.

With a great deal of production going out 'live', security of supply is essential, and the

ADB designed diagnostic system constantly monitors all the key components of the Eurodim 2 installation, measuring all parameters it can detect and analyse any eventual breakdown, suggest corrective action and then display all this information on any standard PC located at the lighting control position.

The system confirms at start-up of the studio that all 180 dimmers and respective loads are ready for operation and an eventual lamp failure, tripped breaker or luminaire disconnection is immediately sensed and displayed for the necessary action. A highly user-friendly menu permits selection of a variety of display modes on the colour monitor. This diagnostic system is totally independent from the lighting control desks and allows the operator to interrogate remotely the dimming installation whilst a show is in progress.

The location of the studios, fairly close to Brussels international airport at Zaventem, meant that special attention had to be given to acoustical specifications. As a result, all studios

are individually isolated from the foundations by the latest box technology, and again, all mechanical elements within the studios are acoustically isolated from the structure. The air conditioning system used is an extremely quiet system with a low-speed air control.

An aura of 'quiet' and control pervaded the complex during my visit and one can with confidence assume that everything planned and installed was operating according to its proposed function. The future has also been built-in. A complete top floor, apart from the dimmer complex, is awaiting its call, and out back, there is plenty of room for expansion across the turf.

Only a few months into full operation, the HQ and studios of VTM are running exceedingly smoothly. There are no apparent loose ends, and although it is admittedly on a relatively small scale (the maximum audience is only 5 million), it is still a highly professional showplace, equipped with the best that the lighting industry has to offer in equipment and expertise.

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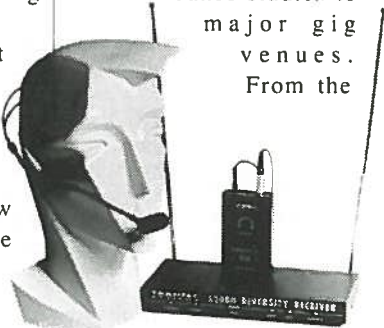
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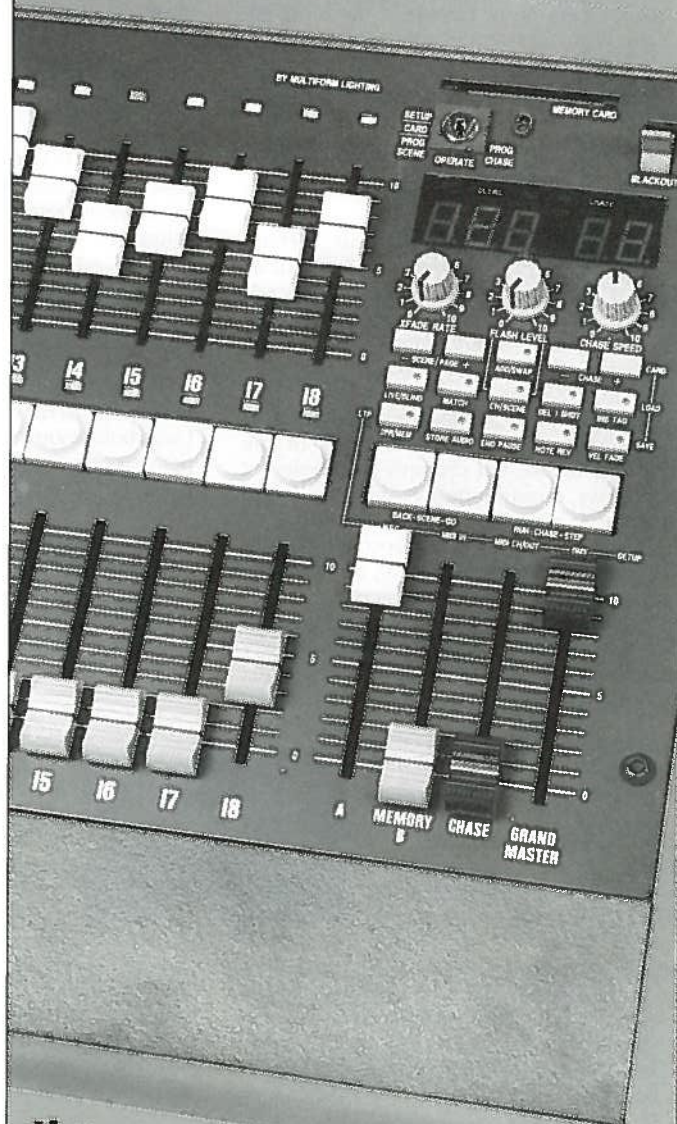
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# AVANTI AVESCO

## Ruth Rossington visits four companies making something of a name for themselves in the industry

There are three dilemmas that face a journalist: the first is having too little to write about, the second is having too much to write about and the third is that the deadline passed three days ago. I find myself in the second category and have to admit that it rather all too easily led me to the third. My problem was the result of a series of interviews with four companies within the Avesco Group. If you don't know the name, commit it to memory, because this lot are individually and collectively making quite a name for themselves. Perhaps if I flesh out the bones with Creative Technology, Visual Techniques, Screenco and Dimension Audio, it will probably begin to make more sense: all four companies are wholly owned subsidiaries of Avesco plc, a parent company that appears to have tapped a very rich seam in the entertainment industry and with alarming accuracy.

Avesco, headed up by chairman Richard Murray, has its roots in the TV and broadcast industries numbering AVS Broadcast, Presteigne Broadcast Hire and the Fountain Television Studio Group amongst its principal subsidiaries. The group continues to attract the attention of the national business press with the rise and rise of its 'chip technology' subsidiary VideoLogic. Somewhat less feted in the consumer media, but certainly more relevant to the live events industry, the above four continue to make their mark in world-wide productions. Each company operates more or less autonomously from Avesco, and certainly each is proud of its independence from others within the group. While the companies share the same corporate parentage, sibling rivalry between them provides for an interesting aspect of their inter-company relationships.

**Creative Technology (CT)**, a company set up by five former employees of Viewplan, joined Avesco in 1986. At the helm was Graham Andrews (pictured right) and it was he who approached Avesco with a fully formed business plan for a company to deal at the cutting edge of broadcast technology, and in particular video facilities for the top end of the corporate presentation market. Avesco did their sums, checked the market and put their shoulder to the entertainment industry wheel. As with all fledgling companies the first two to three years were tight with little profit coming

on the back of major investment in both product and personnel. However, with Avesco's financial backing and Andrews' determination to trailblaze in video technology, CT began to emerge as one of the leading companies in the field.

The corporate market was the cornerstone on which they built their empire and they have been involved in many product launches and conferences since as the big corporates have queued up to get a piece of the action. By the laws of nature this led to outside broadcast and music events involving multi-camera coverage of sports events and current affairs and the provision of large video screen displays for concerts. An impressive line-up of purpose-built portable production units and fully crewed OB units is added into the mix. They also boast in-house graphic facilities where raw concepts are teased and shaped into polished productions. Recently refurbished, two of the suites are dedicated to conventional video graphics, whilst a third accommodates a High Definition paintbox system. Adjacent to these is a large screen projection area which allows the previewing of presentation graphics. On the projection front the company lists GE, Barco and HD Sony projectors amongst its inventory. In fact, the list of what they offer is endless and I was bold enough to suggest to Andrews that perhaps one could diversify too much. Not so, came the reply, it all starts and ends with video. To give you some idea, let me outline just a few of their typical projects. A recent conference at the QELI hall in London involved the relay of events to nine countries world-wide; further work came with the BBC Business TV Service on some of its larger projects; for BMW and a number of large corporates CT have installed fixed networks; more lately they have been involved in the Brit Awards and the Eurovision Song Contest.

The remarkable feature of all this activity is that the better part of it was taking place against the recession. The catalyst for growth was the financial safety net cast by Avesco which provided CT with that all-important edge, freeing them to take advantage of the opportunities that came their way. Perhaps the most significant of these was the company's decision to move into High Definition Television (HDTV). The pay-off has come in the last three years, with consolidation of earlier activity woven around a determination to

always push that little bit further: go the extra mile. More investment has taken place since 1991 than in the whole history of the company and CT has continued to expand its business profitably with the anticipated high return achieved on its investment in HDTV, graphics production and projection equipment.

To the best of my knowledge, the company are unique in offering HDTV and in March 1993 established CT-HD Inc, a 60% subsidiary based in Manhattan, to develop the potentially large and unexploited North American markets. Meanwhile, the effects of the recession in the UK were more than offset by the increasingly international mix of projects, enabling CT to produce better than expected profits. It's a testimony to changing fortune that whilst America is now deep in recession, CT has shipped back some of the US equipment to cater to an increasing demand in the UK.

The other major investment of the period was the latest multistandard projection videowalls which came on stream in November 1992, demand for which has steadily grown. The company structure is now well in place. In November last year, the level of business, particularly on the operational side, forced them to recruit a further six people bringing the total staff to 34. Talking to Graham Andrews is an education in itself: his enthusiasm for both the products and the service he sells knows no bounds. He has very fixed ideas on CT's particular niche in the market and is determined to continue a philosophy of offering only the best in product and personnel. Currently they are sitting on some £3.5m worth of video equipment, but with a life expectancy of three years or more, they can look forward to a healthy return on their investment. Video is CT's livelihood: they know how it works, how it sells and how to profit by it. "The high spending of the eighties has gone. The client has learnt how to buy, and we're being pushed harder on margins all the time. That's where the real value comes back into things," he said.

Headed by sound designer Derrick Zieba, **Dimension Audio** provides sound reinforcement to many live events - predominantly in the classical music and corporate sectors. The company started in December 1990 largely because Avesco had been the only company to countenance investment in an unknown quarter at a time when the Gulf War was imminent, recession had reared its head, and interest rates



Creative Technology's OB crew at work for Renault.



Part of the sound control for 'Joseph' supplied by Dimension Audio.





Visual Techniques' projection for the Planet Suite.



Bon Jovi in close-up courtesy of a giant screen provided by ScreenCo.

were on the rise.

Three months into trading Dimension Audio returned to Avesco for a further £.5m - money needed to invest in new equipment if their bid to supply the sound for 'Joseph and his Amazing Technicloud Dreamcoat' at the Palladium was to be successful. Avesco agreed to fund the purchase - a brave decision considering the pundits gave the show less than a year. But their gut instinct paid off and the show generated steady equipment rental business, while a series of one-off events for the corporate sector provided the mix of workload. Over the last four years the company has established a reputation as a supplier of high quality sound equipment to the presentation market and also etched itself a respected consultancy role. Zieba (pictured right) recognised that there were two elements to the sound market: one wanted high quality, leading edge equipment and the other was content with basic, cost-effective, but competent equipment for small scale events. Dimension Audio decided to stock both and they now field a comprehensive range of sound products including JBL, Turbosound, Community, Electro-Voice, JBL, Soundcraft and Yamaha to name but a few.



Clearly the company is keen to remain independent and they have no in-built allegiances to any one supplier or product. Like the others in the group, Zieba's only concern is that the client gets the right equipment for the job. The downside is that the company isn't entitled to the benefits that often accompany brand loyalty, but he sees it as a price worth paying for independence. The upside is that the company get the repeat business because the client recognises that they have entertained only one objective - the here and now. The company has now more or less withdrawn from the theatre market and the work breaks down into a triad of broadcast, special/one-off and corporate events. Over the last two years, the corporate side has ballooned and taken the share that was once the domain of the theatre. Now it seems that, in turn, the other two are starting to encroach on its territory and there may possibly be another shift in the market.

Dimension Audio are keen to undertake more work in the broadcast field, an area bolstered by renewed funding from satellite and broadcast companies who still require the live sound element. If you track it carefully, you begin to realise that this is not a company to be led by the nose, but rather one which makes its own path through the jungle. Zieba is always calculating, and any decisions taken by the company are conscious ones to go where there

isn't an established presence. With a stock worth around £.75m the price of high technology is a tough burden to bear. It's a necessary evil and the justification for that level of spend comes from the high profile projects which in their wake pull in the regular business - not quite a loss leader but a similar principle.

If something goes wrong on a project then Dimension Audio don't quibble about it, they simply don't charge the client. In the short-term financial view, of course, this makes no sense, but long term it can reap dividends: the company has to make things work in order to survive. Zieba is in no doubt that it is the people in the company that matter - these are the 'ambassadors' so in his view they have to be the best. It is one of the few companies that has a fully BBC qualified RF engineer on staff and a fully qualified engineer available 24 hours a day - a further demonstration of commitment to the client.

1993 saw the company diversify into manufacturing with the launch of CDTC, a device that reads and generates time code from CD which can be used for control of automated shows. They explored CDs as a digital stereo source and worked on ways to integrate these with control systems. They then invested in the development of CDTC driven by the PA view of market and their need to replace the inherent problems they'd experienced with DAT. Dimension Audio approached Artistic Licence and funded them to build a prototype. This proved viable and led to full manufacture. There is enormous potential for this product in the post-production marketplace, but Zieba's problem now is physically getting out and marketing it. The experience has whet their appetite and they are looking to develop, in conjunction with others, the full potential of CD as a storage medium, not just for audio, but for vision and data. "Make no mistake we want to be number one." Fighting talk Mr Zieba.

