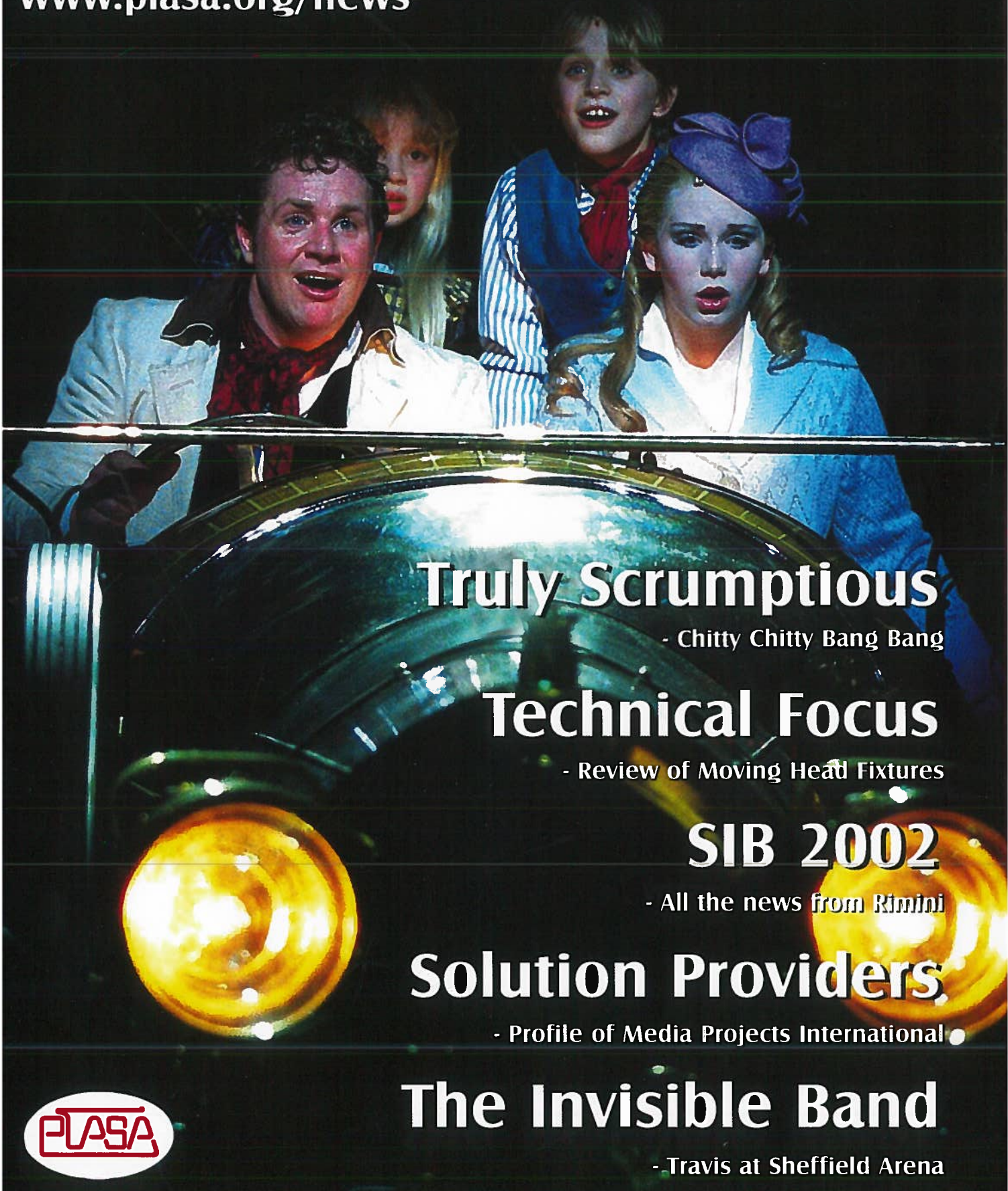


# Lighting & Sound INTERNATIONAL

May 2002

The Entertainment Technology Monthly

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## Truly Scrumptious

- Chitty Chitty Bang Bang

## Technical Focus

- Review of Moving Head Fixtures

## SIB 2002

- All the news from Rimini

## Solution Providers

- Profile of Media Projects International

## The Invisible Band

- Travis at Sheffield Arena



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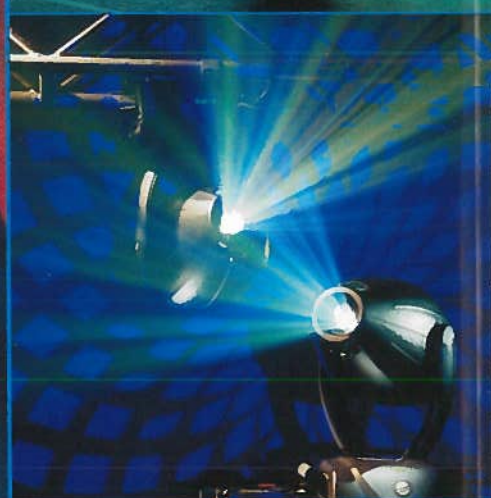
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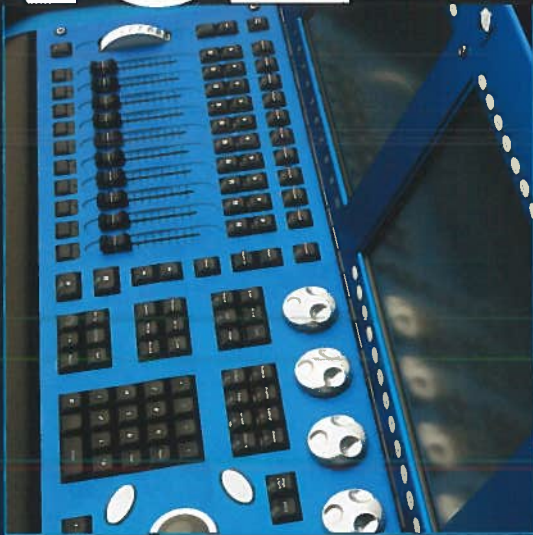
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May 2002 Volume 17, Issue 5

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EDITOR Ruth Rossington - [ruth@plasa.org](mailto:ruth@plasa.org)  
 DEPUTY EDITOR Lee Baldock - [lee@plasa.org](mailto:lee@plasa.org)  
 ASSOCIATE EDITOR Tony Gottelier  
 TECHNICAL EDITOR James Eade - [technical@plasa.org](mailto:technical@plasa.org)  
 ADVERTISEMENT MANAGER Barry Howse - [barry@plasa.org](mailto:barry@plasa.org)  
 ADVERTISING CO-ORDINATOR Jane Cockburn - [jane@plasa.org](mailto:jane@plasa.org)  
 PRODUCTION MANAGER Sonja Walker - [sonja@plasa.org](mailto:sonja@plasa.org)  
 SUBSCRIPTIONS Sheila Bartholomew - [sheila@plasa.org](mailto:sheila@plasa.org)

PLASA - Managing Director: Matthew Griffiths - [matthew@plasa.org](mailto:matthew@plasa.org)  
 PLASA - Financial Controller: Shane McGreevy - [shane@plasa.org](mailto:shane@plasa.org)

Regular Contributors: Steve Moles, Rob Halliday, Louise Stickland, John Watt, Ian Herbert, Jacqueline Molloy, Mike Mann, Phil Ward.

Published from the PLASA office:  
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# International News Round-Up

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## Avesco Group Wins Massive Commonwealth Games Contract

**The Avesco Group has secured a major contract to supply AV services for this year's Commonwealth Games events.**

Negotiated by Group business development director, Dave Crump, it will become one of the largest single projects ever undertaken by Avesco, and has earned the company the status of 'Official Provider of Audio Visual Services to the Manchester 2002 XVII Commonwealth Games.'

Crump confirmed that the implementation should require participation from almost every company within the Group - notably Screenco, MCL Manchester and Dimension Audio. Crump himself will be co-ordinating the overall project, as well as the Screenco activity, while Jamie McAffer will be project managing for MCL Manchester and Mark Boden for Dimension Audio, for whom designer George Glossop will be specifying the systems for the various events. A crew chief will be appointed for each venue. Dimension will also have representative Steve Turner based permanently on-site office at Commonwealth House for the duration of the build-up to the Games.

At its height, the Group will be supplying services to 17 venues and will have a crew of up to 88 personnel working on the build-up. The major venues being serviced are the new City of Manchester Stadium and Manchester Aquatics Centre, as well as the ICC, GMex and the

Manchester Evening News Arena, while in the Athletes Village, Avesco will be servicing the entertainment area and relaying feeds back from the stadium and other events.

The Group companies will be supplying services to several organizations during the course of the Games. These include Jack Morton Worldwide, who are producing the opening and closing ceremonies in the City of Manchester Stadium, Great Big Events, the Australian production company responsible for the sport presentation for the Sydney Olympics, and Fast Track, who will look after the sports presentation for the track and field element of the competition.

The logistical challenge posed by Manchester 2002 will be huge, as Mike Kerr of MCL Manchester explains: "At the main stadium we'll be working for all three organizations sequentially, with the final handover - from Great Big Events back to Jack Morton - giving us just three hours turn-around time."

Colin Duncan of Dimension commented: "This is the biggest contract Dimension has undertaken, and it's the fact that so many events are taking place simultaneously which makes it logistically challenging. In addition to the events themselves, we've had to supply the training systems, set up in different locations, including equipment for disability awareness. And since these are broadcast events, we've had to provide a huge



Left to right: Dave Crump, Colin Duncan and Mike Kerr

amount of RTS comms. But the biggest challenge has been to provide the quality of PA over and above what most events are accustomed to."

Working alongside host broadcaster, the BBC, from whom they will take feeds, MCL will field full SDI (Serial Digital Interface) PPUs in seven venues simultaneously. Dimension Audio will also be breaking new boundaries, providing submersible loudspeakers at the Manchester Aquatic Centre to facilitate the synchronized swimming event. Elsewhere, Screenco image magnification will be found in a number of locations, with three new Barco DLite 10 outdoor, high resolution screens installed in the Aquatics Centre alone, as well as two 60sq.m 25mm screens in the new Stadium.

One special event which Screenco will be covering with their mini mobile is the Golden Jubilee Baton Relay - which will unite the Queen's Golden Jubilee with the Commonwealth Games. The Baton will return to the British Isles from its tour of Commonwealth countries on June 6, and then begins a 50-day, 5,000-mile tour taking in Northern Ireland, Scotland, the Isle of Man, Jersey and Guernsey, Wales and England. On July 25 the Baton will arrive at the Opening Ceremony in the City of Manchester Stadium.

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## ARRI GB Plans Major Move



**Film lighting giant ARRI GB is to move from its Heston base to a new, purpose-built HQ at the end of the summer.**

The entire operation will move into the 75,000sq.m Highbridge development, adjacent to the Grand Union Canal in Uxbridge - between August and October. Managing director Renos Louka, said that the move to Uxbridge marked the end of a long search for an enlarged facility, brought about by the company's rapid expansion, particularly in rental. "Uxbridge, with its proximity to Pinewood, Shepperton and other film studios, was the ideal location," he said. Access to London and Heathrow Airport were further key factors in driving the decision.

The three new buildings will comprise testing areas, 'clean rooms' for work on sensitive camera equipment, offices, bonded warehouse and a dedicated camera museum, of which the curator will be ARRI GB veteran, Alan Fife.

"Tommy Moran, MD of ARRI Lighting Rental, Graham Anderson, MD of ARRI Media, and myself are hugely excited

by the potential this offers," continued Louka, "not only to facilitate the continuing expansion of the company, but in the pursuit of training initiatives." To this end he suggested forging links with the locally-based Brunel University, which recently installed a media suite of television and video studios.

In the meantime ARRI GB has a Royal engagement to look forward to. On June 25 Her Majesty The Queen visits the town as part of a nationwide tour to celebrate her Golden Jubilee. While there she will unveil a new sculpture by Welsh-based Anita Lafford. Called 'Anticipation', it was commissioned by Hillingdon Arts Association - and ARRI GB are one of the major sponsors.

## Triple E Demerges from Blackout

**David Edelstein and Steve Tuck of Blackout Triple E have announced their decision to demerge the two companies.**

Edelstein told L&S: "Steve and I have known each other for many years and will continue to supply product and equipment to each other, just as we have done for nearly 12 years. But we simply concluded that it would better for our two respective companies if we operated independently."

Triple E is busier than ever, installing its specialist track worldwide - as well as recently contributing expertise to the flying effects for the current Westlife tour.

Steve Tuck added: "With so many high profile projects currently on the go, I'm looking forward to moving Blackout into its next evolutionary phase." Blackout will operate from the existing numbers, whilst Triple E will have new telephone and fax numbers - tel: +44 (0)20 8646 6767, fax: +44 (0)20 8646 4747.



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## Bryan Adams

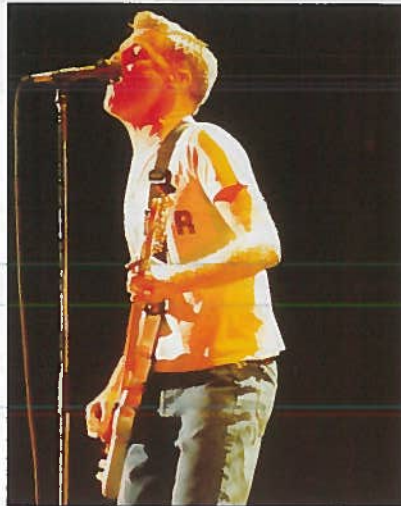
**Roy Lamb has been Bryan Adams' production manager for the past three years, ever since Val Dauksts finally decided to wave the road goodbye.**

Lamb, himself a contemporary of Dauksts, is rumoured to stick at the job for the love of rock 'n' roll and the huge variety of golf courses this career affords him. Which just leaves Adams himself - why does he keep doing it?

"This tour has been running pretty much continuously since '98, two weeks on, two weeks off," said LD Mac Mosier. "He just loves touring. He said it to the crowd at the last show - I don't have an album out, I'm not promoting anything, I just enjoy being here."

Beyond my own personal like for the artists' song writing and his live performance, this proved heartening news. As with Travis, which I'd seen the week before (see pages 71-72), I polled the audience; for a middle aged rock 'n' roller there were large numbers of yooofs at the front. "Why," I asked a teenager, "are you here?" "I got into Adams about four years ago," he said. "But he's more my generation than yours," I suggested. "Yes, but there's so much rubbish about I had to look somewhere else for talent." Four of this lad's immediate neighbours nodded their heads in earnest agreement: "Are these mates of yours?" I asked? "Never seen 'em before in my life."

It was a similar story elsewhere. Sheffield Arena was bulging - 11,500 people at £27.50 - how does he do it? I quizzed Lamb. "Exquisite trucking,"



he replied, a comical reference to Lamb's roots as one of EST's founders. "More seriously, he loves to work and people sense that." The fact that this is at least his fifth trawl through the UK in the past three years, and he's still filling houses, says much about the value of a committed performance.

### LIGHTING & VIDEO

Like Travis, this show has the Willie Williams' touch upon it, though not so emphatic for Adams as for Travis, the former liking to stand alone and be counted for what he is, not his light show. It is nonetheless distinct. Video projection comes from XL Video, providing ELMs and cameras, and again like Travis, Williams has the cameras shooting from the

tribunes stage left and right. Three relatively small 11:9 screens sit above the front truss and provide just B&W images. As a conceit, this works; at first I thought it rather low impact - but upon reflection, and six songs later, I realised this is just discretion. Why? Because the lighting is equally understated.

Mosier has 60 moving lights up there, not that you'd notice, and there are good historical reasons for this. "Last time around we had two trusses filled with Pars and a few profiles; we were visiting places like Bombay, Bangalore and Bangkok. We just figured we wouldn't be able to get much else in places like that. Funny thing was, we got to some of these places and all they had was moving lights."

LSD provide the gear and since last time around have seen things change quite radically, not just from Pars to movers. "We've also dropped the rope light panels. And we have simple stepped frames for some of the backlights that raise and lower across the white cyc for various cues." Wire winch a go-go, you might say.

The key lamps are Studio Spots and Studio Colors from High End Systems; there are still some Source Four profiles up there too, not for a 'just in case', but for quite distinct looks when Mosier uses them alone for band pick-ups, and at just 25%. Amazingly, it's enough light for the cameras and projectors to still produce an image, "though they have to ride the projectors levels hard up."

The previous design was also largely a gel-free open-white, so it's no surprise to discover

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Mosier finds this "a refreshing change." There are other changes too: "Willy and I had to go off to Pig school," he says, referring to Wholehog training, the two men having only now arrived at the point where they both felt it essential to learn this new-fangled contraption. Which makes me think of Damian Hirst only now discovering paintbrushes, but there again, maybe that's not so far-fetched.

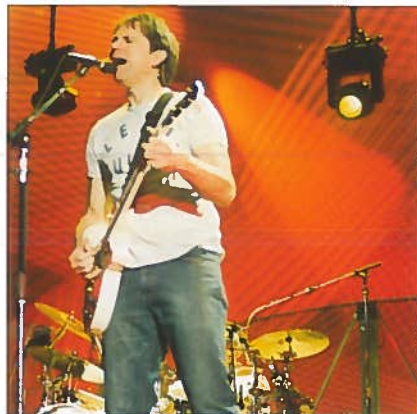
In fact Adams' show is full of changes: 'You never know what you're gonna git' like a certain box of chocolates. Sweet it isn't - stark, more like - but never harsh. Simplicity is a hard furrow to plough, especially in a huge arena, but this largely seems to work.

## SOUND

Adams' house engineer is also his tour manager, Jody Perpick. It being PD day, the role of interviewee fell to his number two, Tony Szabo, "Besides, he sets it all up, I just turn up and mix," said a modest Perpick. "I come out to the desk 10 minutes before the band go on and run the line check, just to get in the frame."

He's not unique in that aspect, Bruce Jackson did it for years with Springsteen, but it's an MO that requires a well-developed relationship to work. Szabo has achieved that, and dramatically so, revealing as he did that during the previous show he had actually hot-swapped a J-Type input module of Perpicks' Cadac desk, live. "But then of course that's one thing you can do with a Cadac." Balls of steel if you ask me.

The PA is 14 from Audio Rent/Clair Brothers, with the monitors, desks and all control from Jason Sound/Westsun. The 14 rig for this show is startling; 16 box columns each side are rigged



Far left, Bryan Adams. Near shot Keith Scott on guitar

high enough that the bottom box is virtually level with the front truss. Scary to look at, it did mean Szabo also had to rig a six-box side cluster (not so unusual in the modern line-array arena convention) and also an extensive front fill PA of P2s. "The main rig position means we might have to cover as far out as the first 20-30 feet into the audience," which poses the question 'When will CBA produce their version of the line system near down-fill?'

The wider dispersion boxes at the tight curved bottom of the hang (which I assumed were 10 degrees) also didn't seem to couple that perfectly, I was able to measure, as well as clearly hear, +4dBA hot spots in the high end around the 30 to 40 feet mark from the stage. It was a bit like standing in the horn path of an old S4 system. That said, further out in the house coverage was very good - the further away you got the better it became, as it should be with a linear system. Szabo later corrected me on my cabinet type assumption: "They (the 10 degrees) are what we're now using for the side hangs; the spottiness you hear is, I believe, from a

combination of basic comb filtering and inherent line array artefacts."

Low end was particularly luscious, Szabo explaining that this was one area where he and Perpick had exerted much effort. "We are using Jason subs, the horn loaded twin 18" box, it gives a fuller, louder sound, moving a hell of a lot more air than the single 18" of the dedicated 14 box could ever do." Obviously just a power issue, Szabo was at pains to point this out. Sound is all to this band: to quote Francis Rossi's mantra once more, they don't come to hear the lights. Adams show is loose, slightly rough, like his voice, but as the lad on the crush barrier said, it's talent. No substitutes accepted.

## Breaking News . . .

**Chris Hill was at the Sheffield Arena: "Ah'm just checkin' out the system," he said in his affable northern brogue.**

**L&SI: So those rumours that Wigwam is contemplating a purchase of Clair's 14 system are true?**

**"Ah couldn't say," he grinned. Typical bloody-minded Yorkshireman, but I did witness Hill spend an awful lot of time walking around the arena, up stairs and down aisles, listening to the system. The mere fact of his presence will certainly keep the tongues wagging.**

**Hill did confirm: "Wigwam South will be opening soon, somewhere in London."**

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# Association NEWS

## PLASA Focuses on Training & Development

As part of its long-term strategy to address the industry's concerns over training, PLASA has appointed a full-time training and development manager. Nicky Greet (pictured) will be tasked with collating current training information, identifying and addressing areas in which tailored training schemes are required.



subsidising training courses. While it is envisaged that the main focus of the plan will be on technical training, the remit will also cover other important business-related areas, such as management training and IT.

Nicky has a broad experience of training: she began her career studying microbiology at Beecham (now GlaxoSmithKline) where she took on responsibility for training issues, before being employed as a trainer at Laura Ashley, focusing on sales techniques and design.

For the past five years, she was course leader in interior design and three dimensional design at a further education college, during which time she has taught on Btec National Diplomas, Higher National Diplomas and City & Guilds courses. Nicky has also run training courses for local Enterprise Centres aimed at helping small retailers.

Commenting on her new position, she says: "This will be a broad-based role which will require feedback and active involvement from PLASA Members. I would ask all PLASA members to contact me with their views on training issues - they don't have to wait for a formal research document to arrive - I'll be happy to hear from them at any time."

Nicky can be contacted at the PLASA Head Office, telephone +44 (0)1323 410335, or via e-mail: [nicky@plasa.org](mailto:nicky@plasa.org)

PLASA's Matthew Griffiths commented: "Concerns about the lack of suitable training in the entertainment technology industry have been voiced for some time, and PLASA originally scheduled this appointment into its long-term strategy as part of its first five-year plan in 2000. During 2001, we conducted a programme of research into the issue with the aid of our members, which enabled us to move on to the next stage. I am very pleased to have now reached this point in the process, and I welcome Nicky to our team at Eastbourne."

Nicky's first task will be to formulate a Training & Development Plan, which will outline the best way forward in meeting members' training requirements. The project will involve the creation of a comprehensive searchable online database of existing training courses, which will be freely accessible to PLASA members, and will also examine the possibility of establishing schemes for

## Book Now for the 2002 Association Day

PLASA's Association Day, incorporating the AGM and break-out meetings followed by dinner and entertainment, will take place at the Down Hall Country House Hotel on 14 June.



All PLASA members were recently mailed a flyer (pictured above) containing full details and booking information on the day's events. We would like to remind you to return your booking forms to the PLASA Office as soon as possible. The event provides an unmissable opportunity to meet with other members, the PLASA committee and staff, to learn about what the Association is doing on your behalf and to discuss issues that are important to you.

Contact: [helen@plasa.org](mailto:helen@plasa.org)



PLASA's DTI-supported UK exhibitor group at SIB, Rimini, was visited by the Milan-based British Consul-General: pictured above are (l-r) PLASA's Shane McGreevy and Helen Willis, with commercial attache Giuseppe Caruso, Consul-General Richard Northern and PLASA's managing director Matthew Griffiths.

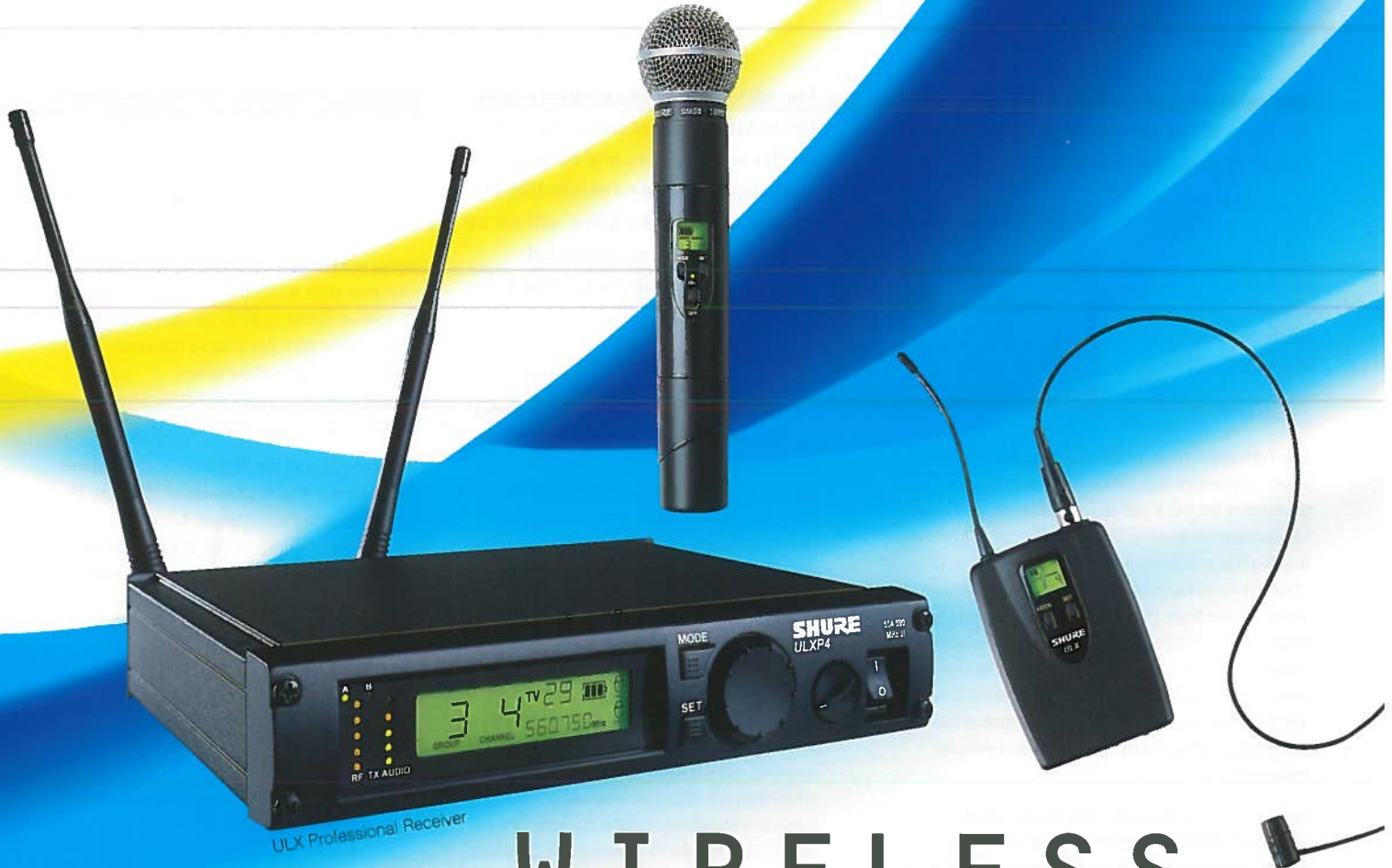


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## Blitz Debuts HRS System for Queen Musical

**Specialist AV company, Blitz Communications has secured two theatrical firsts for the new Queen musical We Will Rock You.**

The show marks the first time that Blitz's new HRS high-resolution videographics system will be used linked to the biggest video screen ever installed in a theatre.



The HRS system will allow graphics, pre-recorded video sequences, live action shots and scenic backdrops for the show to be displayed on a giant LED screen measuring 10.2m x 4.8m. Blitz brokered the deal for production company Lighthouse to obtain the LED screen, which cost £1 million and was shipped over from Hong Kong. It is made of LVP1010C Quarter Bin LED panels and divides into eight separate smaller screens. Four of these operate at floor level on individually powered, steerable trucks. Another four are flown using an automated motion system that allows both horizontal and vertical movement.

During the production the screens can operate in various separate formations to allow split image displays to the front or rear of the stage. Alternatively, the four flown screens resting on top of the other four on stage can form one huge seamless image. Blitz is also supplying the live action cameras and video production equipment, creating a TV studio under the stage.