Specialists in slide projection, **Visual Techniques** (VT) have been significantly involved in many top level theatrical and corporate productions including the prize-winning CCSB conference at Birmingham NEC, Sunset Boulevard and the three-venue Planet Suite. The company is now establishing its presence within the corporate presentation and theatre industry with an experienced team of personnel headed up by Dave Herd (pictured above right), assisted by key consultants Scott Burgess and Mark Elliot. The motive for Dave Herd's approach to Avesco was



the desire to increase the use of projection in theatre and entertainment. The company was the last to join in 1991 at the worst possible time, but Avesco were keen to add to their portfolio a business that would complement the others in the group. The demand for projection was on the increase, and although use of the traditional slide was on the wane, computer graphics had stepped in and generated new enthusiasm.

VT act as the middle men, 'brokering' if you like, between client and supplier, advising as to the best medium. However, this role can be double-edged and occasionally means recommending another company as supplier in preference to themselves. The mainstay of the business lies in theatre, although the corporate market contributes some work and allows them to bridge the gap between the technologies. Although scenic projection still forms a part of the inventory of some lighting companies, many have shied away from them because of the sheer cost of stocking what is at best regarded as a peripheral.

According to Herd, there are two criteria that dictate whether projection will get a look in on a project: the first is budget, the second space. If the project is feasible and the money is there, then the next stage for VT is work with the projection designer on both the look and control of the projections which are more often than not run through a computer software programme. Herd steers the company away from getting involved in the design element because they would effectively be treading on the toes of the people who currently provide them with a lot of their business: clients would fall away and VT would undoubtedly find themselves hoisted on their own petard.

Once the design concept is in place, the equipment is sourced and purchased specifically for the production. The huge investment required to maintain any sort of level of stock is not at this stage part of VT's thinking. The system is then built and tested before it goes anywhere near the theatre. The line of discussion led to an interesting diversification into the different qualities of HMI and Xenon projectors.

As a result of buying in the projection material, the level of investment VT has in a show is quite high and for this reason

Herd is keen to keep both the company and its approach as lean as possible to retain the element of flexibility that is a vital asset in the fickle world of entertainment. He's quick to point out that he's not in the business of trying to sell the client a product all the time, but a solution - and more often than not when invited to spec a job he will arrive with a blank piece of paper. He intends to apply VT's skills



where they're needed, not only on the projection side, but on the control side too and he hopes that the company is sympathetic to what people are trying to achieve and will contribute to that where relevant. Herd relishes the challenges offered by the big spectacle and wants to take the company into new areas. Projection is such a precise media to work with and the company want to see it used more both in theatre and touring, though admittedly theatre is where it finds its best results.

And what of being part of the Avesco Group? His plans for the future include a joint venture with CT utilising their graphic capabilities to produce slide material. He, like the rest, will not entertain any idea of nepotism. As far as he's concerned working together is inevitable and taking a purist approach won't help anybody. He's also quick to point out that the companies still have the same demands as independent companies and that ultimately one person's head is on the block. Having said that he went on to note that Avesco do have a complete understanding and sympathy for the way the business works.

Screenco, with Dave Crump (pictured right) holding the reins, are possibly the best known giant screen rental company in the business, who with their UK built Starvision have provided giant pictures at many headline events: Pavarotti in Hyde Park, Freddie Aid at Wembley and more recently the Winter Olympics. Now with Sony Jumbotrons in the fleet, Screenco are preparing to attack the lucrative indoor market in parallel to their daylight outdoor market.

Music events continue to feature strongly in Screenco's international activities and in recent years when video screens have become more of an integral part of show production, Screenco have been ready to take advantage of the fact that many promoters are increasingly using screens to supplement the main action. Since its formation in 1985, the company has maintained a strong position in the market for the rental and operation of giant video screens. The company's large fleet of displays - modular systems for custom-configured displays, giant mobile screens and videowall/projection systems have taken them into diverse markets.

To give you some idea of how the systems work, here in brief is a summary: the Jumbotrons system is comprised of modules assembled in columns to form the screen size required - this being limited only by the imagination and that old bête noire, la budget. Starvision screens come in a trailer mounted design with a fixed screen of 48sq.m. These can be driven onto site, unfolded and operated from the trailer or removed and mounted elsewhere. However, the company doesn't just supply giant video screens, it also provides a full turnkey package including experienced crew, transport, scaffolding, cranes and other specialist plant. Companies looking for innovative ideas to reach target markets are increasingly underwriting the sponsorship of giant screens in their marketing programmes. The trend is hardly surprising. Screenco's client list is lengthy and it would be simpler to relate who's not on it rather than bore you with the full roll call.

Dave Crump's involvement with video displays began in 1981 when he was an operational engineer with Link Electronics. Trained in the US and Switzerland he specialised in the servicing of projection systems. Shortly after becoming head of systems rental at Link, he was approached by Richard Murray who had by this time identified a large rental market potential for giant video

screens and saw in Crump the right man to run the company. Screenco's first job for the company was to install a relay to the Live Aid event during the summer of that year in the Pennines. Not surprisingly, no-one turned up and Crump cut a lonely figure that afternoon. Still he kept his nerve and it paid off with an international string of clients.

During the remainder of the eighties the company invested in a Starvision screen every year as the business expanded. Their first major concert was Queen's 'It's a Kind of Magic' performance at Wembley where the screen was suspended from a cantilevered structure above the centre of the stage - 20 tons of kit hanging like the Sword of Damocles above Freddie Mercury's head! This time, nothing went wrong and the event was to preface a decade of major live events, most notably Freddie Aid and Pavarotti in the Park.

Though the stakes were high Screenco continued to invest in new products knowing that each would offer a lifespan of at least 15 years. They also put money into improving the quality of the product, investing a not inconsiderable sum in maximising screen brightness and resolution.

The big events came and went with Screenco screens in tow, and the company was bedding down nicely in the market. The early nineties was a time of consolidation and then a new opportunity presented itself. Screenco decided to make a major investment in a new generation of technology. At the same time Arsenal FC wanted to install permanent screens at their Highbury ground. The two agreed on a joint investment in Sony Jumbotrons for the club's use during the season and for rental elsewhere out of season. The profits generated by this would then be shared by the two.

The arrangement has given Screenco the impetus to explore new technology further, which, in turn, has aided the expansion of the operation. Once truck-based only, the daylight video screens can now be transported by air, offering up new potential for these and the modular system is now finding a foot-holding in the indoor event market as witness its recent appearance at the BBC 1 Clothes Show. Suddenly there are opportunities there have never been before, which is just as well because the big screen market is dogged by its seasonal tag. Much of the work comes in the summer months and as a result an awful lot of kit floods the market in the winter months and the pricing starts to get more competitive. However Crump, like his counterparts, is always on the look-out for the next opportunity and the obvious solution in his case was to chase the sun.

As a result the company now have a large volume of work in South America, South Africa and particularly Australia where they have a permanent office to service the Antipodean market. He couldn't disguise a twinkle in his eye when I reflected on the prizes that must surely come his way when Juan Samaranich and his Olympic posse march into Sydney in 2000. Not that this event is even needed, for the company has the Adelaide Grand Prix, the Australia Day concerts and the month-long Sydney Festival to look forward to. Plans for the future include a similar operation in Germany where Screenco Germany, a joint venture with Roth Lohre Lorens, a sports marketing company in Stuttgart, will spring into being this year.

As a result of constant activity on the giant screen front, the videowall side of the operation has traditionally taken a backseat. Now it's emerging in its own right and Screenco will

shortly set up its own videowall division run by Neil Cakebread, which will act as a consultancy service rather than supply equipment direct. Crump certainly seems to be applying the right formula and yes, he too, has the competitive edge to always go the extra mile.

During the course of the interviews, all four were very keen to disabuse any theories of mine on partisanship. Where there can be crossover there will be, but there's certainly no foregone conclusions and certainly no group politics at play.

Richard Murray is obviously a shrewd cookie and it seems to me that the success of Avesco has come from his belief in the organic growth of its companies rather than the buyout of existing ones. I asked him for a final comment - these are his words: "Avesco is only attracted to businesses where it can realistically become the market leader. We only get involved in service companies where there is a requirement for high value and very sophisticated technical equipment making the cost of entry high. However, the most important factor we look for before starting a business is the right person to run it and that person must be what I would describe as a 'winner'".

Well, Richard has certainly found four. It reminded me of an old Chinese proverb that says that when a man meets with a cripple, the conversation always turns to feet. So it was that when confronted with four quite different success stories I was sure that somewhere there must be an Achilles Heel - a flaw in the make-up. If there is I couldn't sniff it out. All I can tell you is that if you have money to invest you could do worse than buy Avesco shares. This company is going places, and it's going to be more than that extra mile.



Creative Technology's Graham Andrews, pictured with Avesco chairman Richard Murray and one of the company's Sony HDTV monitors.

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## AND PRODUCTION NEWS

### Van Morrison Sheffield City Hall LD: Andy Chard SD: Enda Walsh

The accolade given to Van Morrison at the recent Brit Award ceremony was for his 'outstanding contribution to music'; this is no easy category to define as there is no objective yard-stick to apply here. Van's qualifications for the prize were implied and reinforced by the adulation of his peers, a few of whom (Eric Clapton and Sting, for example) were given the opportunity to voice their praises. A performer with a decidedly low profile outside the realms of the music press (so low in fact that many of the younger live audience didn't even know who this shambling figure in a wide brimmed fedora was), it was only from within the coterie of musicians that such a judgement could be made. Why he is held in such high esteem was in two small ways demonstrated by his recent performance at the Sheffield City Hall.

His eight piece band, including Georgie Fame on Hammond Organ, was, throughout the performance, regularly augmented by members of James Hunter and the Jokers (the opening band) and two guest singers, Van's own daughter and Brian Kennedy. This was not an occasion for mutual back slapping or an opportunity for some endless self indulgent jam session - these people were expected to work and work hard for their brief bathe in Van's limelight. James Hunter not only brought his guitar and two saxophone players to the stage but his voice as well and, despite a rather ragged rendition of 'Jackie Wilson Said', performed as an integrated member of the band, not just as a guest on stage.

Van leads the band in what appears to be a wholly unstructured way: feeling his way through songs, sensing the mood of the audience and performers and using this information to steer its course, flitting carefully between vocal invention and sudden instrumental solos. In this way he keeps all musicians on their toes for their concentration must be total to improvise at such short notice.

It's not only such involvement that confirms Van's special place in the hearts of many musicians, he also uses his own fame to bring others to the attention of the public. Brian Kennedy, it must be said, has the most beautiful lyrical voice; syrupy sweet, it caresses the words with obvious relish and care. A shame then that he chose an outlandish crushed velvet red blazer to wear on stage. With his right arm swinging and fingers clicking in double time, he looked for all the world like the hapless George McFly at the Deep Sea Ball in the first 'Back to the Future' movie. Nevertheless, close your eyes and the images were swept away by the sheer purity of his voice.

#### LIGHTING

With such a varied line-up, and with a repertoire that trawls through blues and jazz with forays into swing, hip hop, skiffle (the list is endless) and a constantly changing set list, both Andy Chard, lighting operator, and Enda Walsh, sound engineer, had their work cut out. For Andy the lighting had to be simple: "Van doesn't really like lights, he kept telling his last designer to turn them



For a man who only works Friday and Saturday nights, Van Morrison's recent performance at Sheffield City Hall proved that he is a master of his art.

off". At Sheffield a 40 foot front and rear truss of fully loaded pre-rig, a total of 16 ellipsoidals dotted about the trusses, and four strings of ACLs, two on the rear truss and two on the floor were all that was allowed for this tour. Both trusses were bordered in black with a 50 foot black backdrop. One of Andy's regular headaches is Van's erratic touring style - he generally only works Friday and

Saturday nights - and for this reason the rigs that come out of Neg Earth's warehouse tend to vary a bit. "The last rig was all black Parcans, this time it's all chrome," explained Andy. "It's the desks that are the real tricky thing though: this week I've a 60-channel Celco, who knows what it'll be next time - there's certainly no point disk-ing the show." In fairness to Neg Earth and Phil Freeman who designed the system, the bulb types, gel and truss type are always consistent, and with what is, by demand of the artiste, a fairly pedestrian light show, the change of desks doesn't present Andy with a harrowing ordeal each weekend. The predominant scene is eight to ten pars on each truss, usually in two complementary washes (lavender/mauve or magenta/blue-green, for example) with ellipsoidals picking up the solos in white.