Blitz gave the industry an opportunity to see HRS close-up when it launched the system on 17 April at BAFTA in Piccadilly, London. Based around Microsoft PowerPoint XP, it can combine graphics, pre-recorded video footage and live video input seamlessly.

## ABTT , 19-20 June 2002

**The ABTT Show, which attracts over 100 exhibitors from across the wide spectrum of supplies and services necessary to stage a production or equip a theatre building, will set up base once again at The Royal Horticultural Halls in London from 19-20 June.**

In addition to the main exhibition, there is also a complementary programme of theatre-related seminars, which includes the following. **Revitalising Health & Safety:** Eric Pirie, a health & safety inspector, will discuss publicly funded bodies and the Government in relation to key pieces of Health & Safety Legislation, together with a discussion of the role of the Broadcasting & Performing Arts Joint Advisory Committee.

**Sound System Design in the Theatre:** John Taylor of d&b audiotechnik UK Ltd will look at issues of sound intelligibility and in particular, the acoustic part of the signal path between the loudspeaker and the listeners' ears. **Training and Skills Forum:** John Faulkner will chair a session on minimum standards for the theatre technician. The ABTT Training & Education

Committee will shortly be publishing a Guide to Minimum Standards to assist theatre managers. Rikki Newman from the Phoenix Theatre in London and Catherine Devenish, Chairman of the ABTT Training & Education Committee, will introduce the paper.

**AutoCAD Forum:** David Ripley from the Royal Scottish Academy of Music and Drama and Steve Green of Scottish Opera will lead a discussion on CAD theatre drawing standards which will include a demonstration of AutoCAD 2002 City & Guilds, followed by a hands-on 'clinic'.

Running prior to the ABTT Show is **Theatre Engineering and Architecture 2002** (16-18 June at Strand Palace Hotel, London) - a conference on modern staging technology and performing arts buildings which aims to bring together technicians, architects, consultants, designers, owners and project managers.

**▶ ABTT:**  
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## New Owner for Andolite

*Tony Swayne, a new face to the industry, but a qualified electrical engineer and an experienced businessman, is the new owner of Andolite Limited, the manufacturer of internally-wired lighting bars, standard and custom panels and power distribution. Swayne is taking over from Alex Collister who, following a handover period, is retiring. Swayne will continue to develop the company as a manufacturer of products tailored to the needs of the expanding industry.*

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## Spectra Wins Eurovision Contract

*Spectra, one of Northern Europe's leading lighting companies, has been chosen as the official lighting and technical supplier for this year's Eurovision Song Contest.*

The Estonian broadcaster, ETV, has commissioned the event, to be staged at the new Saku Suurhall, in Tallinn, at the end of this month: 120 million viewers are expected worldwide.

Spectra will supply a full range of lighting and video equipment, plus technical coordination and crew, with 26 people working on site in the build-up to the event. This is not the first time that Spectra has handled such a major project. Swedish broadcaster SVT chose Spectra as the official lighting supplier and technical coordinator for the 2000 Eurovision Song Contest which took place at the Stockholm Globe.

The spec will include some 800 lanterns, of which about 300 will be intelligent moving fixtures, mounted for the stage lighting alone. In what will mark it out as a unique event, 15 High End Catalyst systems will be employed in the production, the largest Catalyst turn-out ever. The lighting will be pre-programmed in Spectra's new WYSIWYG studio, and three operators on seven lighting control desks will control everything on the night.



## BFI Moving Pictures Exhibition

*Moving Pictures is a new touring exhibition exploring the experience of going to the cinema and watching television, celebrating both the past and present, as well as looking to the future of digital technology.*

The exhibition showcases favourites from the extensive collection of film and television material held by the BFI chosen from thousands of films, programmes and production materials. David Atkinson Lighting Design was contacted by Land Design Studio to come up with a cost effective, flexible and dynamic lighting design to cope with the scope and scale of the exhibits, as well as the touring schedule. Land devised a bespoke modular steel system, with the resulting architectural solution having something of a warehouse feel.

As the designers wanted to use colour to define areas within the exhibition, Atkinson chose to use a large quantity of Encapsulite fluorescent fittings, sleeved in varying colours, which were set into acrylic panels. A grid wall system with steel mesh panels suggesting a studio atmosphere was lit by industrial MR16 low voltage fittings fitted with the new BLV lamp, which produced a cool six Kelvin colour temperature.

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## Life in a Day

Tom Kenny is The Who's lighting designer, an urbane Irishman with the stereotypical ability to babble; much of what he says carries a subtext not to be ignored. Here's some samples from a busy life.



"I was with Rob Collins touring Eric Clapton in 1990, we were doing South America and Mick Double (the tour's production manager) said, 'We'll use all local gear.' That's how I ended up doing a show for 200,000 Brazilians with three straight trusses of Pars and no moving lights." Doesn't seem to have done his or Clapton's career any harm. "Later in the tour we were at a gig in Bela Horizonte. There was

nowhere to rig so the promoter had some holes cut through the roof for points. During the show it started to rain and Rob and I ended up having to operate standing beneath umbrellas as the rain poured through towards our desks." Not his least favourite gig, but a classic example of how to laugh in the face of adversity.

"Advice? I say always be nice to the people you're working with. I did a show with Eric Clapton at the House of Blues. Later, out of the blue, I was asked to light the New Orleans Jazz Fest for TV. I was feeling a bit nervous before the first meeting, but as I walked in the room this guy jumps up and says, 'Hey, you're the guy from Clapton'. It was a former technician from the House of Blues."

**And the future?** "In 10 years time a lot of the bands I work with won't be touring, so I hope to be a consultant, talking and showing, a communicator." Indisputably his strongest suit.

**Kenny makes another point relevant to the whole production industry.** "I'd like to see better headsets and intercoms. My ears are damaged and I'm sure it's intercoms that have done it. They are one of the most important things in any show, and one of the most neglected."

**Strange gigs?** "I went to Transylvania with Plant & Page, Roy Lamb (production manager) put Dave Cobb (sound engineer) and I on the band's Lear jet. We were met at the airport by an old Russian Limo'. It all felt rather surreal and a little crazy."

"I always like to go out and look at the punters and I met five or six kids on the steps outside the gig. 'Are you coming in' I asked? 'No, we've no money, but it's OK, we'll hear the show from here'. So I brought them in and put them behind the desk and gave them each a beer - and they couldn't believe it. After the show I took them backstage and we bumped into Robert [Plant]. 'Who are your new friends?' he asked. An hour later they were still there talking to Jimmy and Robert. The thing is, these people [the band] have changed the world musically. We sometimes forget just how significant these people are." As Kenny says, don't take them for granted.

**Kenny has an inspiring anecdote on which to end this interview, a tale that embodies the full spirit of the touring industry: improvisation, instinct and impulse.** "In Mexico City once with Plant & Page the show got to the end and they [the band] had always been absolute about these things - no more encores. But I had this feeling, the crowd were really loud so I told all my spot operators to stay where they were, even though the house lights were on and Dave Cobb had already headed off backstage. The noise was incredible; it was obvious the crowd were not going to let them go. Roy Lamb came on the intercom, 'what do you want to do with the lights?' 'Leave them on' I said. Then the band launched into *Rock and Roll* - the first time they'd played it in 17 years. As Robert broke into song I called blackout and hit the desk. The place took off; I've never felt anything like it." Funny how the hairs on the back of your neck stand up when you hear a story like that. Don't you just love this business?

Steve Moles

A longer version of this interview can be seen at [www.plasa.org/media/lifers](http://www.plasa.org/media/lifers)

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## PLASA Show 2002 is Looking Positively Bouyant

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*That is the upbeat message from PLASA's new Show Director, Sue Saint. The show, which this year is celebrating its 25th year, pulls in over 13,000 visitors from the UK and abroad having become the main marketplace for the £11 billion entertainment technology industry.*

Stand bookings are currently at 82%, with top names such as Vari-Lite, Sennheiser, Martin Professional, Denon, BSS Audio and Total Fabrications already booked. "The show is evolving continually," commented Saint, "and one of the key trends emerging is the growing number of manufacturers choosing to exhibit in their own right, rather than rely solely on representation through distributors. In addition, many long-standing exhibitors, including Numark, Peavey, Sound Technology, Avolites and SGM, have reaffirmed the importance of PLASA by booking larger stands.

"Other major industry players have also recognized the role the show can play in developing their businesses and this year will see Marantz, Tascam and Duran Audio exhibiting for the first time. All this is happening at a time when the economy generally has been talked down, but the increased interest in the show is clear evidence that the market is picking up and that the PLASA Show is an integral part of the exhibitors' marketing armoury."

Steve Warren, sales director of Avolites, an exhibitor at the show for the past 13 years, commented: "The PLASA Show is clearly the most important industry show in terms of generating business for us worldwide. We plan our research and development dates around PLASA to ensure that we can launch our new products to the large number of international visitors and distributors who attend the show."

Linda Irvin of Sennheiser, one of the world's leading manufacturers of sound and communications systems, said the PLASA Show was a cornerstone event in their marketing strategy. "It's the single most important event for our company, because it allows us to launch new products, meet existing customers as well as generate new ones, and provides a fantastic opportunity to network within the entire light and sound industry. We generated phenomenal sales from last year's show, so this year we have decided to more than double our exhibition space."

Lisa Papi of Italian-based theatre and architectural lighting company LDR added that PLASA was one of the few industry shows that attracted people from all over the world. "PLASA allows us to reinforce our connection with our existing network of distributors and open up new markets and possibilities. We use PLASA to launch new products and definitely see the results in sales directly after the show."

Each year, the show organizers take soundings from exhibitors and visitors to gauge views on the outcome of the show - both commercially and aesthetically. As a direct consequence of this feedback, key developments are planned for the 2002 show, including a revamped Pavilion Area and enhancements to the New Technology Gallery and the respected Masterclass Programme.

Companies wishing to find out more about the PLASA Show or wanting to book a stand should contact Nicky Rowland of Clarion Events on +44 (0)20 7370 8231.

For more information visit the PLASA Show website at

 [www.plasa.org/show](http://www.plasa.org/show)



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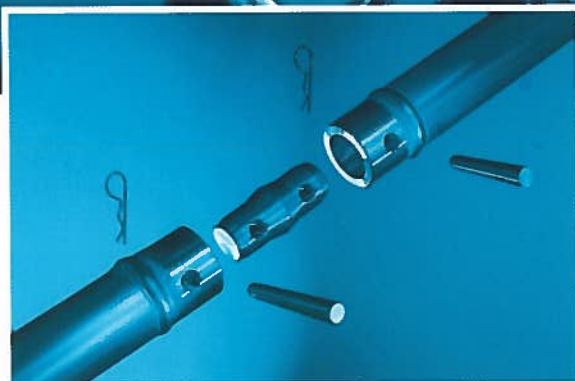
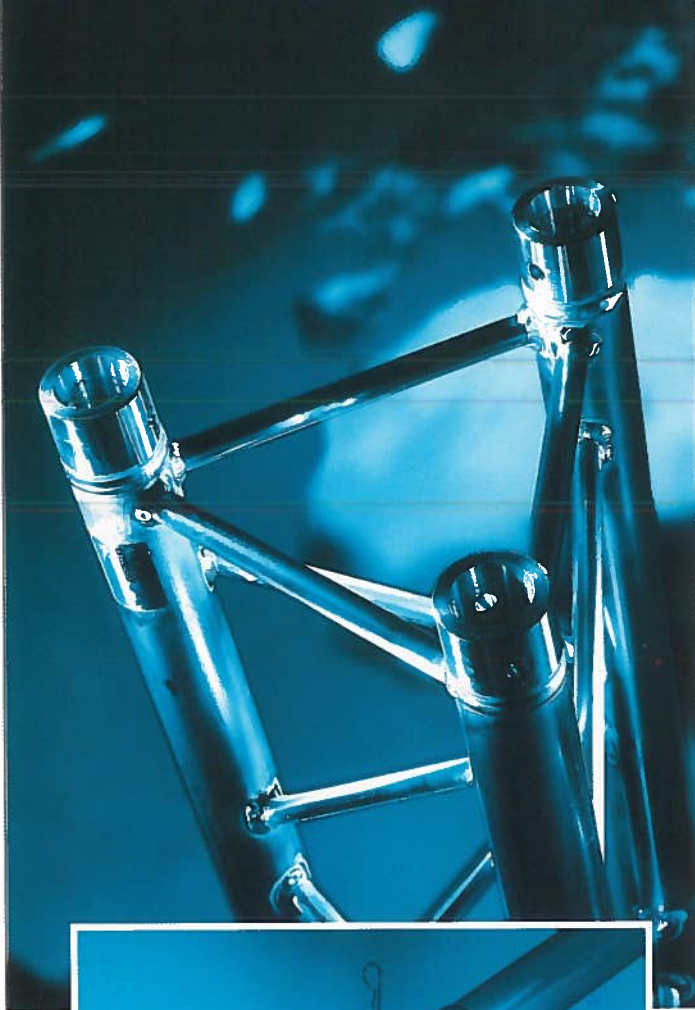
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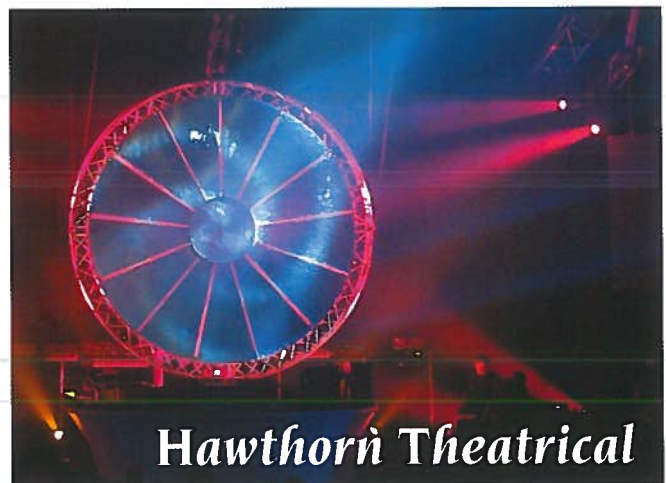
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## News Round-Up



### Hawthorn Theatrical Gets Chemical

Lighting and sound specialist Hawthorn Theatrical has recently supplied lighting, trussing, rigging and drapes for the UK and European leg of the current Chemical Brothers tour. The lighting designer for the tour - Andy Liddle - who has been working with Hawthorn Theatrical since last April, specified High End Studio Beams, Martin MAC 300s and Atomic strobes, Clay Paky Stage Scans, Avolites dimmers and a Wholehog II control desk.

Hawthorn Theatrical's main challenge was to produce a circular revolving structure which could be used as a projection screen and then flip over to its reflective side at the end of the show to form the centrepiece of a breathtaking finale. In addition, the screen had to be lightweight and modular as it was to travel with the band for the whole of the World tour. As an approved Prolyte dealer, Hawthorn Theatrical provided 4.5m circular truss from the H30V range, along with Stagemaker motor hoists and a variety of specialist fabrics to achieve the stunning effects shown in the accompanying photograph.

### TMB Launches OEM Sales Department

Lighting sales specialist TMB has opened a new OEM Sales division, based at its Los Angeles HQ. The new department will focus on developing TMB's sales to OEM manufacturers, both inside and outside of the lighting industry. The company's CEO Colin Waters told us: "Over the years, we've developed excellent resources for many types of products, at both the component and finished levels. This move will allow us to develop and further capitalize on these resources."



Alison Lovell - who will head up the new OEM Sales team.

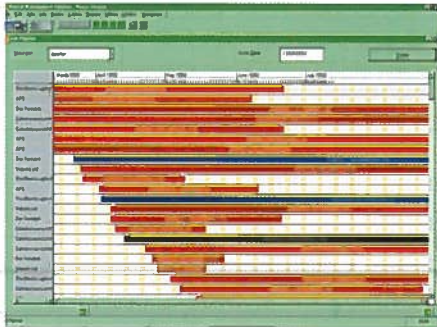
The goal of the new department is to build a specific, expert OEM Sales team, functioning close to, but outside, the hectic environment of TMB's regular sales office. "The 'Rush Service Normal' pace of TMB's sales offices is better suited to our dealer and rental company customers," continues Waters. "The equally important, but usually less urgent, needs of our manufacturer/OEM customers will now benefit from a different sales approach; one featuring more in-depth follow-up, plus engineering and certification assistance."

TMB's sales to OEMs include custom cables and harnesses, sheet metal and die-cast components, custom plastic and metal connectors and sockets.



## RMS Provides Software Solution for Stageco

Rental Management Systems, provider of advanced software systems for the entertainment industry, has recently completed one of its most comprehensive multi-site systems installations to date, for European staging rental company, Stageco.



Founded in Belgium in 1985, Stageco now has rental operations in Belgium, The Netherlands, France, Germany and the USA, and has serviced some of the world's most high-profile tours, sporting events and festivals, counting the Rolling Stones, Elton John, Pink Floyd, U2 and Robbie Williams among its clients.

The company stocks in excess of 7,000 different products - sometimes holding as many as 10,000 examples of each - making for a stock-holding which numbers literally millions of items. Consequently, the logistics of tracking movement and availability presents a huge administrative effort, hence why the company turned to RMS.

The system that Stan Gunkel of RMS came up with treats the company's various stocks as a single entity, and uses internet connections and a 150MB database to track movement across the company's six sites. Regular online updates to the database mean that each Stageco branch has an exact up-to-date record of what is available, as well as where and when.

The system incorporates a library of AutoCAD designs and elements, and once a drawing is completed it is exported to the RMS system which then automatically generates all the required documentation, guaranteed error-free. When drawings are changed and updated, all documentation is updated accordingly. For jobs where the equipment list alone can run to 40 pages, this represents a huge saving in time and administrative effort.

Lee Baldock

## Lighting Technology Projects Relocates to Head Office

In a move designed to integrate the Lighting Technology Projects business closer to the parent Lighting Technology Group, the LTP team have literally moved a step nearer to their colleagues at the company's head office. Recently involved with a number of high profile installations, including the award winning Gateshead Millennium Bridge and Hull's much publicized The Deep, the Projects staff have taken the opportunity to relocate to the main Group offices at 2 Tudor Estate, Abbey Road, Park Royal, London.

Leading the Projects business, Terry Reeves, LTP general manager, commented: "We trade as an independent business able to offer a specialist installation service. By moving to 2 Tudor Estate however, we can build upon the relationships of our Group colleagues and take on a wider range of projects."

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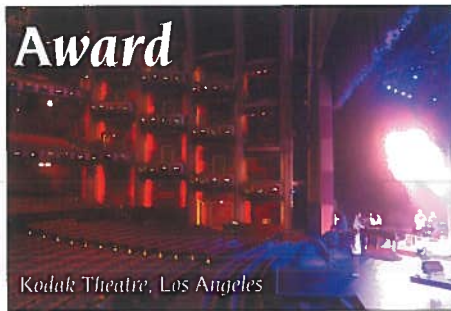


## TPC Wins Queen's Award

**Theatre Projects Consultants (TPC) has been awarded a Queen's Award for Enterprise in the International Trade category.**

The news was announced on the Queen's birthday on 21 April. TPC's David Staples told L&S: "This is a great honour for all of us at TPC as it acknowledges our success in working with clients and architects around the world in the planning, design and equipping of theatre buildings."

TPC, operating from London, Connecticut and Singapore, is an established name in the construction of new theatres, concert halls and opera houses, as well as the renovation of existing buildings. Beginning in the UK (project number four was the National Theatre and project 10 was the Barbican), the company has expanded over 25 years and has now completed projects or studios in some 52 countries, including many national theatres, opera houses and major concert halls, but the majority are smaller-scale drama theatres, educational facilities or community spaces.



Kodak Theatre, Los Angeles

In the US recently, the company worked with the architect on the design of the new Kodak Theatre in Los Angeles - built specifically to host the Oscar awards ceremony.

In Singapore, TPC has been advising the Government for over 10 years on the brief, planning, design and equipping of The Esplanade - Theatres on the Bay. This major new performing arts centre has a 2,000-seat lyric theatre, a 1,800-seat concert hall and three smaller performance spaces.

Finally, the company is consulting on a new children's theatre currently being designed for a site near the River Thames in London. The Unicorn Children's Theatre will provide a new 350-seat home for this long-established and well-regarded company.

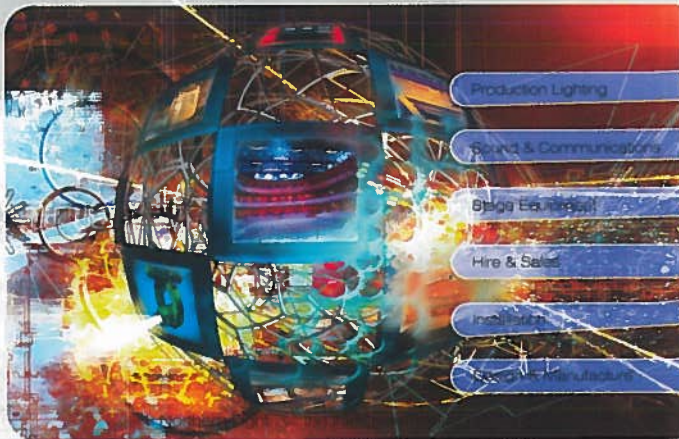
## Bandit Moves on Both Sides of the Atlantic

**Bandit Lites has purchased a new 8,400sq.m facility in Bedford, UK, to serve as the headquarters for its European operations.**

"Given the tremendous growth we have experienced in the European market, we needed a larger facility to better suit our needs," said Bandit Lites' CEO, Michael Strickland. The spacious building has plenty of storage, a large loading and unloading area, and is wired for an extensive computer network.

Meanwhile, in the US, Bandit has purchased additional facilities in Nashville, Tennessee. While the current property will continue to serve as the main HQ, the new warehouse will serve as an overflow storage facility and a space for preparing shows, while still allowing for expansion. Michael Golden, Bandit's vice-president in Nashville, said: "Our plan will involve a fully staffed facility to build and prep systems, while our current facility will become more of an administration and pre-rehearsal programming facility."

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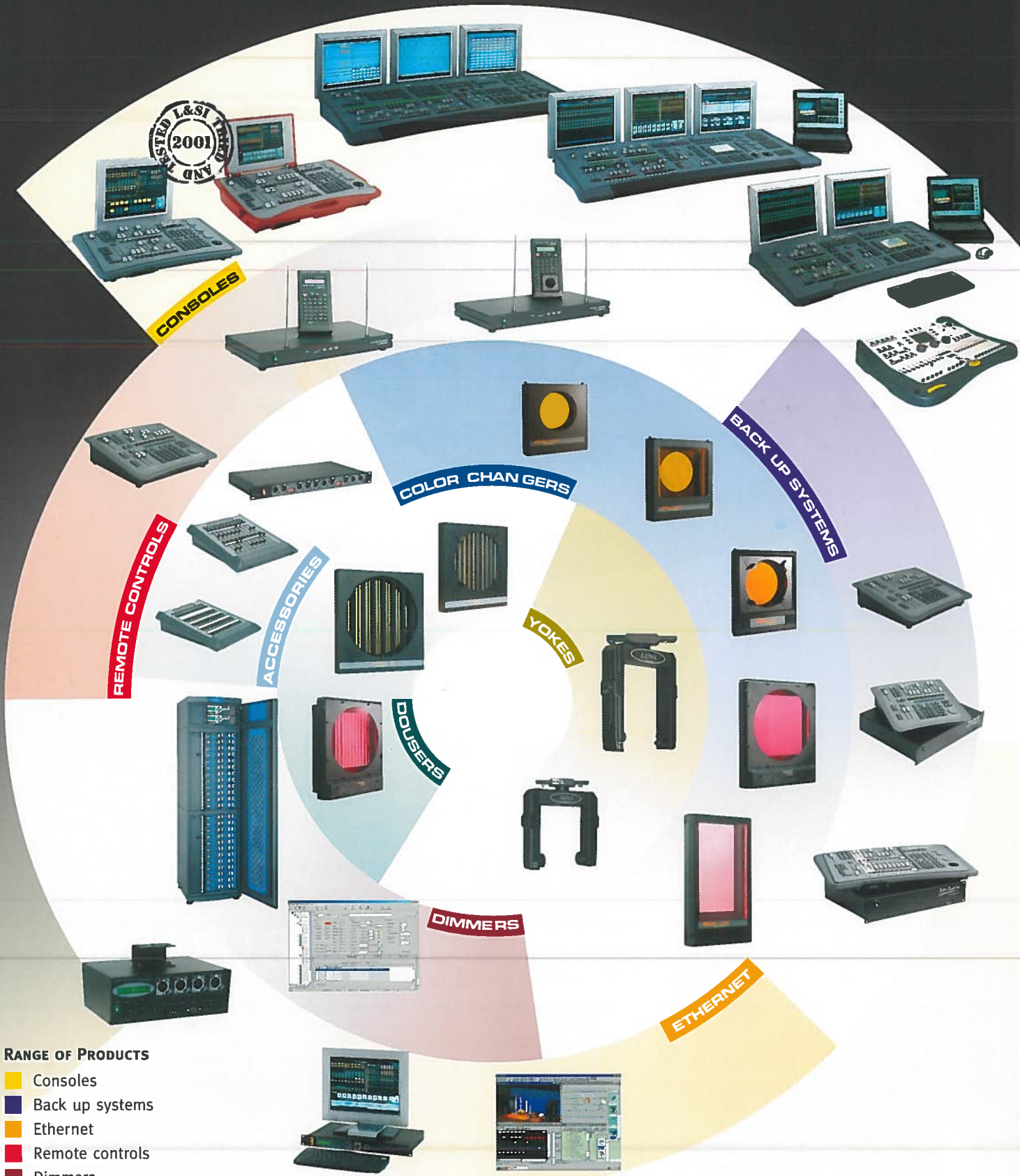


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## People on the Move

**Simon Sinclair**, who for the past five years has been heading up the TC sales operation in the USA, is joining **Tannoy** as sales director. He replaces **Derek West** who is leaving the company after 10 years. West's decision to leave coincides with the TC Group's commitment to Tannoy, which requires all senior management personnel to be based within easy reach of company headquarters in Scotland. "After 10 years, the commute between Oxford and Glasgow has begun to lose its appeal," commented West. "I've been thinking seriously about a change in career path, so, as I wasn't keen on re-location, it seemed the right time to make the change."



**Renkus-Heinz** has appointed **Rik Kirby** as its national sales manager for the United States and Canada. Prior to his move, Kirby was sales manager and European sales manager at BSS Audio in the UK for over five years, following a two-year career in live sound engineering. Kirby will be based at Renkus-Heinz Inc's headquarters at Foothill Ranch, California.

**Michael Dodsley** has been appointed as Theatre Division manager for the Ilkeston-based **Custom Group Ltd**. Dodsley, formerly project manager at CCT Lighting, has 20 years' experience within the stage drapery, engineering, sound and lighting industries, beginning as a trainee engineer for Furse Theatre Products. He joins an established team which includes sales manager Gary Redfern and project manager Andrew Brader.

**Soundcraft's** UK HQ has promoted **Ian Staddon** to the position of product development director, a newly-created role at the head of a team of experienced product managers. Staddon assumes responsibility for Soundcraft's strategic product development activities, including market research, new product definitions and specifications and project management. Staddon has been with Soundcraft for more than 10 years, his most recent role being as regional sales manager for Asia and South America.

**Zero 88** has appointed **Grant Bales-Smith** in the newly-created position of project sales. Bales-Smith has spent nearly eight years in the industry, working in hire, events, sales and projects. He moves from Salisbury-based Stagecraft, where his most recent focus was projects and installation work. In his new role, he will be responsible for developing larger-scale projects and working closely with the company's UK dealer network to manage the installations through to completion. Grant will be working closely with Lorna Parsons, who will continue to manage the UK dealers.