This does not mean that Andy has an easy time of it, he is obliged to concentrate just as hard as the band: the solos are often spontaneous and require a quick response for they rarely last more than a few bars. A busier show might keep a board operator more alert for such things but the lack of many formal cues makes maintaining this level of concentration all the harder. It would be very easy to relax into the warm cosy atmosphere of the performance.

#### SOUND

Similarly, Enda Walsh has to apply himself to the job with equal diligence, although the course of the show and the frequent addition of musicians keeps him a great deal busier than Andy. The Meyer PA from Canegreen is modest by most standards: four MSL3 mid high and two 650R2 sub-base each side of stage, with two MSL3 flown each side, one at each balcony level (the City Hall has two balconies). It's a set-up like this that really shows what this PA can do. The 'Big Band'

(sometimes 14 musicians on stage) was clear and separate inasmuch as all the instruments were discernible, though the sound was definitely ensemble.

Where Enda really had to work was when Van pulled down the playing to acoustic level, which was often. Singing off microphone against only drums and perhaps guitar, when only moments ago all had been in full swing, the response from front of house and monitors is paramount. Enda, and Damian Hughes on monitors, are riding Yamaha PM 3000 and Ramsa desks respectively. The intended restrained effect is dramatic, the return to full-on playing even more so. That it is accomplished apparently so easily and flawlessly is indicative of the skill of both musicians and engineers.

After an hour and 45 minutes and a set that covered songs from right across his career ('Jackie Wilson Said' is over 20 years old and sounded just as fresh today) the crowd were on their feet and everyone in a 'cooking' band had been able to show their spurs. That the spirit of one man created this atmosphere was obvious. It's a special skill that can blend and combine diverse talents on stage - Van is a master of his art and fully deserved the accolade, an outstanding contribution.

### The Wonder Stuff St. George's Hall LD: Carl Burnett SD: Rob Coles

There's no doubt about it: The Wonder Stuff are a very exciting band and certainly live up to their name. For a band that emerged in the mid-to-late eighties as a sort of protean punk outfit they have, with the addition of a violinist, grown into a group that now bears scant resemblance to its musical origins. As Rob Coles, the band's sound engineer of the past 14 months, told me: "They've produced lots of different styles of music. You could hear anything from up there on stage these days - from punk to country and western."

From the moment the band struck the first chord the crowd were bouncing enthusiastically and continued to do so throughout the show; even the upper balcony of the St. Georges Hall featured gyrating figures weaving, sometimes perilously





Colour combinations were used to great effect by Carl Burnett for The Wonder Stuff.

close to the rail. But this was happy joyous dancing, not the manic reckless po-going of yore. This was altogether better, a celebration: this crowd knew what they liked and they really liked this.

#### LIGHTING

Having such material to work with may go some way to explaining why Carl Burnett, who has been the band's LD since 1988, chose such a hard task for himself for this tour. Not only is he running intelligent lighting for the first time ever (although he did admit rather sheepishly that he once used some GoldenScan 1s four years ago - does that count?) but he is doing so from Avo's new Diamond II. Carl had been able thus far to avoid biting the bullet with automated lighting: "Up until now I've always been in the position where the budget has allowed for Vari\*Lite and the luxury of an operator that this affords. This time the money's not there. It's not that the tour's not selling but that this is a very different tour for the band.

Last time out the band appeared mainly in arenas and we only played in six or seven venues around the UK. This time we are playing over 25 venues in the UK alone, and in fact this is the longest tour they've done in years." Avolites' Steve Warren stayed with Carl for all three days of rehearsal in Manchester and was obviously very supportive. "Avo's were great: each time I encountered a problem they found a solution for me. For example, I'm running ten GoldenScan 3s off the desk. Storing focus positions for all the lamps was taking a long time, maybe a minute each time. They were able to speed this up for me, don't ask me how. Steve would take a show disk from my desk and send it to Avo's back in London where they would emulate my set-up and fix it."

Considering the show at Bradford was only the fifth of the tour the lighting was already well set. Carl has taken a pragmatic approach to what he wanted to achieve: "I have a lot of ideas about what I want to do with the system, most are there already but one or two have proved difficult and time consuming. Rather than compromise the rest of the show I've skipped over them and substituted something less ambitious in the interim. In a week's time there's a double header at Wolverhampton and I will spend the second day programming in these last few things.

The lighting system, from Neg Earth, is fairly straightforward and flexible as it needs to be for tours of English town halls. In fact, on this occasion, the rig was in its fifth configuration since coming out of rehearsals. Three 40 foot trusses of pre-rig run across the stage, all fully loaded with Par 64s, except where the GoldenScans are mounted. The centre span features four six lamp genie frames hung on the upstage chord facing out into the audience, the front and rear trusses each

had a pair of 8-Lites with colour changers also facing out into the crowd, and on the floor were a further three 8-Lites for lighting the rear cyc, whilst 24 ColorFaders were also liberally sprinkled around the rig.

What was most striking about Carl's design was the focus; whilst most of the Pars were focused conventionally in that they were used primarily as wash lamps covering the stage and musicians, approximately 30 percent of the system was focused straight out towards the front of stage creating many parallel beams. With a good sense for colour combinations, the contrast between the two focuses was used to great effect on many of the songs.

Use of the GoldenScans was also well balanced and thoughtful, sometimes using two or four of them just to reinforce a particularly dark wash, whilst the others picked out principals, and then, by way of contrast, were used almost to the exclusion of the rest of the rig. Humour was evident in the lighting too: one song featured a pronounced marching beat, the GoldenScans, with military precision, all tilted back and forth across the crowd goading a parade of arm swinging from the stalls and balconies.

#### SOUND

Tour Tech from Northampton provided the PA. The system was described by the aforementioned Rob Coles thus: "The cabinets are four-way, full range, designed by Tour Tech. They are similar to S4s but with completely different components in them. There's also a pair of Martin BSX sub base cabinets each side of stage for that extra bottom end." The PA is driven by C Audio 808 and 606 amplifiers and run through a BSS crossover.

Front of house Rob uses a Soundcraft Europa with the ever-popular Ramsa 840 taking the honours on-stage for monitors. Sound was excellent both in the stalls and in the balconies, with the exception of one or two positions in the higher seats where you felt your head was being cut off by the horn - an unavoidable consequence in such a small venue.

Although it was a shame that the PA blocked so much of what was already a narrow stage, that didn't seem to inhibit the band at all: besides which the positioning of the PA was also critical to the projection, by Optikinetics' Solar 575s, of the sponsor's logo onto the front screens of the speakers.

In fact, the advertising by the sponsor, XD Lager, was lacking in subtlety both in its abundance around the hall and also in its sentiment: 'Get a life, Get to the bar, Get an XD.' With so much riotous bouncing to be had 'Get to the floor and Get some Wonder Stuff' would have been more appropriate.

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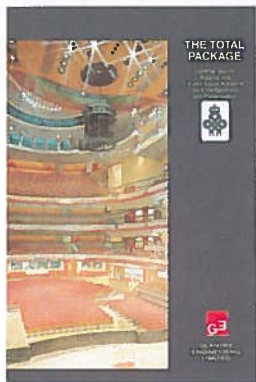
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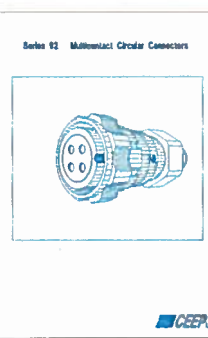
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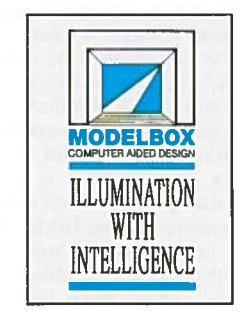
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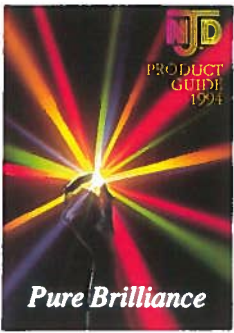


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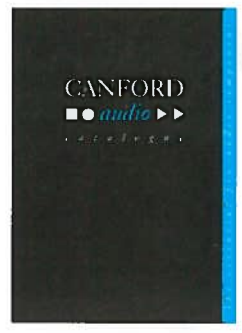
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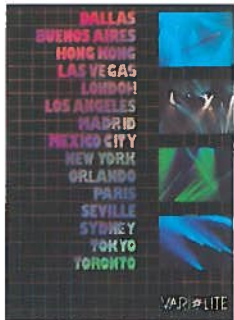
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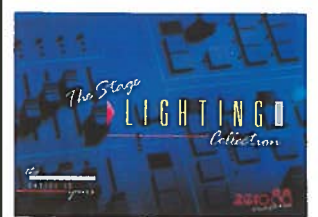
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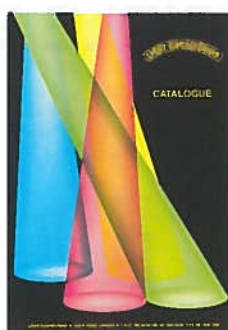
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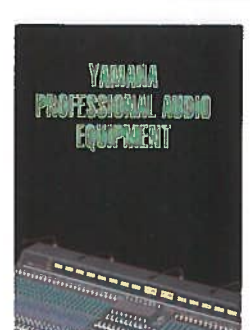
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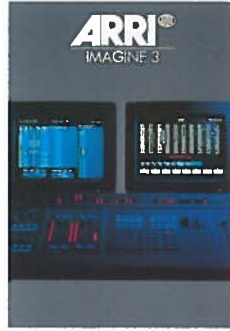
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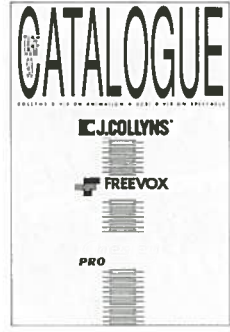
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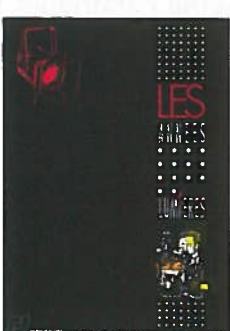


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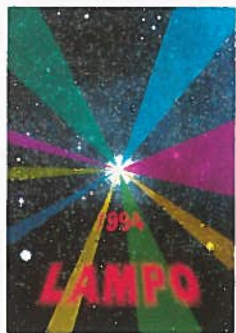
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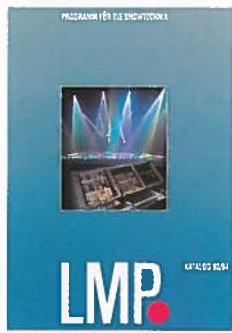
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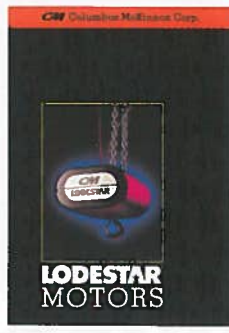
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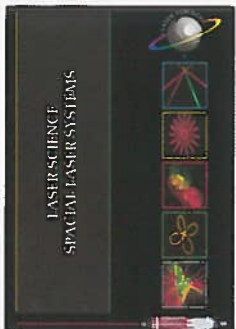
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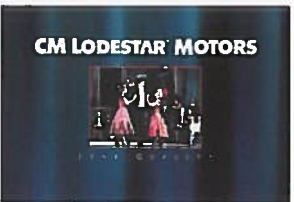
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PM-90 – Award winning modular stereo production mixer in 3 standard sizes – 4, 8 (19" rack mounting) and 12 channels. An ideal mixer for discotheques, multi-purpose venues, audio-visual suites, etc.

SYSTEM 2000 – another Award winning modular production mixer in 8 (19" rack mounting), 12 and 16 channel format. The comprehensive range of facilities in this mixer make it suitable for use in radio stations, discotheques, clubs, cabaret, production studios, etc.



*Often imitated – never equalled*



# FRESH FROM FRANKFURT

L+S's annual report from the 1994 Music Fair

## SOUND EQUIPMENT LAUNCHED

### Electro-Voice

Electro-Voice launched their System 200 Modular Pro Audio on the stand of Mark IV, available in the UK through Shuttlesound. It consists of the Sx200 full-range system, the Sb120a powered bass module and the Xp200 electronic system controller. The trapezoidal Sx200 is a portable (18kg) two-way constant-directivity loudspeaker system housed in a vibration-free polypropylene structure foam enclosure. Thanks to its high, 101.5-dB sensitivity and 300-watt continuous power handling capacity, the system can deliver a maximum sound pressure level of 126 dB - at least twice the acoustic output of any speaker in its class, claim EV.



Big show: EV's Systems 200.

Bass performance extending below 80Hz is provided by a 12-inch EVM12S pro-line woofer, while the high-frequency section features a moulded-in 65 x 65 degree constant-directivity horn with a special Varipath throat geometry that improves coverage in the corners of the room. The horn's compression driver, 1 DH201A titanium diaphragm, is protected by a PRO circuit against damage from accidental overload.