*Clockwise from left, Rik Kirby who joins the team at Renkus-Heinz; Zero 88's Grant Bales-Smith and Dave Mitchell, founder of SIS, pictured by L&S in 1987.*

**Zero 88** has also announced the appointment of **Franck Tlesing** as Northern Europe market manager. Since joining Zero 88 in July last year, Tlesing has managed the company's transition from an exclusive to an open network in Germany. His skills will now be directed to the management and support of Holland, Belgium, Sweden, Norway, Finland, and Denmark.

**Paul Smith**, former general manager of Avolites Middle East, has joined **Sun Light & Sound** in Dubai as business development manager. Smith's brief is to expand the business from its core markets of fashion shows and corporate events. As an experienced lighting designer, he will also be heading up the lighting department of the company's special projects division. Starting his career at Theatre Projects in 1997, Paul went on to head a wide range of lighting projects, before joining Avolites Middle East.

After four years with **AC Lighting**, **José Joao** has been promoted to senior account manager in the Export Sales department. Fluent in Spanish and Portuguese, and with 17 years' experience in entertainment lighting, Joao will strengthen AC's drive into the Latino market.

### David Mitchell

David Mitchell, the founder and former owner of SIS in Northampton, died recently from cancer of the liver. He was in his mid-fifties and had been out of our industry since the early 90s.

Mitchell started SIS in the 70s as a manufacturer of NAB 'jingle' machines, but moved into disco lighting manufacture in the early 1980s, as well as wholesaling for other manufacturers. Ian Brown, now of Coe-tech, was SIS's sales director in this period, but moved on when SIS's success enabled it to move to larger freehold premises. Unfortunately, higher overheads and bad debts led to the failure of the company only a few years later.

David was well-known and respected. He was likeable, with a mischievous sense of humour. Many of his friends in the industry will regret, as I do, that his relative obscurity in recent years meant that they could not easily keep in touch with him.

### Tony Kingsley

Dave valued friendships and didn't let his friends down. When his business started to falter due to bad debts and high overheads, he made sure that the industry didn't suffer. That impressed me in an era famous for dumping creditors and moving on.

Dave called in to Gemini to see me a couple of years ago. With a deadpan face he tore me off a strip for not keeping in touch. Then he cracked a wicked grin and started to load up his car with a local delivery that he had overheard being discussed.

It's a great shame that his business didn't see the matured marketplace that eventually caught up with us.

### Rob Peck

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## DPA Microphones Marks 10th Anniversary with Move

*DPA Microphones, based in Denmark, marks its 10th anniversary this month. Founded by Morten Støve and Ole Brøsted Sørensen, the company has recently moved into new premises in its home town of Allerød, 30 miles north of Copenhagen.*

The 1,600sq.m facility houses the R&D team, led by Ole Brøsted Sørensen, all sales and marketing, service and dispatch, and a workforce of 30. Also included is an in-house recording studio, equipped with a digital console and outboard electronics from fellow Danish companies such as TC Electronics, DAD and TubeTech. It is used regularly by professional musicians and audio engineers, enabling experimentation with microphone products. DPA has always worked closely with its customers, collaborating with recording and broadcast engineers around the world. Today, it is represented in 47 countries by its network of distributors and dealers.

The company's origins can be traced back to the Pro Audio division of Bruel & Kjaer, and the two companies still enjoy a mutually productive

Morten Støve and Ole Brøsted Sørensen - founders of DPA Microphones.



working relationship to this day. Although its early products concentrated on professional recording, with the original line of the world-renowned B&K Series 4000 standard microphones, DPA has evolved into a highly versatile pro-audio design house, delivering market-leading products into all sectors.

This evolution reflects the company's interest in its customers' applications. The line includes nearly 200 adapters, mounts and other accessories, facilitating precise set-up techniques, which allow mics and engineers to perform at their best. A good example of the approach is the new DPA Type 4071 miniature omni, which is available with one of two Accessory Kits, dedicated respectively to ENG/EPF applications, and to Film/TV production use.

## Coemar UK Opens for Business

*The newly-incorporated Coemar UK will operate from premises based in Ashford, Kent.*

And when the company opened for business on April 29th, UK customers found a massive price reduction on all Coemar stock awaiting them. This will equate to approximately a 30% price decrease across the board.

Price points of Coemar product have traditionally been high in the UK. "But efficient streamlining of production under the new ownership and new UK distribution has meant lower prices from the factory and to the consumer," explains Ian Kirby. Coemar UK's new 6,000sq.ft office, warehouse and demonstration facility will include a full inventory of stock and spares - plus a new product range, launched in the last nine months.

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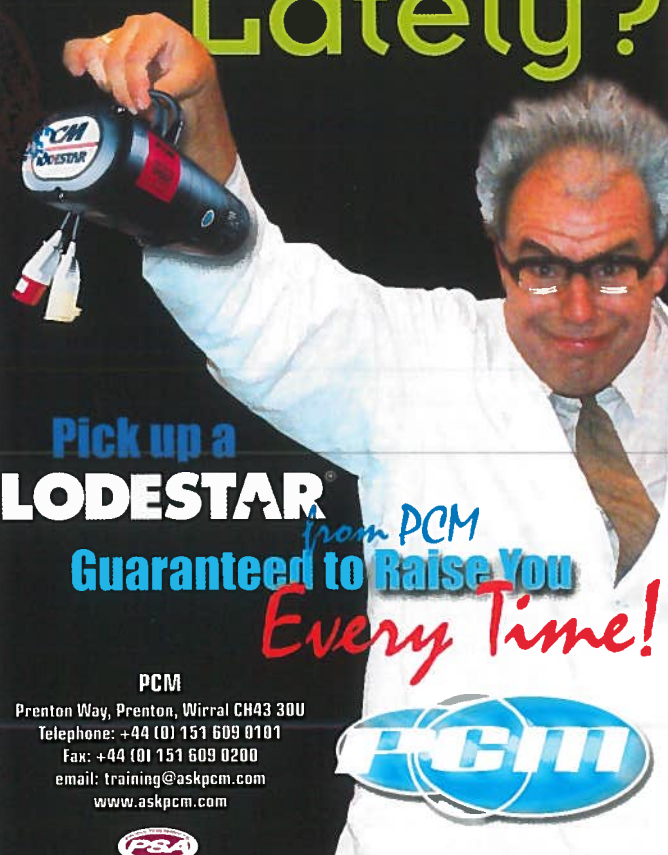


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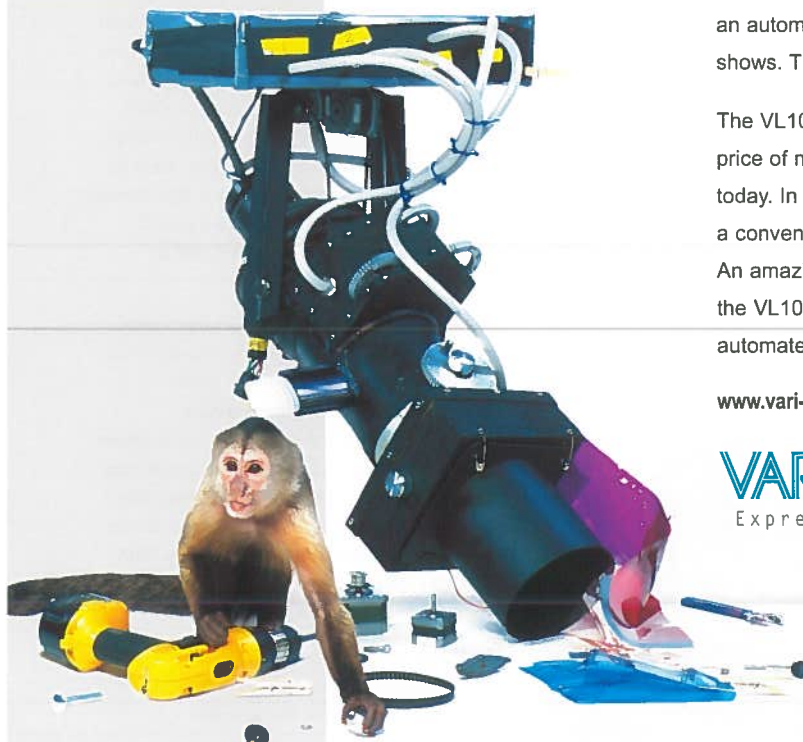
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## The Birmingham Hippodrome

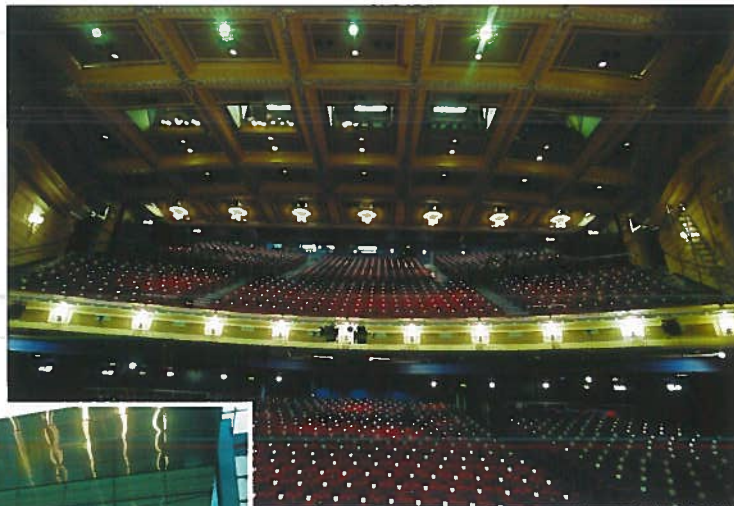
*Dramatic changes are taking place in the middle of Birmingham. Much of the city centre appears to be under construction, and - as increasingly seems to be the case in such projects - the civic redevelopment has been led by the artistic facilities at its heart: the Birmingham Hippodrome Theatre has recently completed a development project that lasted almost two years.*

Following a £24 million National Lottery Award through the Arts Council of England and further support from the European Regional development Fund, Birmingham City Council, donations from businesses and individuals and funds raised through appeal, the project has seen practically every part of the building reworked. The foyers were demolished and re-built providing greatly improved access, including lift and disabled access, together with a restaurant and other catering facilities - all wrapped within a design that feels light and airy. On the other side of the building, the purchase of adjacent land has allowed for the creation of a new complex housing facilities for the Hippodrome, the Birmingham Royal Ballet, which uses the Hippodrome as its home base, and DanceXchange - the national dance agency for the West Midlands.

Expansion back from the stage has also allowed the most useful improvement to the theatre as far as those who tour into it will be concerned: the building has always been blessed with an enormous stage, but unfortunately it is 3.5m below street level, and the get-in has always been slowed by having to use a lift and/or ramp. Now, a new rear-stage extension houses a 15m lift that can carry trailers down to stage level. In addition, dock doors with off-street parking allow further trailers to be unloaded into the scene dock, via scenery lifts, simultaneously.

Right, the newly refurbished and re-seated auditorium

Below, the stunning new glass facade



It's the kind of sensible, practical facility you rarely come across in the UK.

The stage and auditorium will be familiar to those who knew the 'old' theatre, though the auditorium has been re-worked with a new, very light white-and-silver colour scheme that is rather beautiful under houselights, but could perhaps be a little too pale for some shows. However, the technical facilities have undergone a considerable upgrade. Here the theatre's staff, with considerable experience of the building between them, decided to trust their own counsel rather than that of a theatre

consultant, with operations director Dave Muir turning to Stage Electrics for the lighting and sound installation.

Having enjoyed good service from their Strand JTM dimmers, Birmingham decided to take a chance on Strand's new SLD dimmer, the installation making use of the first SLDs off the production line, though delays to the project meant that other venues were actually using the dimmers sooner. Stage Electrics' Nick Ewins and his team installed six 96-way racks that feed permanent outlets around the stage and a Powercon-based patch panel that then feeds front-of-house.

For control, Strand was again selected, with a 500-series console sending data to the dimmer room through Strand's Shownet network; from there Stage Electrics 12-way splitters can feed data to just about anywhere through a DMX and Ethernet patch. The newly-created Patrick Centre for the Performing Arts studio theatre uses a similar control set-up: here a 300 console with LCD screens controls two 96-way SLD racks that then feed out to a fixed grid of internally wired bars.

Ewins and his team were also charged with refurbishing the sound and communications systems, moving the amp room to the substage area, servicing the existing equipment, rewiring the stage and auditorium sound connectors using Speakon connectors wired as four-way connectors and providing a new sound control position at the rear of the stalls. Stage Electrics also provided an AMX worklight system complete with an LCD touchscreen for system programming.

The building was re-opened late in 2001 with all of the systems then being put fully to the test - and passing! - for the year-end pantomime!