Housed in the same stackable, stand-mountable and arrayable enclosure as the Sx200, the Sb120a bass module provides deep bass (40Hz), thanks to its new DL12sb woofer. The unit's built-in power amplifier utilises a high-speed digital switching power supply that eliminates the need for heavy transformers or filter capacitors to store energy. Instead the amp simply pulls the appropriate level of power from the AC. The Sb120a (also available in a non-powered version, the Sb120) also includes a low-pass filter that rolls off response above 250Hz at 12dB per octave, keeping out mids and ensuring omnidirectional output for placement flexibility.

The electronic system controller for System 200, the Xp200 dual channel, provides a fourth-order crossover and full infrasonic speaker protection. It includes a special low-frequency profile circuit that enhances the performance of the Sx200 and Sb120a/Sb120 enclosures. To augment system performance, low frequencies are slightly delayed in time as they are boosted and summed with the original signal. This combination of enhanced and direct level signal changes the relative levels of musical fundamentals and harmonics, resulting in an easily audible improvement in sound quality.

System 200 is not just for continuous road use. Since it can be suspended and painted, it can be used for fixed installations in conference rooms, churches, opera foyers, discos and night clubs, or for monitoring purposes.

The system is already available in the UK, and huge interest is reported by Shuttlesound's Dave Fisher, with sales already underway. Fisher told L+S: "In my view, EV have done the impossible by improving on the finest portable full range cabinet, the Stage 200, with the System 200 now incorporating a dedicated bass end."

Also newly announced from Electro-Voice is the addition within their ECS-Series of the ECS 15-2 300-watt, two way, high-efficiency constant-directivity stage system, within a small trapezoidal enclosure. The new EVX-180A and EVX-150A woofers feature a new speeder and surround configuration that EV say provides 10 times greater long-term resistance to long-term fatigue and up to 5dB greater output. Designed for use with EV's MS-2000AB wireless bodypack, the 40 gram HM1 headset microphone provides high sound quality and hands-free operation in a variety of vocal applications. It has a miniature, noise-cancelling electret condenser element with a cardioid polar pattern that attenuates background noise such as excessive stage levels and crowd noise. The new RE36N/D is a new, small shock-isolated cardioid vocal microphone featuring extremely low proximity effect. It is only 136mm long, with a diameter of 33mm, allowing for desk, stand, podium or hand-held use without being cumbersome or intrusive.

Finally, EV announced a roadies' friend, a quick-clip for microphones. Developed with dB Sound of the US and SSE Hire in the UK, the QC is in two parts. The QCB is a hexagonal base that you screw permanently onto the mic stands. The QCT is the top part that accepts all mic clips without the infernal insert. Once these are fitted in place, mic stand set up is simply by pushing the Mic Clip, fitted with QCT, onto the stand, fitted with QCB, until a reassuring 'click' signifies locking. To release, you simply raise the ring on the QCT - got it?

### Trace Elliot

Trace Elliot is not a name familiar to our pro-audio readers, but it is likely to be from here on in. The company, based in Maldon Essex, originally evolved from being a PA manufacturer, but has spent the past 15 years in the music amplification sector. Setting out to make a name for itself in bold black and bright green, the company launched three new PA systems in their 'Evolution' Series, together with power amplifiers, crossover units, monitors and a rack mounting signal distribution unit. Evolution 1 comprises a compact pair of stand-mounted, passive 300W enclosures. A three-way club system, it uses a band-pass 15 inch bass driver for tighter bottom end, with a 10 inch mid-range driver plus a high frequency horn. The system is designed to be powered by Trace Elliot's new PPA600 power amplifier.

Evolution 2 consists of a larger pair of bi-amp cabinets. With a pair of 15" speakers arranged in bass reflex and band pass configurations for extended low frequency performance, a single 10 inch driver handles a mid-range with two heavy duty HF horns at the top end. Trace Elliot say the system runs ideally with the PPA600 amplifier handling mid/high frequencies and the PPA1200 providing a powerful 500W/channel bottom end in conjunction with the range's PPA two way crossover. A modular option allows the Evolution 2 cabinets to be configured as passive units, enabling use with a single PPA1200.

At the top of the range, the Evolution 3 system comprises two cabinets per side: the EVO-3B is a

dual 15" band pass/bass reflex low frequency enclosure, with the EVO-3M as a mid/high cab, utilising a 10 inch lower mid driver with a 6.5 inch upper mid unit. High frequencies are handled via a large HF horn. The system is designed for use with the PPA three way crossover, which gives a flat response with these cabinets. Additionally, the EVO-SUB unit houses a 500 watt rated 18 inch driver as an add-on for any system needing extended bass response. It can be powered via the PPA1200 via the three way crossover, which has a built-in sub-bass filter.



The stand of Trace Elliot.

There are two monitor options for the range: the EVO-M1 is a small vocal monitor, with two 10 inch speakers and a high frequency horn. The EVO-M2 has the same speaker configuration as the EVO-1 cabinet in a wedge format to cover full range usage. A smaller power amplifier, the PPA300 has also been developed as a 150W/channel unit for monitoring and less demanding applications.

### Martin Audio

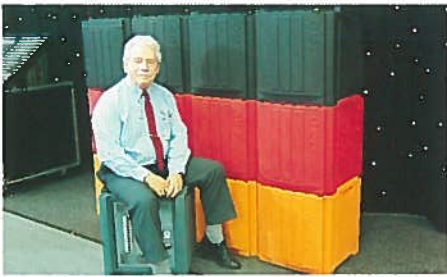
On the back of announcing Beyerdynamic as the new distributor of its products within Germany, Martin Audio launched their new Wavefront Series, Wavefront 1, 2 and 3, WS2 and WX3. System 1 is a high performance, ultra-compact trapezoid loudspeaker system designed for specific applications where both high output capability and small size are required. It features a high power 10 inch bass driver and a 1 inch exit compression driver and is ideal for AV, theatre sound and club sound reinforcement. To simplify installation, the W1 is fitted with threaded steel inserts for the fixing of rigging hardware.

The W2 Wavefront System is a switchable active/passive two-way enclosure which utilises specialist high power drive units to achieve the maximum SPL's possible from such a compact enclosure. It features a 12 inch bass driver and a 1 inch exit compression driver and is directed at the theatre sound, club sound reinforcement, underslung/in-fill for concert sound reinforcement and on-stage monitoring and has threaded steel inserts for attachment of rigging hardware. It can also be fitted with optional flying points which link between the cabinets to provide a fast and secure arrayable flying system.



Martin Audio's new Wavefront Series.





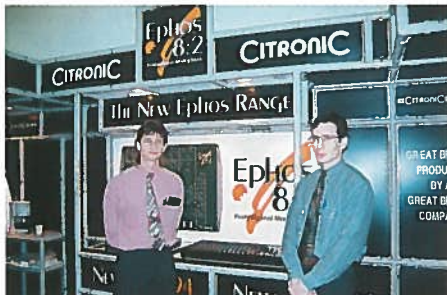
Zero 88's Freddy Lloyd sits alongside a German 'flag' of the company's new ID portable dimmers launched at SIEL (see report last issue).



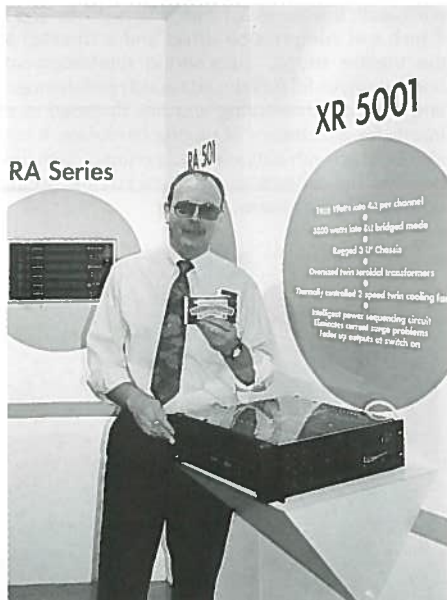
Slick Systems' corner of the Camco stand.



JEM's Jon Petts (left) with Erwin Mittermann, their Austrian distributor.



Citronic's Mike Gerrish and John Tucker showed the new Epos range of professional mixers.



Phil Hildrow of C Audio with a nice line in roll your owns and XR5001 amplifier.



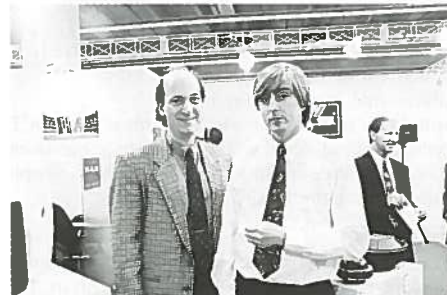
A comprehensive headphone and microphone line-up from Audio Technica.



Avolites Steve Warren (right) with Rolf Samer of Impuls Light, Switzerland.



Colourful backdrop for the Soundtracs range of sound mixing consoles.



Lightfactor's Mick Hannaford (right) with Jack Palacio, sales director of D.A.S. Audio.



Rick Wilson of Le Maitre on LMP's stand with the new Red Fogger smoke machine.



Alan Graham of LSC (right) with M&M Camelont's Adrian Hicks on the stand of LMP.



Break time: Wilmetta and Randy Wimberley of Unipar with Pulsar's Derrick Saunders (centre).



Teatro's Mike Lowe (left) on stand with Eckart Steffens of TSN, their German distributor.



Kevin Hopcroft of NJD Electronics with Iain Price-Smith and John Jeffcoat of Multiform Lighting.



David Bearman, Chris Gunton and Stephen Court of Court Acoustics.



The W3 is a full-range system designed to achieve true 3-way full frequency performance from an enclosure only 28 inches in height. It has a 15 inch bass driver, 6.5 inch mid and a 1 inch exit compression driver. It is best suited to professional applications where high SPL's are required from a compact enclosure and typical uses include theatre sound systems, live club sound reinforcement, concert sound reinforcement and music playback in nightclubs. It is also fitted with threaded steel inserts and optional flying points.

The WS2 is a dedicated subwoofer for use with the Wavefront Series full-range enclosures in situations where ultra-low frequency is required. It features two high efficiency 15 inch drivers. The WX3 is a versatile electronic controller designed to maximise the performance of Wavefront Series loudspeakers in their various modes of operation. Crossover frequencies, relative output levels, phase adjustment, group delay and equalisation are all pre-set for a given system by a system-specific plug-in board. The unit can be configured either as a two-way stereo or 3/4 way mono device depending on the Wavefront System in use and the application.

### Apogee

Apogee of California had a range of new products. The AE-8 is a bi-amplified, two-way electronically controlled loudspeaker system intended for a wide range of applications. It is, in fact, a trapezoidal FOH version of the company's AE-8B floor monitor introduced last year and comprises of a 15 inch bass cone driver and a 2 inch throat high frequency coupled to a controlled directionality horn. It is designed to be used with a P-8 or PA-8 processor-amplifier, carries nutplates as standard or Aeroquip rigging hardware as an optional. The new AE-9 is a three-way electronically coupled trapezoidal unit designed with arena and stadium sports announcing, television sound reinforcement and performing arts theatres in mind. It comprises a 15 inch vented bass cone driver, a 10 inch sealed mid range cone driver loaded by a horn constructed of solid Finland birch, and a 1 inch throat, fluid cooled tweeter loaded by a controlled directionality horn.



Apogee's new AE-9 system.

Two subwoofers were launched by Apogee. The XP-14 is an extremely powerful low frequency loudspeaker system designed as a companion to the 3X3s2 three way concert loudspeaker, and will suit heavy metal, reggae and other styles of music performed in very large indoor or outdoor venues. It features two 1000 watt 18 inch drivers loaded by a 2 metre horn column within an identical size trapezoidal enclosure to that of the 3X3s2. The AE-15 concert subwoofer system is also designed with the 3X3s2, and with long throws, in mind.

For complex equalisation problems, the Apogee CRQ-12 unit provides 12 bands of precision parametric equalisation, configurable in three ways: 6/6, 6/12 and 12/12. The company claim it is the first 'multi-mode' version ever developed. It offers a wealth of possibilities for equalising large and involved systems.

Big in its own area, but not so much for readers

of this magazine, was the announcement of the new Apogee Motion Picture Theater System One (quite naturally, MPTS-1), designed by Lucasfilm THX. It is a tri-amplified loudspeaker monitoring system for left, centre and right screen-associated loudspeakers and includes a subwoofer for the lower audible octaves. It is especially suited for the mixing and evaluating sound accompanying film and video programming.

### Wharfedale



Force with Array from Wharfedale.

Wharfedale added five new units to its range of 'Force' loudspeakers. All are in modular polypropylene enclosures and have 100mm high-power handling drive units. Force 1 and 2 are designed for background music applications, while Force 3 is a column loudspeaker that can be mounted either vertically or horizontally. Force 5-LS is a true line source speaker system for speech and music applications. Force 5-Array is an acoustically optimised array of five full range drive units. Arranged in a skewed column, this loudspeaker, according to the Wharfedale, makes use of the increasing directivity of the individual drivers at higher frequencies to achieve a true line-source performance without the need for complex electronic equalisation.