Rob Halliday

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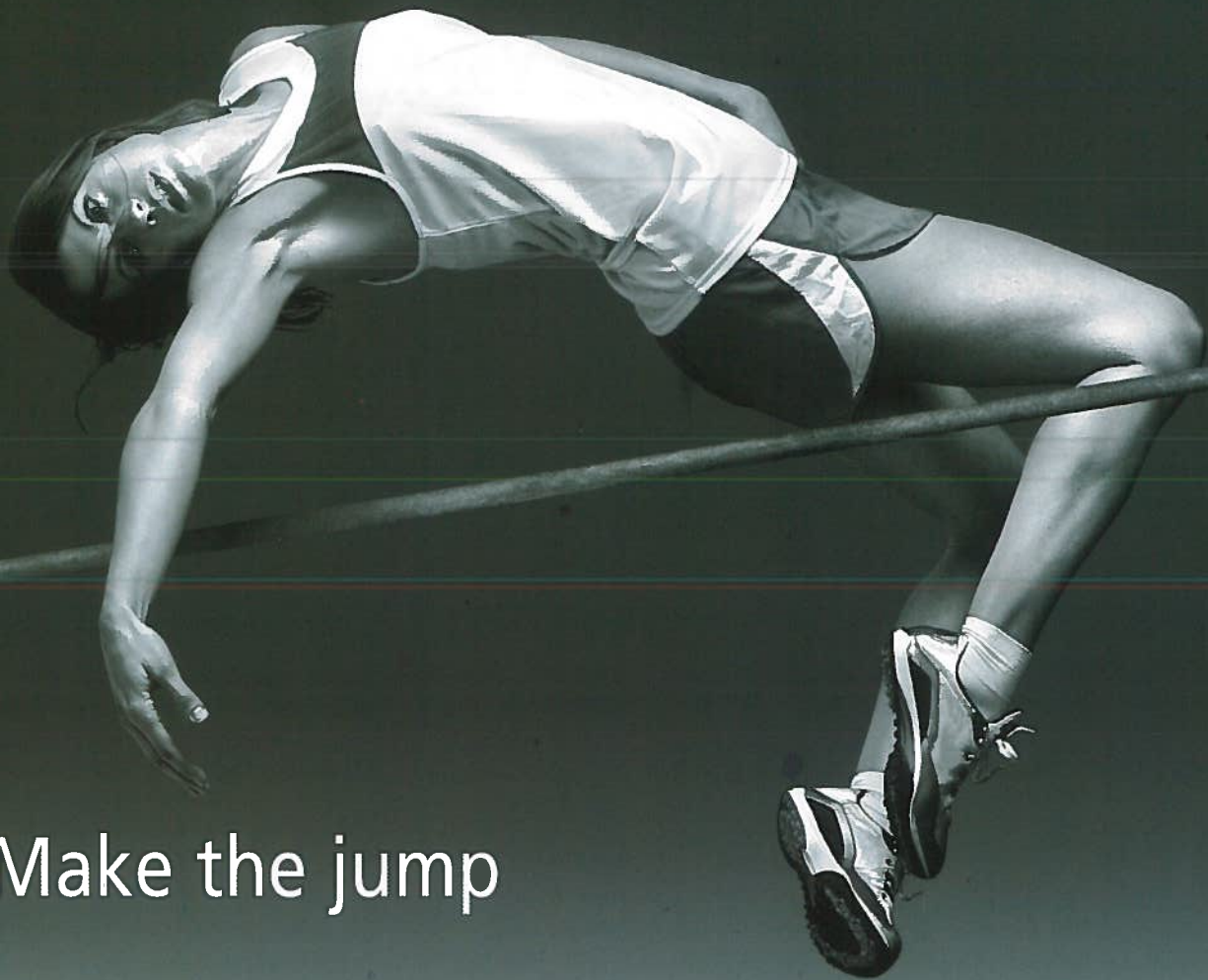
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## Tribute in Light, New York

*Six months on, and it's the smell that still gets you. It's worse at night: even if you had somehow not known what had happened at the place now called Ground Zero, you'd know it was something tragic.*

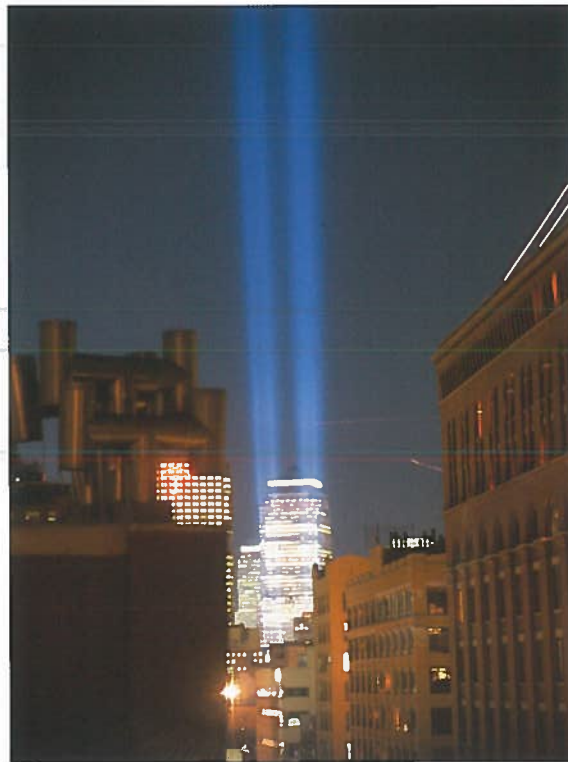
It's a tourist attraction now; they queue for hours to walk up the viewing platform, buy pictures of the burning buildings from street vendors. They look up into the clear blue sky and find the strangest part of the whole experience - that there is now nothing to look at. The long, dreadful task of sifting through the remnants of the World Trade Centre is nearing completion.

Fundamentally, they are looking at an empty hole in the ground and empty space in the air. In downtown Manhattan that, in itself, is unusual; to see the damage to the surrounding buildings, some eerily shrouded, silences the observers. The collapse of the Towers has left a void in many people's lives, and it has left many people - particularly many in the arts fields - feeling useless, their skills and talents not the practical skills of the fire-fighters and workmen who have worked at the site ever since 11 September.

Now the artists have found a way to contribute: the *Tribute in Light*, two giant, square columns of light situated one block north of Ground Zero, re-creating the geographical relationship of the Towers, filling the void in the skyline while extending higher than the physical towers ever could. That was partly their intent, yet they are redolent of so much more: of the floodlights that have lit the site every night since September, of World War Two searchlights, even of another icon of America, the giant light signal that summoned comic-book superhero Batman - but this is real life; in a real catastrophe the superheroes turn out to be real people. The lights are a tribute to those people.

Despite taking time to become reality, switched on six months to the day after the attacks, the concept for the Tribute came very quickly to artists Julian LaVerdiere and Paul Myoda - who, until shortly before September 2001, had been part of the Lower Manhattan Cultural Council's World Views artist residency programme housed on the 91st floor of Tower One. The two described their proposal as being "an emotional response more than anything... the towers are like ghost limbs, we can feel them even though they're not there anymore."

Co-incidentally, a similar scheme was independently proposed by architects John Bennett and Gustavo Bonevardi; the two groups



were brought together by Creative Time, a public arts body, and the New York Municipal Art Society. MAS brought in architectural lighting designer Paul Marantz of Fisher Marantz Stone, who became the 'godfather' of the team.

"I think they wanted someone to say whether all of these ideas were actually possible," Marantz recalls. "We did some computer modelling and could show that the concept would work, though we didn't have a location then. One early plan was to put the lights on a barge moored off Battery Park City, but we realised that however well we restrained it, it would always have some movement and that wasn't really the desired effect!"

The lantern of choice for the project is the Space Cannon Ireos Pro, fitted with 7kW Xenon lamps. The decision was based on artistic and practical sensibilities: the lamps needed to be bright, they needed to have a searchlight-style parallel beam, they needed to be weatherproof - and they needed to be available in sufficient quantities. "The light towers re-create the layout of the Towers at one-quarter scale," Marantz explains, "and even for that we're using 44 Space Cannons per tower. Space Cannon were very supportive, bringing in units from all over the place."

The lanterns are arranged on two platforms built on a sliver of clear land between a tent being used by the Environmental Protection Agency, a food tent, and a hotel which is currently not in use - but which is providing the power feed to the tribute. Marantz's greatest concern was

ensuring enough density of light to make the towers appear solid; the Space Cannon's dimensions did not allow them to be packed closely enough together when arranged side by side, so the final configuration has them staggered.

But as Marantz notes: "There aren't really any technological breakthroughs on this project; the challenges were practical and political." The practicalities including finding the site and sponsors, these including GE who agreed to pay for the lamp costs. The political issues were more complex, including having to wait for the year-end arrival of a new mayor more interested in looking forward than back. The many groups formed to support those affected by the collapse of the towers also - rightly - had much to say, leading to a name-change from *Towers of Light* to *Tribute in Light*. Then there were the residents worried about disturbed sleep, the air traffic controllers worried about aircraft navigation and bird lovers concerned about the spring migration over the area. The final compromise was that the *Tribute* would run from 6.30pm to 11pm every night, except in conditions of very low cloud cover, for one month from March 11th - the longest that funding and the bird-watchers would permit.

With the politics sorted out, Marantz and his team had nine days to get the installation in and focused. Not wanting to reveal the towers before the official switch-on, Marantz "used the colour changing of the Space Cannons to keep the lights in deep blue while we focused, except at the very end when we went to white on everything for just five seconds. Of course, someone managed to take a picture which ended up in one of the newspapers."

The focus proved particularly challenging. "We knew the beams had to be parallel, but how do you achieve that? I thought we'd be able to line the lights parallel to adjacent buildings, and we had spotters positioned around the site to help with this. But after the first night it became very clear that the spotters didn't need to be a few blocks away, they needed to be way away, in Jersey, in Brooklyn, so that's what we then did, keeping in touch by cellphone."

With the towers extending ever upwards, the degree of precision required was high, "and these are DMX-controlled lights, rather than architectural lights that you can lock down really tightly. We now have a guy there every night at switch on to just take a look at them and adjust them on the Wholehog if necessary."

The ceremonial switch-on was accompanied by soprano Jessye Norman singing, and here Marantz allowed himself one indulgence. "We





used the lights' focus control, so that as they came on they were soft and so the towers weren't clearly defined. Then we ran a cue to change the focus, so the towers slowly sharpened up. It worked very well." Apart from that, the Tribute is a model of beautiful, elegant restraint: clear white light rising up - no movement, no colour changes, no frivolities.

The result of the project has attracted much discussion, some favourable, some more muted. Its success as a lighting installation depends on where you are: Manhattan must be one of the toughest locations in the world to pull this off, since from mid-town the Tribute is hard to see through the glare cast upwards from the lights and billboards of 42nd Street and its surroundings. Downtown, the immense floodlights of Ground Zero cause similar problems, with some tourists coming out of the Subway being drawn like moths by those lights and thinking they were the Tribute.

More light might help, but as Marantz points out, huge increases in light would bring relatively small perceived increases in brightness. In any case, there are no more lights available! From the right location,



though - below the theatre district, the top of the Empire State Building, the southern tip of the island, the shores beyond Manhattan, or the Staten Island Ferry, where the towers can be framed behind the Statue of Liberty holding up her torch, the Tribute is ethereal, captivating and haunting. Particularly - to the surprise of Paul Marantz, a New Yorker pleased with the project and proud to have given something back to his city to help it heal - on a clear night. "I thought it would work best on a slightly misty night, so there was some atmosphere in the beams, but it doesn't; that just reduces the contrast. Absolutely clear nights, with the light against a black background, are the most successful."

Rob Halliday

## Hand Held Audio Goes live Online

*Hand Held Audio, specialists in wireless and in-ear technology, have launched a new website which went live on 1 May.*

The site is designed to bring wireless technology to a broader market with all of the benefits of the experience accumulated by the company at the high end of the market. Founder member and director of Hand Held Audio, Mick Shepherd, is pleased with the new development. "We've been specialists in the high end touring and, more recently, corporate markets right from the very beginning and will continue to be so," he said, "but we hope that the website will enable us to reach a new sector of the market where we have never before had a presence, and yet for whom wireless and in-ear technology is becoming increasingly available."

The new site is designed to be a one-stop online store dedicated purely to radio microphones and all things wireless. As well as an extensive product catalogue from a wide range of manufacturers, the site also offers comprehensive technical support and advice on how to go about setting up a system.

 [www.handheldaudio.co.uk](http://www.handheldaudio.co.uk)

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# rosco at the science museum

A theatre of Science, a building that creates a condition, a state of mind, a borderless space where science continuously develops, where exhibitions continuously change, the Science Museum is a place where architecture and light truly form one. The very narrow wavelength of blue light distracts the human eye and together with large scrim panels creates a feeling of infinity. Orange accents create dramatic contrasts with the blue. A curtain wall

consisting of louvres and coloured glass get the sun into the building. On either side of the main space, behind the concrete wall, cascading stairs connect the different floors to each other. The blue concept is continued in a different way, having Rosco Ultramarine Blue Supersaturated Paint on the walls and white pools of light on the passerelles and stairs.

ARCHITECT: RICHARD MACCORMAC

PHOTOGRAPHS: ROOS ALDERSHOFF



Rogier van der Heide is an architectural lighting designer, founder and principal of Hollands Licht Advanced Lighting Design, an international lighting design company based in Amsterdam.



Current projects include the World Horticultural Expo Floriade (Netherlands), The National Museum for Natural History (Netherlands), The Tate Modern (UK, with Richard MacCormac) and Abu Dhabi 3rd. Bridge Crossing (United Arab Emirates).

Rogier teaches architectural lighting design at the Amsterdam School of Arts and he is a visiting teacher at several other institutes. In 1999 Lighting Dimensions awarded him Designer of the Year. This year, Rogier received an Edison Award of Excellence for the Science Museum's lighting design.

Edison Award of Excellence for the Science Museum's lighting design.

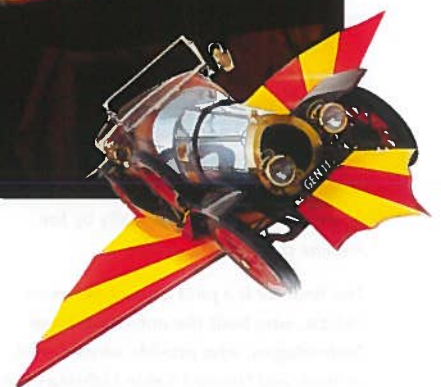
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# Truly Scrumptious



***Chitty Chitty Bang Bang* recently landed on stage at the London Palladium. Rob Halliday thinks this is theatre at its best . . .**

The funny thing is, if it had been made now rather than in 1968, it would probably have jumped from screen to stage in two years instead of 34. But *Chitty Chitty Bang Bang*, the story of a magical racecar rescued by a mad inventor and his family, is from a different time - before *Cats* and *Phantom* proved you could make as much money from the stage as the silver screen, before Disney proved that the public wanted to come and see real people perform live versions of shows they already knew from video. And before the Broccolis, producers of the *Chitty* film (and also of the James Bond franchise - like *Chitty*, based on stories by Ian Fleming) discovered they had a taste for theatre with the moderately-successful *La Cava*.

But all those things have happened now, which is why *Chitty Chitty Bang Bang* - "the most fantasmagorical stage musical of all time," according to the adverts, can now be found at the London Palladium, its buoyant, bouncy score by the Sherman Brothers - who also wrote the songs for *Mary Poppins* and *The Jungle Book* - extended to create a full-scale musical. It would be easy to be cynical about this, to accuse the producers of cashing in on an old children's favourite - if it wasn't just so damned good. I find it hard to believe that even the most jaded, hardened, negative, cynical theatregoer could come out of this show without tapping their fingers with delight and generally behaving like a wide-eyed five year old - I know I did. The people working on this show have, truly, created theatrical magic.