### Peavey

Peavey launched the new AeroSys range of sound reinforcement systems, a lightweight solution for numerous applications. AeroSys-1 weighs in at 8kg for general purpose public address application with power handling of 85 watts for the 10 inch woofer. AeroSys-2 is rated at 100 watts with a dual manifold CDM horn and weighs in at a portable 14kg. The third system (at 14kg) provides high performance, the 15 inch woofer combining very wide bandwidth and a power handling of 150 watts. AeroSys-4 steps things up to 3-way performance and a 200 watt power capacity, but still comes in lightly at 22kg. AeroSys 5 is a smaller lighter weight 3-way design that



Peavey's AeroSys.

exhibits a more 'hi-fi' voicing, according to the literature, and boasts a 250 watt power handling. Completing the range is the AeroSys-SUB sub woofer and AeroSys-2PM, a fully internally powered and fully processed foldback monitor with level control and electronically balanced inputs. Peavey have also upgraded their EuroSys speaker enclosures, and launched three new graphic equalisers, the Q131, 231 and 215.

All Peavey operations for Europe are now centred on Corby in the UK with the current 50,000 square feet of space set for doubling within the next 12 months. Managing director Ken Achard reports that despite all the additional work involved organising the organisational changes, the company is now BS 5750 accredited.

### JBL

JBL presented the new MPX Series of power amps which includes three models. The MPX 300 delivers 2 x 300W at 4 ohms, the MPX 600 2 x 600W at 4 ohms and the MPX 1200 a big 2 x 1200W 4 ohms. There were also new enclosures in the Sound Power SR2 and MR2 Series.

### Community

Electronically controlled and complemented by the VBS415 subwoofer system, Community's RS880 full-range loudspeaker is designed to meet the needs of touring sound, fixed installations and arrays. It comes with numerous options for flying and has an internal steel trussing. A laminated fibreglass exterior can be ordered to enable all-weather usage, and they also the option of a high-strength steel-reinforced foam grille. Operating range is 45Hz-18kHz and power handling is rated at 400 watts with maximum output at plus 131dB.



Community's VBS415 subwoofer and RS880 loudspeaker with the 880 system controller.

A dedicated dynamic equalisation device for the RS880, the 880 system controller also has outputs for the VBS415 sub-woofer, which is a vented device housing four specially developed cast frame ferro-fluid cooled long excursion 15 inch cone drivers that cover the frequency spectrum between 25 and 50 Hz. When used in conjunction with an RS880, the VBS415 receives its own amplification, making the complete system bi-amped.

Also from Community is the new N-Series FB 'Flatboy' loudspeaker built expressly for AV contractors, nightclubs, entertainment systems, and other applications requiring strong bass response from a single enclosure. For mobile DJ use the new CSX40B subwoofer features high output and extended low frequency response. It has a top-mounted stand socket for support of pole-mounted CSX25 or CSX35 loudspeakers to create a modular full range dance system.

### Stage Accompany

First launched at the AES Convention in Amsterdam, Stage Accompany's latest software version of Stage Control, the programme that enables PC control of Blue Box, Performer Series PPA 1200 and PPE 2410, now runs under Windows. New loudspeaker cabinets include the 'Fill-in' Series F1 and F2 units. It has been designed as a surround system to complete the main Stage Accompany sound systems. The F1 has a ferrofluid cooled 1 inch soft dome tweeter and one five inch woofer. The F2 also has the same tweeter but two five inch woofers.



Also new is the Entertainment Series, specially developed for smaller catering areas, and the first unit in the range has a 12 inch speaker and SA's 8535 neodymium compact driver. Many of Stage Accompany's products have been re-designed across the past year with most systems now employing the same 8535 driver as standard, which weighs at 10kg less than its predecessor, whilst offering an extra 4 or more dB. The company's Grey Series has now been completed with the GS 15 sub-low cabinet, which is available with or without flightware.

#### Nexo

Launch of latest addition to its PS range of speaker systems (see preview page 44 February issue).

#### GAE Audio Engineering



GAE's ATVE 151 sub woofer system.

Launched by their British distributors HW International, GAE's speaker range is manufactured in Germany by Opal Audio. First units were launched at the 1993 Messe, and following demonstrations at HW's London base later in the year, HW appointed Peter Barnard, a FOH engineer of 20 years standing, as product manager for the range. "I was stunned by the audio quality," he told L+SI, "and we've now set up a mobile demonstration unit for clients." There is a wide range of loudspeaker and monitor systems and controllers within the range. Biggest are the Hawkwind units for arena and outdoor concerts.

#### Renkus-Heinz

New CoEntrant loudspeakers (see preview page 44 February issue).

#### RCF

In their Event Series, RCF showed the 3000 for the first time, a high definition high efficiency 2-way system, housed in a trapezoidal cabinet identical in shape to the Event 4000 and with a complete range of mounting hardware. Components include a new 1 inch exit high frequency compression driver with rigid carbon fibre diaphragm and a specially designed radial phase plug that ensures an extended high frequency response and smooth natural sound with high frequency levels. There is also a new 90 x 75 degree constant directivity horn and the 15 inch woofer has been designed to ensure an excellent linear bass response and high efficiency.

#### C Audio

Two major new products were introduced by C Audio. The XR5001 provides in excess of 1900W into 4 ohms, has advanced cooling design using dual twin speed fans, provides optimum cooling



C-Audio power: the XR5001.

for the multiple power devices mounted on generously rated heatsinks, and the use of simple current limiting protection improves performance into highly reactive loads and avoids thermally limited output power. Intelligent power-up sequencing circuits control turn-on current surges and mute the output during turn-on and turn-off. Comprehensive status monitoring includes true clip indication, thermal and DC/RF shutdown. Slow fade-up on turn-on prevents switch on transients and sudden increases in output as the unit is switched on.

The ST Series of power amplifiers are a new entry level range designed for the first-time user and those with a limited capital budget. The range includes the ST400, 400W per channel into 4 ohms and the ST600, 600W into 4 ohms. Both units are housed in 2U cabinets.

#### Tannoy

In addition to the established Monitor Series and the SuperDual acoustic sound reinforcement system Tannoy showed the PBM6.5 MkII featuring a new injection-moulded bass cone and a revised low-loss crossover.

#### Soundmaster

Launch of Q-Max Series of enclosures (see preview page 44 February issue).

#### Celestion

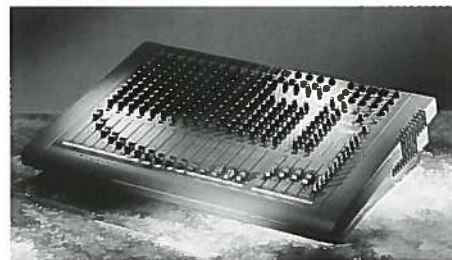
After their first journey into the professional power amplifier market last year with the SRA1000, the SRA1600 has now been added to the product line-up. Also new, but with thousands ordered already, is the KR1 multi-purpose loudspeaker. New numbers lining up in their chassis catalogue are too numerous to list and there are additions too within their CR Series of professional loudspeakers with the CR151X and 181X.

#### Fane Acoustics

Launched two new Colossus bass chassis and the MD 2151 horn driver (see preview page 44 February issue).

#### FBT

FBT Elettronica of Italy always have a big spread of a stand at Frankfurt and this year pulled out an equally big range of new equipment. The new Mercury series has no less than five units in the range from the 248E 8 channel unit through to the



The Dizzy 1020E stereo powered mixer.

616E with 12/16 channels (8 mono + 4 stereo). The Evolution mixer series also includes System 200 and 400 complete PA systems whilst at the top end the Dizzy 1020E 16/20 channel stereo powered mixer now completes that range. FBT also launched four complete 'high performance systems' under the HPS banner.

#### Carlsbro

Alpha Series of loudspeakers launched (see preview page 44 February issue).

#### EAW

The new SM Series concert foldback systems are optimised for a variety of on-stage applications. The SM400 is a 2 x 12 inch enclosure and for those who need maximum power output, the SM400iH offers higher power handling capacity. Its 2 inch exit low-distortion EAW compression driver is loaded with a 90 x 45 degree CD horn. Specially designed 12 inch woofers extend low frequency response and boost maximum SPL, making it an excellent choice for drum and keyboard monitoring, or for vocal monitors where stage

volume is extremely high. Other units in the SM Series include the ultra low profile SM200iH, the SM260iV and the SM500iV.

The new EAW SB48 subwoofer system is designed for both portable and permanently installed systems, with carrying handles and mounting hardware for vertical or horizontal installation. An internal crossover network allows full range operation with mono summing when used with stereo pairs of EAW full range systems. Plug-in modules configure the network for specific EAW systems. A rear panel switch allows bi-amp operation with an MX200i Closely Coupled Electronic Processor as the system crossover. EAW products are now available in the UK from Lighting Technology Projects.

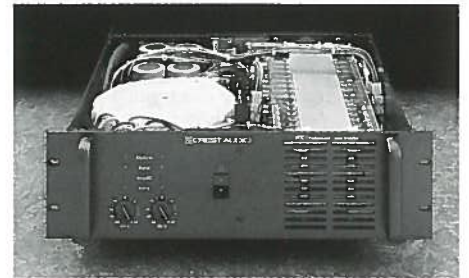
#### OHM

OHM added two pieces to its existing range and came out with one completely new series of speakers. A screened magnet version of the 130i was shown for the first time together with a bi-amp version of the BR30. The company also launched its new RW series of low-cost speakers for touring work, beginning with the RW-1 and ending up with the big RW-6 with 2 x 15 inch horns plus tweeter.

#### D.A.S.

Available in the UK through Lightfactor, D.A.S. of Spain introduced the new Factor range comprising the Factor 5, Factor 8 (due out in May), and Factor 12, a high power 12" bass transducer, matched with a 1" titanium domed compression driver.

#### Crest Audio



The 9001 power amp from Crest.

Crest had an impressive stand busy with product (and people) with Tim Chapman (now US-based) at the helm, and European operations conducted out of Hove in the UK by Lee Wakelin, sales and marketing co-ordinator. New amplifiers and consoles were premiered and detail was given in our preview in the February issue (page 45).

#### Clair Brothers

Clair Brothers Audio, on the stand of Audio Rent, provided L+SI with preliminary information on their CR-12 system controller, designed for use with CBA 12AM stage monitor systems and R-2T loudspeaker systems. A dual channel device it will provide a crossover, optimised equalisation curve and phase error correction, all specifically designed to enhance the intelligibility of the 12AM and R-2T systems.

#### d&b Audiotechnik

402 System launched and E3-LS added to their E Series (see preview page 45 February issue).

#### Citronic

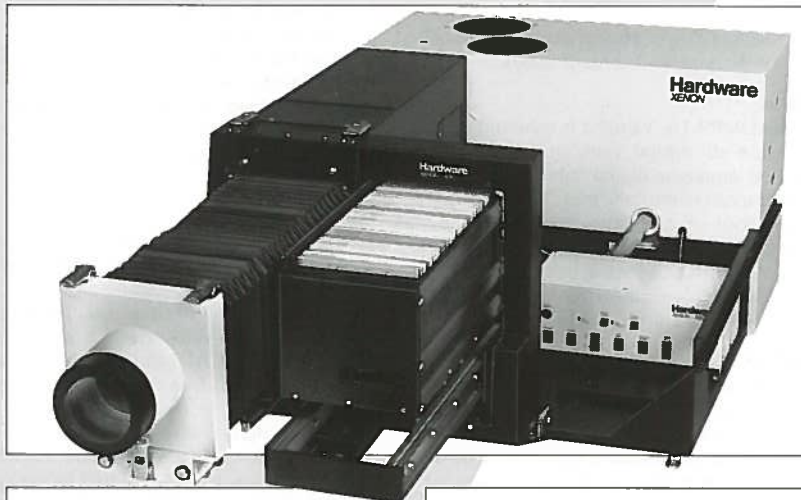
The Series 16 sampler range from Citronic has been extended with the launch of two new rack samplers, the RS16 and RS32, using the award winning series 16 sampler hardware engine and presented with new features in a standard 19 inch rack housing. Both units configure the total memory available, 16 seconds and 32 seconds respectively, into four or eight individual memory banks. Record start/stop, playback start/stop, instant restart during playback, continuous loop, fast memory bank access and variable pitch control allow exciting effects such as 'seamless splicing' and 'beat matching' of samples, 'stutter start' and 'pitch shifting'. On board battery back-up provides non-volatile memory allowing valuable samples to be retained when the main



# Hardware Xenon

## High power projection

SLIDE PROJECTORS FROM 600 TO 5000 WATTS



All Hardware Xenon projectors are portable and entirely automatic. The DHX models are also compatible with multi-image dissolve systems.

◀ **5000 Watts Xenon** - 75000 lumens  
18 x 18,5 cm slides  
Image up to 40 metres wide.  
Designed for giant image projection in large auditoriums, onto monuments, châteaux, inflatable structures or any background created for special events.



▲ **600 Watts Xenon** - 4000 lumens  
24 x 36 mm slides  
Image up to 7 metres wide with this compact projector. Black-out not required, allowing ambient light to be used for note-taking during seminars.



▲ **1000 Watts Xenon** - 8000 lumens  
24 x 36 mm and 6 x 6 cm slides  
Image up to 10 metres wide, with a popular 24 x 36 mm version for multi-image use in conferences, sales conventions, etc...



▲ **XENON FOLLOW SPOTLIGHTS**

- high quality definition, thanks to 5-element lenses,
- optimized cooling of coloured filters, iris and gobos.

**2000 Watts Xenon**  
Use range from 15 to 150 metres.

**5000 Watts Xenon**  
Use range from 15 to 300 metres.

◀ **SKY LIGHTS**

Hardware Xenon Sky Lights are either fitted to mobile mountings slaved to microprocessors, with obturator and colour change commands from 0 - 10 volts, or to a DMX 512, or fixed to adjustable supports.

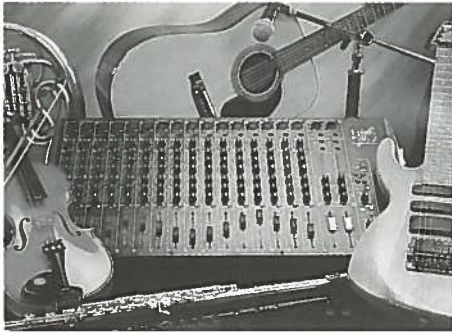
**2000 Watts Xenon**  
**5000 Watts Xenon**



# Hardware Xenon

**SALES AND  
RENTALS**





The Ephos 16:2 from Citronic.

power is removed for up to six months.

Citronic also launched the Ephos 8:2 mic/line professional mixing desk. The series has been specifically designed to meet the affordable requirements of today's sound mixing, be it small PA systems, sub-monitor mixing or home recording. The Ephos is presented in a stylish slim line metal chassis with built-in power supply, and its construction is rugged enough for on-the-road use yet attractive enough for home or studio applications. The Series comes in three formats: 8:2, 12:2 and 16:2 and offers balanced mic/line inputs, 3 band equaliser, headphone level controlled amplified output, overload LEDs, pre-fade listen on all mic/line inputs, 48v Phantom power, 2 stereo auxiliary returns, 2 auxiliary sends, 2 track record/playback with playback monitor, balanced stereo mix outputs and LED meters for stereo output/PFL monitoring. The units can be free standing or for angled desk top use have a bracket set which also enables the 8:2 version to be rack mounted.

#### Studiomaster

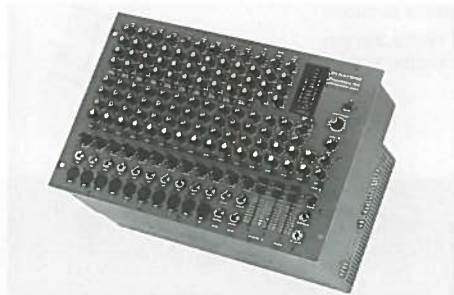
Powerhouse Vision is the name given to Studiomaster's new mixer/amplifier/digital effects combination system which comes in 8, 12 and 16 channel models with the 8 channel unit having rack-mount option. Each mono channel is equipped with balanced XLR mic and line inputs with three band equalisation and a sweepable mid frequency control. Phantom power is available for condenser microphones. Three auxiliary buses are accessible from the channel, RFV feeds the on-board effects processor, AUX is intended for an external unit and FB to set up a foldback (monitor) mix. One channel can also be used as a stereo line input, independent gain controls allow both mic and stereo line to be used simultaneously. Channels can be assigned to the stereo sub-group for one-fader control of multiple inputs.

There are two 7-band graphic equalisers and two 300W power amps. Additional amplifiers can be run from the line inputs. It is claimed to be the first powered mixer to incorporate MIDI, has 'friendly' alphanumeric displays and 20 user memories plus help and security functions.

#### Dynacord

The new Dynacord PowerMate 500 power mixer combines a 12/14 channel mixing console, a sophisticated effect unit head and a processor controlled stereo power amplifier with 2 x 300W into 4 ohms, all within the space of 7U rack height. The mixing section provides 10 mic/line and 2 stereo/line channels. In all, 14 inputs are available.

Several other new products were highlighted by the company. The DRP5 reverb processor



Dynacord's PowerMate 500.

provides effects such as delay, chorus, flanging, doubling, pitch shifting and multi-tap delays. It has 100 programmes with 20 programmable user memories, 17 different effects structures, MIDI realtime control, MIDI learn function, footswitch connectors, a storable sequence of 10 different effect settings which can be stepped through via footswitch and integrated power supply with automatic mains voltage adaptation.

Preliminary information was available on the DSP 224 digital sound system processor, L-1600 and L-2400 linear precision amplifiers, and 'Processed Precision' power amplifiers.

Speakers from Dynacord included the new Pro Systems for the entertainment market. It breaks down into a CX and a CD family of full-range and high/mid range respectively. The SD and SH families cover the sub-woofer area.

#### Klark Teknik

New software (Version 2.0) has been released by Klark Teknik for the DN3600 programmable graphic equaliser. It will be issued free to all current owners of the unit via the company's world-wide distributor network.

#### PSL

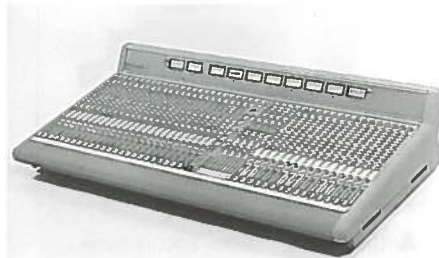
Latest range of power Mosfet amplifiers launched (see preview page 44 February issue).

#### Yamaha

With the DMP9-16, Yamaha is ushering in a new generation of digital rack mixers. With the combined analogue/digital interface of this 3U device you can control the trim, level, pad, phase, solo and four effects paths of every channel, as well as a 2-band fully parametric EQ and channel delay. All functions can be controlled and recorded remotely via the MIDI interface. An eight channel version is also available.

#### Soundtracs

Launched for the first time 'anywhere in the world', Soundtracs' Megas II Stage is a dedicated sound reinforcement console available in 24, 32, 40 and 48 channel versions, each with eight audio sub groups. Mute groups and input metering on each channel is standard, as is the illuminated overbridge fitted with 10 VU meters. Stereo and



#### Megas II Stage.

matrix modules are available as options. Other highlights for Soundtracs included the first showing in Germany of the Solitaire production console with moving faders or VCA automation and the Sequel II sound reinforcement console.

#### Midas

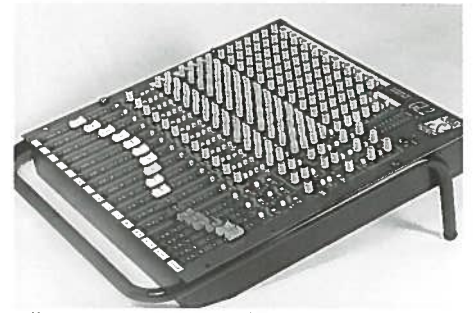
The Midas XL3 console has been extended by the addition of the stereo input module XL304. The new Midas XL348 is supplied from the factory with eight stereo input modules, increasing the number of signal inputs available for mixing to 48. The independent signal tracing from the left and right signal provides hitherto unknown flexibility, especially with regard to its use as an effect return module. Latest news is that Midas XL3 desks are due to be used on both Pink Floyd (four) and Phil Collins' (two) upcoming tours.

#### Soundcraft

Launch of SM24 top-end stage monitor console (see preview page 44 February issue).

#### Allen & Heath

Allen & Heath bragged about 10 new products, but that was showing off just a little! They had 'live'



Allen & Heath's new GL2 desk version.

demonstrations of the latest fader automation software for the GS3V recording console, the new V5 fader automation upgrade for the standard GS3 and the new SMPTE option module. Then there was the new BG3 low cost broadcast mixer and the new GR1 multi-zone installation mixer. The star (more of which later) was the new GL2 multi-function rack mixer. Latest models have the new desktop conversion kit and there were also presentations on the new Sys-Link GL2 expander kit. The new RPS9 rack mount power supply and the new balancing option kit for the GS3 series consoles were also announced.

So, back to the GL2. This is the new desk version with rubber mounts and integral carry handle, and the aforesaid Sys-Link option allows up to four GL2s to be connected together electronically, a feature of rack-mount expandability A&H reckon is unique.

#### Penny & Giles

Control specialists Penny & Giles showed the MM16 MIDI management system (see review this issue), the company's first product in an entirely new range of digital live performance and studio-related hardware. It is joined by a second model - the VCA16 audio control module. MM16 enables rapid real-time MIDI control and programming in recording and live performance environments, across both music and lighting applications. Its assignable control surface incorporates 16 tactile E-belt faders with integral LED displays, enabling control positions to be instantly visible - even in the dark. It is capable of accessing up to 1024 separate control parameters.

Complementing the MM16, the VCA16 offers 16 high quality VCA audio channels in a 1U rack, together with full MIDI capabilities. It can be controlled either directly from the MM16 or from a sequencer package, and each audio channel has independent input/output facilities for patching into the insert points of a mixing desk.

#### Sabine

The people who gave us the PLASA product award winner for 1993, the FBX Feedback Exterminator, have announced the latest version, the FBX-901. Above the original FBX-900, new features now allow the user to choose to lock the 901's filters to prevent them from going deeper, and sound engineers can also select the total number of filters to be activated. The unit also employs a new algorithm that greatly reduces the chance of mistaking music for feedback. Added to its line of automatic feedback controllers, the new FBX-1802 automatically senses feedback, determines its frequency, and places a narrow notch filter to cancel only the feedback. It offers nine filters per channel. Finally, and exclusively for the music industry, the AX-800 Chromatic AutoTuner will keep you perfectly in tune by using a built-in contact microphone that picks up only an instrument's vibrations and not the sounds of other instruments, and so on.

#### Chevin Research

Chevin have added the A2500 model to its A Series power amplifiers. Weighing only 12 kg, this 2U monoblock is a single channel amplifier delivering 2500 watts into 2 ohms or 1500 watts into 4 ohms. A pre-set limiter allows the operator to preset the output lower level. This is adjusted via a potentiometer concealed behind the front panel and gives the sound engineer the benefit of





Formula Sound's Sandra Cockell and Tony Cockell (second right) with Mike Reay and Mike Gentle of EMO Systems.



Strand Lighting's regional sales director for Europe, Ian Haddon (right) with Stefan Ettmayer of Pani (centre) and Ulrich Kunkel, Claas Ernst and Harald von den Stemmen of Strand Lighting GmbH.



Pro sound from Ramsa Panasonic.



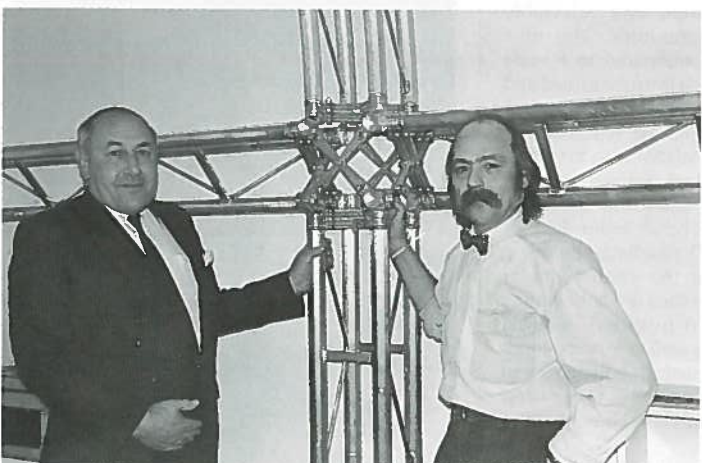
Crest Audio's Tim Chapman with the new Century Series of consoles.



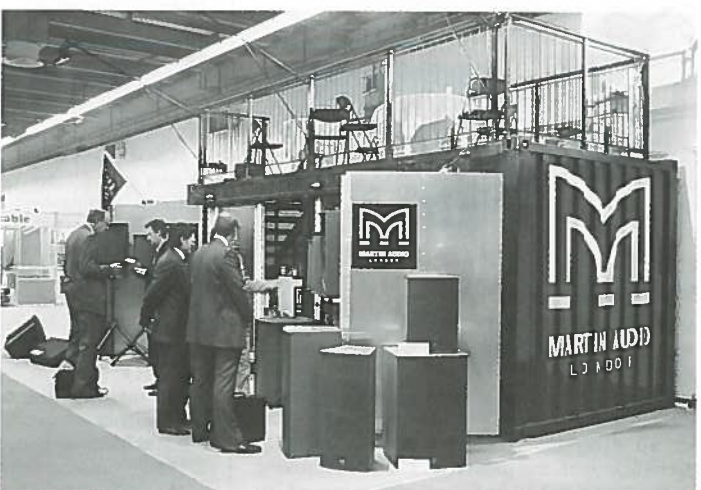
Showing off in more ways than one, Allen & Heath had an impressive line-up.