## DESIGN

"Of all the shows I've done - and there have been a few, over the years - I think this one has given me the greatest satisfaction. The car flies. The kids love it. And to get that kind of response even from people who know what's been going on and how it all works is very gratifying." So says Richard Bullimore, the show's production manager and a man whose 'few' other shows include the likes of *Cats* and *Starlight Express*, talking about the pivotal moment in the show when, plunging over the edge of a cliff, the car unfolds its wings and flies. If *Chitty* was to work on stage, how to achieve that moment dramatically was the first problem that had to be solved by designer Anthony Ward. Ward himself admits that the solution was the work of many.

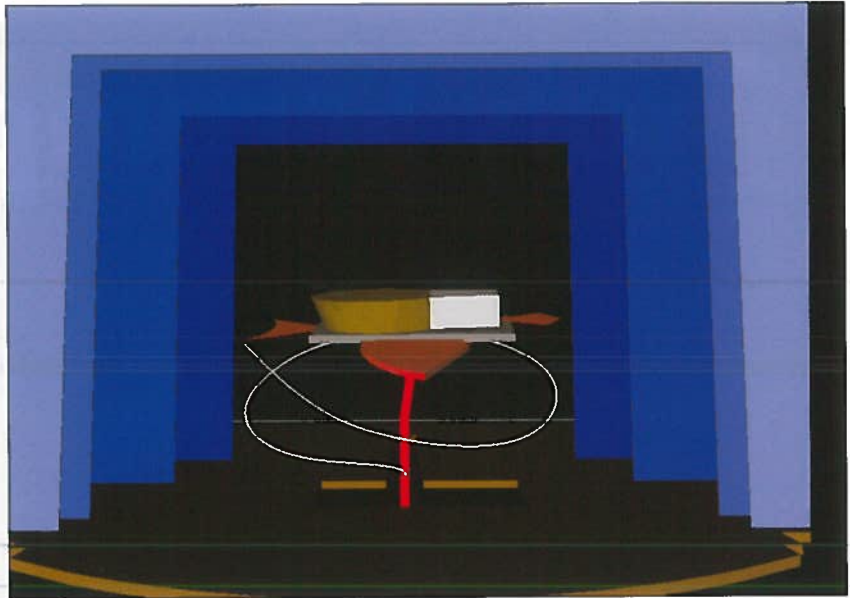
"We knew that the car had to fly," Bullimore recalls. "I thought it should be some kind of arm coming up through the floor; I called Delstar and said 'We're doing *Chitty* and we need the car to fly!' We didn't take a finished design to them: we went and talked about the parameters, we want to do this, can you make it do that, what can you give us? That's how it all came together. I think it was interesting approaching it like that, having the engineers put in suggestions."

The final design has the car - a faithful recreation of the film car - housed understage, mounted to the end of a double armature on a gimbal that allows it to rotate and tilt in two planes. This combination allows the car to





Right, a screen capture from Stage Technologies' desk showing 'Chitty' flying. Above, the real thing



appear to drive around the stage, to lift straight up with a giant airbag appearing underneath for the scene where Chitty floats on water, or to lift, spin, tilt and even fly out over the audience, wings extended, for the flying scene. Of course, to make that work requires a clear sub-stage area, and the Palladium's basement was far from clear, filled with the old drum revolve familiar from years of televised variety shows - though hardly used since. "It took quite a bit of negotiating, but the revolve has now gone," Bullimore explains - though one suspects that the theatre management are secretly delighted that they now have a clear basement and modular floor to offer to incoming productions (assuming *Chitty* ever leaves the building!) The revolve was documented photographically by Joe Aveline prior to its removal.

The final car is a joint project between Delstar, who built the armature, Stage Technologies, who provide winches and control, and Howard Eaton Lighting Limited (HELL), who built the car itself. Eaton - a creator of crazy gadgets who lives with two children in the English countryside, not unlike the central character of the show itself - has made the car twinkle and sparkle magically using every trick in his company's book, including low-voltage lighting, fibre optics and LEDs, ensuring that car and occupants are lit entirely from within the car during the flight, minimizing the external light required and so helping to hide the mechanics. "Howard drives you to distraction - but the result is just fantastic. He deserves a lot of credit for taking something that no-one really knew what to do with and creating this wonderful thing," says Richard Bullimore.

Chitty's movement is under the control of automation operator Graham Coffey, housed, with his Stage Technologies Acrobat console, in the stage-left side of the auditorium, close to the Palladium's first front-of-house lighting control position - the only minor drawback being the need to operate the show tethered to an earthing point after static from the theatre's new carpet took out the desk's

## FIBRE OPTICS

*Chitty* is the largest fibre optic job in the West End. The show features 40km of fibre and 30 HELL DMX-Twinkle sources with either twinkle or animation disk and eight-position colour wheel.

The show includes starcloths in the pros, large star patterns and an animated show logo in the header, plus stars in the portals. The scenic fairground piece, with its animated sources, includes 2,000 25W 40mm lamps.

A HELL DMX Radio system controls the lights, the motors in the trucks, plus a separate system for the pyro sequence on the breakfast machine.

trackball during the first dress rehearsal! For the car alone, Coffey has 10 axes of control - nine real axes, plus one virtual axis used by Stage Technologies' Pathway software to allow a route to be dragged out on a screen. "The Pathway on this is a variation of the system developed for *The Witches of Eastwick*, adapted to suit the car. We just sat down, firstly at Delstar and then here, and tried it, then refined it based on feedback from the creative team. We had a 'dummy' car at first, so it didn't matter if it got bumped around a bit!," explains Coffey. The movement of the armature is hydraulically controlled, but using a new type of hydraulic valve that allows greater control than has previously been possible and stunningly smooth movement. Programming was helped by the many volunteers wanting to ride in the car - in fact, about the only person who hasn't tried it yet is Coffey himself, since no-one else has learnt to operate it!

What Eaton, Coffey and their teams have done most successfully is imbibe Chitty with a

personality, the car even winking cheekily and bowing during its curtain call (yes, it gets a call). Be in no doubt, the cast may feature Michael Ball, Brian Blessed, Richard O'Brien, Anton Rodgers, a fantastic newcomer in Emma Williams, some great children and 12 dogs, but the car's the star!

But it is by no means the only piece of scenery: Anthony Ward puts just about the entire film on stage, complete with his familiar trademarks of stunning cloudscapes, exaggerated perspective and tricks of scale; there's flown and tracking scenery, mostly automated, and the performing area extends beyond the proscenium, with a pasarelle around the front of the orchestra pit, a hot-air balloon that flies across the stalls (controlled by Stage Technologies' BigTow winches hidden in the side auditorium boxes), and the final, spectacular exit of the Childcatcher, hoisted up through the auditorium roof. And, as Graham Coffey notes, "much of it happens at the same time. In the last third of act one there is always something moving - we pick up Grandpa in his outhouse, track him across, then a cloth flies in, the balloon flies across the auditorium, the little car follows it, but at the same time we're presetting Chitty upstage, then we reveal that, then it flies and the wings come out and so on to the end of the act." Coffey admits to sleepless nights during technical rehearsals - "but after all that, we have a great show!"

"The Broccolis are ecstatic - they were very worried about the car, but they now know that's the least of the problems," says Richard Bullimore, though he has been getting notes about it from other sources. "The Westminster health and safety guy came to see the show. He had a few notes for us, but the main one was 'last car flight - fabulous!'"

## LIGHTING

Those who know Mark Henderson say that he is one of the calmest, most laid-back - yet also most efficient and best - lighting

designers working in theatre. For those who don't know him, the story of the Chitty focus provides an example. Apparently it went something like this: 9am, Mark Henderson arrives wearing a suit. With production electricians Fraser Hall and Steve Reeve and the Palladium crew, he gets on and focuses front-of-house. At 11am, he leaves to go to the Olivier Award presentation ceremony. At 2pm, having won the Olivier award for lighting (for the fourth time from eight nominations), he returns to focus the overhead rig. At dinner time, the team have a little celebration. Then they focus the sidelight. By 10pm, they're done - two days ahead of schedule.

Of course, being a large-scale musical, the percentage of equipment needing focusing was lower than on many of Henderson's 'lower budget' designs. Here, with so much scenery leaving so little space for lights, every light needed to be able to offer as much as possible and so much of the rig - supplied by White Light and The Moving Light Company - is automated. "It will be hard to go back to a more normal rig in the future," the lighting designer admits, looking across his plan that includes four principal overhead trusses, each containing eight High End Studio Beams, four Martin MAC 600s as pipe-end crosslights, two Martin MAC 500s and one Vari\*Lite VL2202, with the downstage truss containing extra MAC 600s. Upstage, a bar of 14 MAC

600s (half of them with wide-angle lenses) provide coverage to the cyc; upstage of that are a stage-left truss containing six 600s and a stage-right truss containing a further two 600s, the asymmetry following the asymmetry of the set to provide a backlight through a giant window piece.

A further 11 MAC 500s live front-of-house, and there are a number of Martin PAL1200s floating around, though Henderson confesses that "we're not using them much, and the ones on the front truss will probably come down; I put them there because I thought we might have to put light on the car and that the shuttering would be useful for that, but we haven't. The MAC 500s, some with animation disks instead of gobo wheels, do lots of animation work.

The MAC 600s light the cyc and do backlight. And we particularly like the Studio Beams - they're bright, punchy, go narrow and do great colours. Originally, I wanted Digital Light Curtains, but there wasn't room to have those as well, so instead I've clustered the Studio Beams together and they make a very light-curtain-like effect. I'm actually glad we ended up with them instead, though, since we're also using them as washes to different parts of the stage a lot of the time."

Controlling the rig is a Strand 500 series console for the conventionals (which includes lots of ETC Source Fours, Wybron CXi colour changers and scrollers, Par cans, and effects including the GAM FilmFx animation loop, and the chasing lights and smoke that feature in just about every set piece) and a WholeHog 2, driven by Stuart Porter, running the moving lights. Despite the technology, Henderson has stuck to his principles, always "having a clear idea in my head for each



Michael Ball in the lead role of Caractacus Potts and Emma Williams as Truly Scrumptious.

particular scene. But once we started lighting the set it became clear quite quickly that it looked best with coloured light on it, so I have gone further down that road than I

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Left Brian Blessed and Nichola McAuliffe as *The Baron and Baroness*. Below, Richard O'Brien as the *Child Catcher*

might normally have - I think the moving lights have made me more adventurous!"

Henderson and Porter have also responded to the car, which usually appears in a great swirling morass of Studio Beams, making its shiny metal surfaces twinkle and sparkle. Then when it flies, they pull right down to the lights in the car itself, plus just a hint of background stars. "Howard Eaton has done a wonderful job - we've just left him to it, and they kept adding things as they came up with new ideas! It works because we keep it dark around it - often the problem wasn't seeing the arm directly, but becoming aware of it moving in front of lit things."



It also sounds like part of the success of the lighting is that the team have been having fun doing it. "It's just been one of those jobs where you've wanted to come into work every day because it's been a really good team - Fraser, Chris Dunford (the moving light technician), Stevie, Stuart, and the Palladium crew who are really clued in and know exactly what's going on. We've had fun, even though we have been here a long time."

Mark's only real problem has been getting time away from the music. "My

children love the show - they love the film, they've been to see this and they love it. The only problem was that they saw it on a Saturday and on the Sunday - my only day off - they wanted to watch the film! So I had the tunes in the background all day again!"

## SOUND

"I think one of the main things to note about this show is that I don't think there's any way that one person could have done it. Perhaps by staying up all night making effects, then up all day doing the show - but I don't want to work like that." So says Andrew Bruce, whose name appears below the 'sound designer' credit on the Chitty poster (and who you may have seen referred to as 'that nice black-haired sound boy' if you've stumbled across actress Nichola McAuliffe's web diary about the production) - but who has, in fact, continued the double act with fellow Autograph sound designer Simon Baker that began on *The Witches of Eastwick*. Though each has contributed to the entire design, the split initially had Bruce concentrating on the live sound and Baker on the sound effects.

If the challenge to the scenic department was to create a version of the flying car that would impress theatre audiences, Baker set himself a bigger challenge. "I felt it was important that we kept the sounds from the film, particularly for Chitty, because they're so well known - my son knows exactly what Chitty sounds like, he can make the sounds from the film. But there was no way we could just lift those from the film." Fortunately, luck intervened: Baker discovered that The Tape Gallery had just purchased the complete Cinesound sound-effects library, thousands of boxes of analogue tape. "So we made contact with them," Bruce recalls. "Actually, I think they'd been waiting for us - but Simon hit it off with their archivist and so they went through the tapes, 7.5ips, recorded on a Nagra in the 60s - very well recorded, actually - to find the original sounds."

"We took lots of sounds - the car, the grand prix; they were in mono, but we could deal with that," Baker explains. "I made up the original grand prix montages based on that. Of course then we got here and the first thing Adrian Noble, the director, said was 'I want it to be more, you know, yeooooowwwwwww.....' so we had to



## THE CAR IN SHORTHAND

### Construction/Lighting

Construction and Specialist Lighting Effects by Howard Eaton Lighting.

95% scale of film car. Construction started in January 2002, completed 12 weeks later ("very, very tired HELL team by April 16th!" according to Howard Eaton).

Lit completely from within car using 24 HELL MR8 fittings, six 100W fibre sources and looms, 200 LEDs, controlled via DMX using Hell and Mode Digitran products. Car also contains a Meyer UPA in pieces and six other speakers fed via the slipring that also carries mains, DMX, bi-directional control data, sound and compressed air. Bodywork and wheels by Stephen Pyle Workshop, wood painting by Chris Clark, wings by Mrs Eaton and Ken Creasey! Other elements "had to be real - beautiful headlights by a headlight manufacturer, windscreen by a man who makes windscreens for AC Cobra cars."

Inflatable drive by 1000litre/sec air fan which feeds via ductwork to airbag folded underneath. "Good old velcrol" Helicopter arms "very complicated, but very beautiful mechanisms." All done without the 'cheating' the film allowed with mechanisms hidden off-camera - film car also didn't have to be able to be "hidden away in the most expensive underground carpark in London!"