Neil Rice of Optikinetics with David Neale of DNA Associates.



Multiform's John Jeffcoat with Roland Sollner of MEC Systems and the latter's new Structural System (see Equipment News last month).



Martin Audio: Frankfurt was the launch for the Waveguide Series of speakers.



a tamper-proof facility. Also on show were two smaller brothers: the A500 and A750 for the small and small to medium PA markets.

#### Vestax

Following response from mixing DJ's, Vestax launched the PMC-26 rotary control mixer, which is housed in a 4U case. It has nine music inputs and two mics. Each of the three music channels has a trim level control and a preset balance to assign an input signal to left or right. The main feature is three large aluminium rotary mixing controls. A crossfader is located top left and is switchable in or out. As with the PMC-40, there is the usual L/R master level LED display, plus cue/input meter. Three band EQ is provided on the master output. Vestax also announced a new turntable for May delivery, the PDT-5000 with an



The PMC-26 rotary control mixer.

AC direct drive motor. A new budget sampler is the DSG-05 10 second sampler which features an auto loop edit for seamless loops and a pause switch for interruption during recording, enabling different sounds to be joined together.

#### AKG

The Tri-Power Series from AKG has now been completed and technically perfected, complete with a 'limited edition' line of futuristically styled and painted units. The C 3000 had its official European launch - it's a universal microphone for a wide range of applications both on stage and in the studio.

The unit combines a large diaphragm capsule and a conventional transducer, allowing the polar pattern to be switched from cardioid to hypercardioid to suit all vocal or instrument miking situations. A switchable -10dB pre-attenuation pad provides extra headroom for close miking of loud instruments.

Two new problem solvers have been added to the WMS 900 wireless system. The PR 900 UHF receiver is a unique dual-mode design and is packed with useful features and although primarily designed as a portable non-diversity receiver for broadcast applications it can be used in stationary configurations as well. Also new is the R901 mainframe which turns the PR 900 into a stationary, stand-alone receiver.

AKG have further improved the WMS 100



AKG's new SR50 for first-timers.

wireless line with a Mark II version and added the completely new WMS 50, an easy-to-use, affordable system for first-time users in a wide range of markets from stage sound to generic speech reinforcement. The system comprises an SR 50 diversity receiver, an HT handheld transmitter with the proven D 3700 microphone element, and a PT50 bodypack transmitter which connects to any AKG 'B-lock' MicroMic.

#### Beyerdynamic

Beyer have updated their TG-X range of microphones for rock and roll vocalists to give an ever better transient response, improved polar pattern and superior shock resistance. Newcomers to the quartet already in the range include an all-new hypercardioid kick-drum unit, the TG-X50, and a duo of new head-worn mics, the TG-X30 and 35, both of which feature ultra-slim, adjustable headbands. These are adjustable, and fit round the head rather than over it and will make life much easier for active vocalists, drummers and instrumentalists. New wireless mics and a range of pre-made cables for mic and instrument use completed the range of products on show.

#### Sennheiser

New mics launched for the music industry (see preview page 44 February issue).

### LIGHTING & EFFECTS EQUIPMENT

#### Strand Lighting

Probably the most notable news from this year's Frankfurt show as far as lighting companies go was the switch in style of the presentation from Strand Lighting. A completely new racy and bright image coupled with a much more central position in the hall certainly drew people onto the stand. They'd set out to make themselves feel at home in the music business and the confidence seemed to be spreading.



Strand's first showing of the LBX control system.

Strength on the product front came with the first-ever showing of the LBX lighting control system; it shares common software with the company's new GSX system but is essentially a live music tool. The LBX and GSX break with tradition in offering separate user selectable application software programmes. The new memory consoles can be configured to a wide range of applications to match the user's need and budget, and users are now offered the opportunity to purchase hardware and software separately.

Strand LBX - the hardware platform - adds single or two preset fader control of channels with or without submasters. The extensive playback capabilities of the GSX have been further increased by adding a C/D playback, enabling simple manual control of the channel fader presets. Strand told L+S that they are anticipating great interest from multi-purpose venues, television and film studios as well as from colleges and rock and roll type musical entertainment users, as the LBX combines the speed and simplicity of a manual board with the power of a top end memory console.

The LBX uses the same operating software suites as the GSX with Genius - the foundation software package - available in 125, 100, 75, 50 and 25

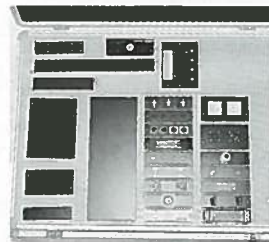
channel options and this concept allows the console to be upgraded at any time by installing 25 channel upgrade software packages where previously a larger capacity control desk would have been the only solution.

To enable a low initial investment with full capability and future expandability, Strand Lighting has created two optional 'extension' software packages to add specialist functionality to the LBX and GSX control systems. One such package, Kaleidoscope, offers extended special effects and advanced colour scroller control. Another, Communiqué, introduces advanced communications features so that the system can control and be controlled by other lighting desks, computers, MIDI equipment or simple switches and faders.

LBX with Genius is supported by a full range of accessories and peripherals including a full function hand-held designer's remote control unit with console status displayed on a clear backlit LCD screen.

#### Penn Fabrication

In a corner of their enormous System 2000 structure, last seen at LDI, SIEL and so on, the company was presenting a whole batch of new accessories, so much so that they'd devoted a complete brochure to the subject. Most likely to be of greatest interest to our readers are Penn's new stage box modules, whereby you can build up your own to suit your requirement of the day. If you're interested in the rest, there are corners, catches, handles and case-making parts...



#### Smoke Factory

More smoke for your money? New from the Smoke Factory of Hannover is 'Spaceball', a mobile, compact and universal unit with only 500W power but considerable fog production. The unit has electronic temperature control and a duplicated overheat protection system. It has optional radio control.

As you will see from our accompanying pictures, many of the usual companies and faces you would expect to see Frankfurt, year on year, were there again this time round. Then why no story in this review? Simply because a great number of them had much the same story to tell: they'd either released product at PLASA, LDI or SIEL or they were simply concentrating on sales - or both. It was a case of making a deliberate switch in emphasis, and if you count up the number of new products most of the leading companies have introduced over the past couple of years, you can understand why.



Smoke Factory's Florian von Hofen launches Spaceball.



# MIDI CONTROL COMES OF AGE

## Zenon Schoepe assesses Penny & Giles MM16 MIDI Manager

Once the preserve of only the home studio buff and once regarded as a touch too 'Mickey Mouse' for professional applications, MIDI is a fine example of a technology that has quietly slipped under the mat and through the door of acceptance and surfaced in just about every serious installation or live sound environment since.

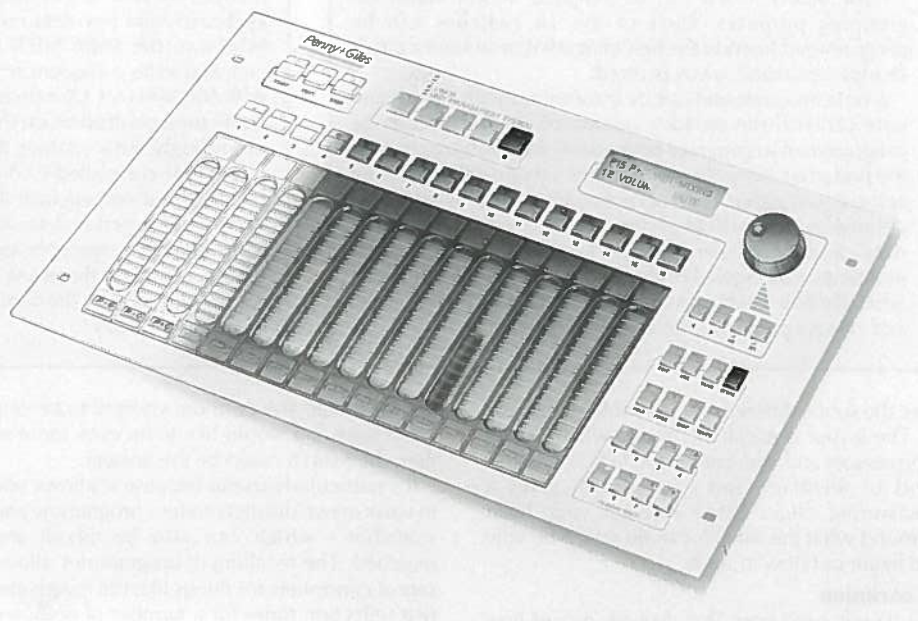
The reasons for this are quite simple. Firstly it is a standard and, in the face of more muscular and better-spec'd protocols that wish to perform a similar but better focused role in live situations, it is still the most commonly encountered connection medium for control on modern devices. Secondly it's cheap and it's relatively well-defined. The fact that your average circa-300 MIDI computer sequencer can access and harness all the potential of MIDI merely serves to underline the 'open-ness' of the protocol.

However, what the aforementioned example does not cater for, are the requirements of a live sound show, theatre installation or lighting rig where hard controls and immediate user interaction with the MIDI data stream are essential, because there simply isn't all the time in the world. This is precisely the market that P&G's MM16 is aimed at - programmable and convenient hard control of MIDI functions.

The MM16 is not a new idea and it is predated by the Fadermaster dynasty from JL Cooper - welcomed incidentally by a resounding "what on earth do we need this for?" when it first arrived in the late 1980s - and more recently by units like the Peavey PC1600 amongst others with real faders, pots and switches. Where the P&G MM16 scores most heavily is the fact that it is a very extensive MIDI controller - it offers 35 independently programmable elements, MIDI machine control transport keys, sequencer control with a tap tempo footswitch, 64 programmes arranged as eight banks of eight and 128 snapshots. But its single biggest selling point for anybody who has used other hardware MIDI controllers is that the MM16, by virtue of using P&G's Endless Belt faders with their integral LED meters, permits data values to be seen at a glance and altered accordingly. Traditional non-moving fader controllers require faders to be nulled before you can get an overall picture of what a set of values looks like.

The MM16 is a significant move for P&G, more usually associated with fader and component manufacture, as this is the company's first dip into dedicated hardware build and it's a well-thought out and well-presented package. What you get is 16 endless belt faders and 16 buttons above them each with their own dedicated status LED. These interact with eight dedicated function buttons and eight buttons concerning themselves with programme selection. The function switches cover the sending of snapshots (Send), editing (Edit), system set-up (Utility), Snapshot mode, Programme mode, storing data, and Holding a bank during programme selection. Data entry is via a nicely weighted dial or up/down increment buttons plus two switches for cursor movement around a two-row backlit LCD.

Top of the panel is a clump of three switches handling basic sequencer Start, Stop and Continue functions. Sequencer tempo is



P&G's MIDI Manager.

selected on the Tempo key and adjusted with the dial or increment buttons. Alternatively, tempo can be entered by tapping it in on a footswitch in a similar manner to entering delay times on some effects units. Finally, a row of five switches deal with the MIDI Machine control functions of Forward, Rewind, Stop, Play and Record.

It's worth pointing out that not all tape machines or hard disk recorders have this capability so it is unlikely to negate the need for traditional remotes.

Each endless belt and switch can be programmed individually to transmit a specified MIDI message, such as a MIDI

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***"Where the P&G MM16 scores most heavily is the fact that it is a very extensive MIDI controller"***

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continuous controller, and this configuration can be saved in a programme. Each programme additionally contains a string of MIDI commands that can send patch change data to connected outboard devices, for example. Any changes made within a programme are memorised when you flip to a different programme which means if you have need to go back to that original programme in performance then you'll find it exactly as you left it. Programmes are thus the area in which you administer dynamic control over MIDI data. For the generation of precise MIDI scenes you use Snapshot mode which allows the exact level and value status of a programme to be stored and recalled.

Storage and retrieval systems for programmes and snapshots is very simple. You edit a programme after pressing the Edit button, you scroll through the belt and switch on the LCD to select the one you want to reconfigure and then scroll through menus to adjust its precise function and value (see box story). As soon as

you alter a parameter in a programme the Store LED starts to flash; the programme is saved by pressing the Store button twice.

As already mentioned programmes are stored in eight banks of eight and each of the eight double LED programme buttons also functions as a bank selector. A first button press selects the bank (a yellow LED lights) and the second press selects the programme within that bank (a green LED light). Alternatively, you can lock a bank by pressing the Hold button after the first switch press.

Snapshot mode allows programme parameters to be adjusted and saved on a single press of the Store button at which point the snapshot memory number increments to the next slot. Recalling is as simple as selecting the snapshot and pressing the Send switch.

### Impressions

The endless belts are not faders, they perform the role of faders but they behave differently. If you place your finger at the bottom of a 'closed' belt and then move up the throw, the LED bargraph will track your finger's position until about halfway and then effectively overtake it meaning that the belt's bargraph will reach the top of its travel before your finger has reached the top of the belt. This makes absolutely no difference to operation but it's something you have to get used to. It's presumably included to ensure that a bottom-to-top belt sweep guarantees that you do achieve value 127 at the end of the throw.

The belts can be awkward at first - never when used in isolation but when trying to gang a handful. I am convinced that this is not due to the ballistics of the belts but to the fact that they are recessed slightly in their mountings and in order to activate them you do have to slip a finger into the belt groove. This is fine for one finger but takes a little more co-ordination for three.

Add to this the fact that you don't actually have a fader top to locate, you can put your digit anywhere on the belt to move it, and you



## MIDI GENERATION

Each belt can be configured to transmit a variety of data on a specified MIDI channel. These are continuous controller, polyphonic aftertouch (between defined maximum and minimum values and over a defined key range), monophonic aftertouch (between defined minimum and maximum values) plus a user-programmable MIDI message.

Additionally a belt can be assigned master status for grouping purposes. Each of the 16 switches can be programmed to mute the belt beneath it or to send a patch change command when pressed.

A note on command can be transmitted with a press and note off with the switch's release or the switch can be programmed to generate note on/off data on a toggle with the first press firing the note and the second killing it. Note velocity can either be programmed in to the switch or be defined by the position of the fader beneath it. Controller data can also be generated by switches using the same momentary or toggled response to that used for note data. Similarly two MIDI messages can be assigned to the press and release phases of the switch action.

## CONNECTIONS, OUTPUTS AND ROUTING

Power supplied by a 9V external unit enters on a locking 3-pin DIN. The MM16 has two totally separate MIDI out busses each of which can be addressed individually from within the programme edit menu permitting 32 MIDI channels to be accessed. Flexibility is added by these Main and Aux MIDI busses each being paralleled to six MIDI outs meaning that the unit can be connected into a large MIDI set-up without the need for splitting boxes and routers.

There are two sets of MIDI: In and Thru. The Main MIDI in is for use with keyboards and any data received here is merged with that generated on the MM16 to the Main MIDI outs. The Control In and Thru are intended for connection to a sequencer or other storage device and work in conjunction with the MM16's Update mode - any data received that corresponds to the configured controllers on the MM16 causes them to be changed and displayed accordingly. This enables the MM16 to be used as a very capable front-end for a MIDI-controlled VCA automation system because the 'written' data can be visualised coming into the P&G and altered accordingly.

Two footswitch sockets are provided for MIDI tempo tap entry, programme incrementing, sequencer and MMC transport functions. The back panel is also where you find the RAM card slot, an odd position if the unit is to be rackmounted, with the card effectively doubling the available programme and snapshot memory.

see the subtle difference. No problems though.

The layout is excellent, every switch except the cursors and data entry have LEDs so there's lots of feedback and each switch gives a reassuring click. Once you get your head around what the MM16 can do you'll be able to figure out how to do it.

### Conclusion

So do you need one? That depends on just how much MIDI equipment you use and more specifically how much real-time interaction with this kit you perform. If all you do is change a couple of presets on outboard gear and ride the returns on real faders then you're probably managing already.

If, however, you consider yourself to be very MIDI busy and would like to be even more so then the MM16 could be the answer.

It's particularly useful because it allows you to work in two distinct modes - programme and snapshot - which can also be mixed and matched. The recalling of programmes allows sets of controllers for things like the reverb and first reflection times for a number of outboard units to be there under your hands immediately for simultaneous adjustment along with any sample triggering or specific events, for example.

Snapshot allows fast scene changes to be made painlessly. The in-belt bargraphs and

switch LEDs give an immediate visual indication of parameter values that will be appreciated equally in lighting and audio control.

What you're paying for is a true multi-purpose and very able MIDI controller with its features on the surface - almost surprisingly there is little that is hidden deep in menus.

If you're into MIDI control or just beginning to think about it, then the MM16 will allow you to get the most out of your system very easily and quickly in a power-user manner. It's simple to reconfigure and plan ahead with. The MIDI hardware controller has come of age.



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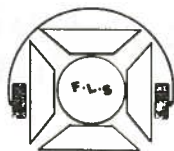
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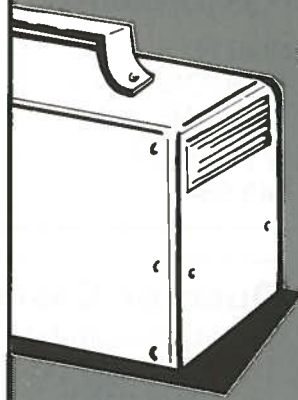


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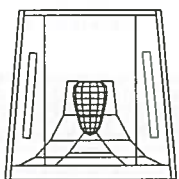
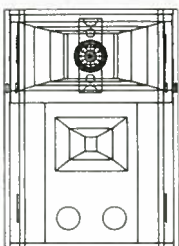
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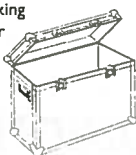
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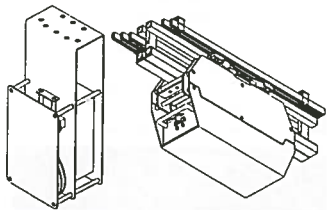
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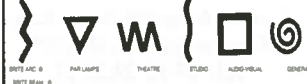


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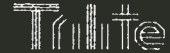


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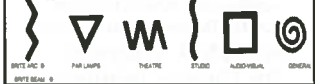
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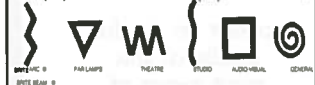
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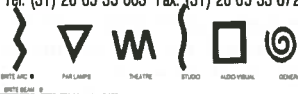
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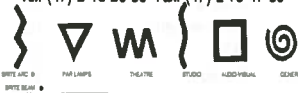
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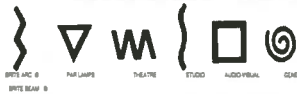
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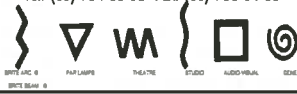


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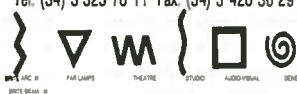


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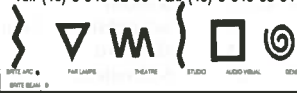
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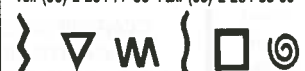
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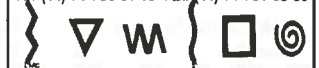
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# VIEWPOINT

## Bob Anderson reflects on Fred Bentham's Revival of Colour Music

The Lighting Division of the Chartered Institution of Building Services Engineers (CIBSE) held its 1994 National Lighting Conference at Robinson College, Cambridge, at the end of March. The main item of entertainment featured to leaven the serious business was an illustrated lecture by Fred Bentham entitled 'The Story of Colour Music'. Fred is a Fellow of CIBSE and member of the STLD and ALD.

Colour Music, as many of the large and appreciative audience already knew, was a 1930's development of theatre lighting technique as performance art. In other words, using a suitable setting and lantern rig, the lighting artist performed lighting changes to express the mood of a chosen piece of recorded music; usually taken from the classical repertoire, but also occasionally using the popular jazz music of the period.

Now 82 years old, Fred recalled how he and colleagues had developed suitable equipment, notably motor driven mechanical dimmers and the Light Console in the period from 1936 up to the outbreak of war, and founded the Colour Music Society which gave performances in the specially equipped Strand Electric demonstration theatre in Covent Garden. Slides from Strand's archive showed the theatre and period equipment, and also something of the specially built geometrical shapes and curtain arrangements devised to show off the lighting effects. The light console itself, a radical departure from the large manual 'Grand Master' switchboards of the time, looked like a cinema organ and used the stops and keys to select dimmers and to perform the changes; a concept developed after the war to become the CD and System C consoles used in many theatres and television studios until computer-based boards swept them to oblivion.

After describing the technology Fred performed his interpretation of an organ prelude. He used simple Strand two-preset control. The set comprised black curtains arranged in three planes across the stage and lit by spotlights just grazing the fabric surface, plus three more pointing vertically down into the varnished wood floor. Colours were blue, blue-green, amber and open white.

Starting with intense darkness the folds of the curtains were gradually revealed, changed colour, built up to intense climax and subsidised back to darkness again. A slow, stately performance visually perfectly matched to the music and was a far remove from the too familiar pop lighting fashion of today.

After well-deserved applause, Fred

introduced his colleague and long time assistant, Paul Weston, who had also participated in the development of Colour Music.

Paul performed a contrasting Jazz piece. His set was silver stain curtains, lit frontally by three 2kW spots in blue, blue-green and amber, and by eight narrow beam baby spotlights pointing upwards from a slot in the stage floor. Paul used flash buttons only, keying lamps individually and in groups in time with the music to give a fast moving, humorous and stimulating finale to the evening.

Leaving the theatre, the audience were able to inspect a real three manual lighting console once used at Drury Lane and borrowed from the Jim Law's historic lighting collection.

Anyone interested in learning more about the history of Colour Music and Fred's remarkable career with Strand should purchase his book 'Sixty Years of Light Work' available from Strand Lighting.

*I wrote this press release primarily for the magazines of the Association of British Theatre Technicians, the Society of Television Lighting Directors and the Association of (theatrical) Lighting Designers - the ABTT, the STLD and the ALD respectively.*

*These are the professional organisations which, I then thought, most closely reflected Fred's interests, and indeed, societies which he and the old Strand Electric helped to bring into being by sponsoring meetings in the post-war successor to the blitzed Covent Garden showroom mentioned in the report. But now I realise that PLASA and the wider readership of L+SI should also be interested in this historic reminder that an artistic blend of light and sound*

*were once acceptable as a complete entertainment without the need to clutter the stage with human performers.*

*If it pulled the crowds then, why not now? Admittedly, they were very small crowds - more select house parties perhaps. Life was slower and the world of technology had only just begun to hustle us along in search of ever more impressive spectacle. So a late twentieth century public Colour Music recital could not be expected to make much of a fortune or even a profit for its promoters. But a small amount of money spent on setting up lights, control, scenic pieces, seating and music playback in a simple studio could give today's young performance lighting artist a rare chance to go beyond the limit of interpreting someone else's event. Given the hardware and time, lots of time, the music could be chosen and the lighting designed as an artistic event in itself, and when rehearsed and perfected, performed to a suitably knowledgeable and specialist invited audience. Fred's recital at Cambridge showed those CIBSE delegates that this is an artform with a fascination of its own. Undoubtedly, for the performer and at least for the viewer, equalling much of the stock output seen on any television channel.*

*The artist would benefit by the chance to show off creativity and performance skills, perhaps leading to improved employment prospects; the benefactor providing the facilities would benefit spiritually though probably not financially; manufacturers of preferred hardware would acquire a measure of reflected glory and the occasional invited audience would be privileged to see something satisfying, abstract, perhaps soothing, perhaps disturbing, but now denied because of simple commercial timidity.*

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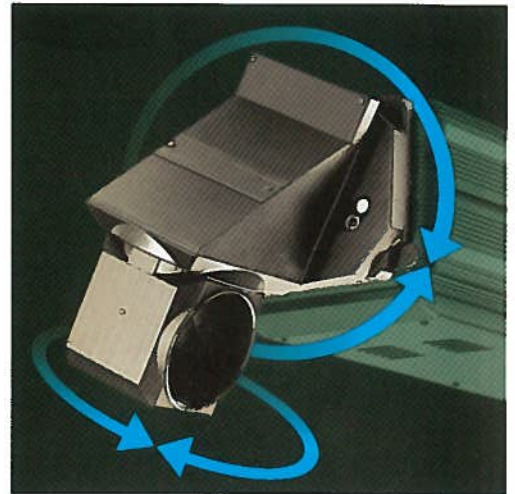
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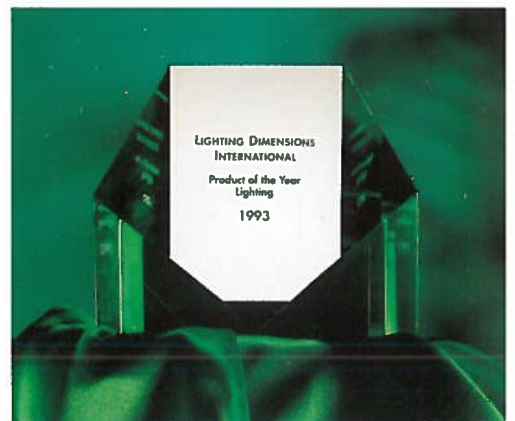
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