### Automation - Stage Technologies

9 Axes of control, including a virtual master for speed control during flight profiles. 5 hydraulic axes include three main arms plus two tilting axes for the car. 3 electrical axes for arm rotate, car rotate and an US-DS track.

Pathway software used to create flight paths for journeys at end of each Act. Due to infinite number of ways to resolve every car position into axis positions for arms and track, one axis needed to be fixed. Therefore, during flights, lower arm remains vertical and all other axes are used to run car smoothly along desired path.

### The Garage

All doors and locks controlled from a PLC. 3 bomb doors cover upstage, midstage and downstage above main track. 2 infill doors cover either side of track when garage door is open. 1 main garage door closes when car is in stored position, sub-stage. Car reveal requires at least two arms and track to move simultaneously in order to clear garage.

Car mechanics and hydraulics by Delstar.

start again with that. But Chitty sounds as Chitty should!" And the effects sound fantastic: as usual, Baker has created effects that have a point of view and a sense of humour!

As to the equipment used, both admit that there are no major new technical breakthroughs on the show. "It's a Cadac J-Type, as for *Witches*, but with more automated faders. We're continuing with L-Acoustics' dV-DOOSC, which continues to do everything we want of it without any fuss; we're also using the new dV-DOOSC sub, which has only just become available. Plus the usual front fills (Meyer UPM-1s, d&b E3s), delays (UPM-1s) plus a surround system, plus at least one speaker in every piece of scenery, since there's nowhere to put any kind of upstage effects speakers. It's all good, old-fashioned analogue equipment that we know how to use and that we trust to deliver the results we need," Bruce explains. "Lots of people seem to be using digital desks, but they all seem to be saying 'they're small' rather than 'they sound fantastically better . . .'"

Effects replay is from an Akai S6000 sampler and a DAR Theatreplay, with the surround effects routed by TiMax. Given the number of effects, the designers made the decision to split the control of the console and the sound effects, running the console from Cadac's software and the effects from Matt



McKenzie's MIDI control software. Operator Veronique Haddesley has one 'Go' button for each system " . . . which I was a little nervous about at first, but which turned out to be a Godsend when we got going."

The show also uses 46 channels of Sennheiser radio microphones, with the principals double-miked, and the designers having to work hard to overcome another problem: "Everyone wears hats! The spooks have their mics mounted on the ends of their glasses," Bruce explains. "And one always forgets when he takes his glasses off," Haddesley adds. There are also five reverse-radio transmitters used to get sound effects to loudspeakers hidden in bits of scenery. The car itself has numerous speakers, to locate the sound within the car and also to keep the sound level up as it rotates and tilts. Making the system work fell

*An amazing 12 dogs feature in the cast*

to engineers Ken Hampton and Tim Stephens along with their crew of Jim Douglas, Colin Compost and Angela McCluney; Haddesley's show crew consists of James Meadwell, Steve Barnes and Lucy Baker.

### **THE SHOW**

The result of all of these people's work is triumphant. This is not theatre trying to be film, nor theatre trying to be 'serious' drama, but theatre doing what it does best: being theatrical. Spectacular. Entertaining. Amusing. Magical. The audience clap along, boo the baddies, cheer the goodies. Panto, maybe - but panto, too, is theatre being theatre; no other medium can do what it does. Surprisingly even jaded critics were swept along, declaring the stage version better than the film. This one will run and run.

*Mary Poppins* next, anyone?

*Photos: Martin Smith; Autograph Sound; White Light; Peter Thompson Associates*

*We are planning a backstage tour of Chitty Chitty Bang Bang at the Palladium Theatre. If you are interested in attending please e-mail [media@plasa.org](mailto:media@plasa.org) or call us on +44 (0)1323 418400*

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So, it seems that 2001 wasn't so bad for everyone, business-wise, after all. Martin Professional has announced a considerable uplift in sales at US\$100m, with profits also up at US\$ 8.5m. The considerable increase in profit partly reflects the fact that in the previous year there was a one-off payment to settle the Vari-Lite patent infringement claim, that I understand amounted to US\$5m. That would have come straight off the bottom line. Nevertheless, in all the circumstances, it is a considerable achievement.

**AS WE HAVE SEEN**, Martin is not a company to let the grass grow: hard on the heels of the commencement of the construction of a brand new factory comes the announcement of the establishment of a production facility in China. This is described as 'not an OEM' deal, so I asked CEO Kristian Kolding to explain: "This is one hundred percent a Martin-owned project. It is a greenfield site which we own lock, stock and barrel, and we are building the factory from scratch. We have even found a Chinese-speaking Dane, who already lives in Zhuhai, to manage production - how lucky is that?" Apparently, there are no restrictions these days on Western companies setting up facilities in China.

consequences of their actions. In the aftermath of PLASA Shanghai, selling into a market will also have the same reactive and inevitable consequences. Ye shall reap, as ye shall sell. After all, I'm old enough to remember when there were virtually no manufacturers of entertainment lighting, other than a handful of theatre lighting people in the US.

According to a recent report, Britain's theatre industry stands accused of systemic racism. And you all thought that we were a bunch of the most liberal-minded people on the planet! This story reminded me of the time, in another life, when I was retained as pet lighting designer by Regine, the French nightclub diva, whose ambitions to own the planet took me to major cities worldwide. In those days it was quite normal for the entrance in such classy joints to have a small spy door, so that the doorman could inspect those requesting entrance - if you were unacceptable, tough luck.

**MIND YOU**, the same applied if you turned up not wearing a necktie. That was a cardinal sin! As someone who has eschewed ties all my life (I am very proud of having been thrown out of El Vinos in Fleet Street, for exactly the same misdemeanour), this was a serious problem. The number of times that I underwent the indignity of a forced stripping and redressing on arrival at a Regine's or a Jimmyz, as my small protests fell on closed eyes, are too numerous to mention.

**ANYWAY**, I am pleased to say that times have changed these days on the prejudice front; if you are rich enough, you're in. Especially if one is wearing a tie!

I spent a delightful evening at Kettners, in London's Soho, a couple of weeks ago, courtesy of the ALD, which is making a laudable attempt to 'come out' more. On this occasion, we were surrounded by numerous luminaries of the British lighting design profession, who were celebrating the ascendancy to the status of sainthood of Richard Pilbrow and Robert Ornbo (quite an alliteration, those two names).

**THIS WAS THE OCCASION** at which the mantle of the ALD presidency passed from the late Michael Northen MBE, to the two Rs, both of whom have earned their laurels during glittering careers devoted to the art of lighting design. Appropriately, as Rick Fisher told us, the funding for the event came from a bequest left to the ALD by the same Michael Northen. All round, it was a truly nostalgic evening.

**WHEN I MENTIONED** to Robert Camac, Northen's life partner, the following day that we had raised our glasses in a toast to Michael's memory, he charmingly said: "Oh, I must rush down to the churchyard and tell him, Michael would be so thrilled to know that!"

"In the aftermath of PLASA Shanghai, selling into a market will also have the same reactive and inevitable consequences. Ye shall reap, as ye shall sell."

**BY A STRANGE TWIST**, the only other company that we are able to make a valid comparison with are Vari-Lite themselves, though their annual results are published out of phase with those of the Danes. One thing we can say, however, is that if this were a horse race, which of course it isn't, Martin are leading by several lengths as turnover and profits race ahead of the Dallas stable.

**TO BE FAIR**, this is not strictly a valid comparison, since VL's turnover has been deliberately scaled down as Rusty Brutsché strives to consolidate his business. However, profits are also artificially hiked by this process, as assets are disposed of. Rusty's challenge seems to be that rental income is sliding considerably faster than the income from product sales is growing to compensate. Furthermore, inevitably, the margins on these sales are unlikely to match the returns on rental income. We can only watch and wait.

**I AM FASCINATED** by the concept of transferring production to another country, whether in Asia, India, eastern Europe or Central America, and Martin are not, by any means, the only entertainment technology company to have fallen for the siren allure of low wage rates outside the West. It's simply irresistible. Against that, how can you secure your technology and your intellectual property in these circumstances?

**WE HAVE THIS** concept in the Western hemisphere of an invisible, or virtual, wall that is impenetrable to any exchange of information through it. Strangely, we call it a 'Chinese Wall'. However, this imaginary barrier certainly has not proved impervious in the atmosphere of today's low standards of business ethics as exemplified in the world's financial districts.

**SO, WILL IT WORK** any better where OEM or manufacturing deals are struck? Paper contracts are all very well, but however honourable the original intentions, there is always a transfer of knowledge that is as invisible as the mystical wall, and the knowledge gained, if only by ambitious employees who subsequently leave, creates new competition. We are seeing the outcome of this already.

**DOES IT MATTER?** I am not sure that it does really, as long as the transferees are aware of the

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# technical focus

technical editor:  
James Eade

Covered in this month's Technical Focus is probably the most comprehensive database on moving heads from 27 manufacturers. There is also news on the new Blu-ray DVD technology and the results of new research carried out by the HSE on Fall Arrest Lanyards

## BRIGHTER DISPLAYS

If you are thinking of moving into the display market, perhaps making your own LED displays or LCD videowalls, it may be worth hanging on until research being carried out at Nottingham Trent University and Rutherford Appleton Labs comes to fruition.

Based on alternating current thin film electroluminescence (shortened to TFEL), the technology is based on exciting an insulated phosphor sandwiched between two conductors. Early problems (Sharp demonstrated the technology back in 1974) with light entrapment in the phosphor layer are solved by using micro-mirrors to guide the light out. The big advantage of such devices is their brightness; compared with a TV set turned to full brightness giving 400cdm<sup>-2</sup> TFEL emits a monstrous 17,000 cdm<sup>-2</sup>. Rather more than enough for daylight viewing!

## BLUE DVDS



Not the kind you'd find being watched in the darkened depths of backstage, but a new digital video storage media promising high data storage rates. Blu-ray, recently unveiled by nine major manufacturers in the AV world, promises to hold 27Gb of data on a single-sided disc the size of a CD. Compared to the 4.7Gb size of DVD, or 700Mb size of CD, the potential for Blu-ray is apparent. As if 27Gb isn't enough, plans are in progress to make the discs double-sided, giving in excess of 50Gb per disc. The leap in capacity has been brought about by the use of blue lasers with smaller wavelengths than the more common red lasers. Accordingly, narrower tracks can be recorded allowing more info to fit on a standard disc.

This may well see a migration from hard disc recording in both audio and video with

"THE HSE HAVE SAID THAT THOSE EMPLOYERS, SELF-EMPLOYED AND EMPLOYEES WHO FAIL TO CARRY OUT THE REQUIRED PROCEDURES FOR THE SAFE USE OF FALL ARREST SYSTEMS CAN EXPECT ENFORCEMENT ACTION."

➤ SEE 'FALL ARREST LANYARDS' - P. 46

MPEG2 as the specified compression format. Some industry leaders have already predicted the demise of 'tape technology' in favour of hard drives, particularly for live shows. With PC-based editing suites and the potential for a complete 'show-on-a-disc', video production may well become a little easier.

The good news is that the discs will be made compatible with DVD, which is probably wise; estimates by Sony are that by March 2002, 25.5 million DVD machines will be in the hands of consumers. The 'bad' news for some is that Blu-ray discs can carry unique identity codes, making copying incredibly difficult.

## AM RADIO GOES DIGITAL

A recent edition of the IEE's *Electronics and Communication Engineering Journal* carried an article on the basic structure of Digital Radio Mondiale - the proposed solution for desertion of the AM radio broadcast bands.

The principle behind AM radio broadcasting below 30MHz has not changed much in the 80 or so years since its introduction. The introduction of FM on the VHF frequencies saw a fair desertion of the traditional long wave bands in search of better quality reception. Despite this, there are estimated to be around two billion listeners still tuning in below 30MHz.

However, AM cannot compete with the quality of FM, nor the digital forms of audio spreading through the internet, let alone Digital Audio Broadcasting (DAB). But what these audio transmission methods cannot match, is the unique coverage afforded by the low frequencies used by long wave broadcasting. By using propagation methods such as near vertical incidence skywave, skywave and ground wave (the former two

basically bounce signals off the ionosphere), large parts of the world can be covered by single high power transmitters.

With such crowded frequencies and reduction in audio bandwidths, quality has also suffered over the years. Now, the International Telecommunications Union (ITU), has accepted the specification proposed by the DRM consortium for a world standard on digital radio broadcasting below 30MHz. The European Telecommunication Standards Institute has also standardized the specification.

The advantages would not only be limited to better audio quality. As one has come to expect from digital radio, other information such as station identity and frequencies can be sent in the digital packet. The latter is quite important, as owing to the daily changes in ionospheric properties, broadcasters have to shift operating frequencies during a 24-hour period to maintain maximum coverage.

Hidden in this is a potential advantage for radio users - there are still some pockets of licence-exempt HF spectrum around 27-28MHz (some may remember remote control model aeroplanes and cars operating in these bands) which could provide a haven from pressures on the UHF spectrum. Not suitable for radio mics, mind - the aerials required would need to be in the order of metres long, rather than the centimetres required at UHF.

So, the race is on to bring it to commercial fruition; perhaps it is worth holding out on a new DAB receiver for a while longer!  
[www.drm.org](http://www.drm.org)

## ELECTRIC GLUE

That old perennial favourite - gaffer tape - may now have a serious competitor in the form of electric glue. Or, to be more precise, electric *un*-glue.

According to importer Electromotif, Electrelease is an epoxy resin originally designed for attaching test sensors to the exterior of supersonic aircraft, with the peculiarity of being removable without leaving any blemishes via the application of 10-50 volts. With a lap shear strength of 2,500psi and a release time between five seconds and 20 minutes (depending on load and voltage)

# technical focus

"VPLT HAS INTRODUCED A CODE OF PRACTICE CONCERNING TRUSS FOR ENTERTAINMENT PURPOSES. THE CODE AIMS TO ENSURE A UNIFORM LEVEL OF SAFETY FOR THE PREPARATION AND USE OF TRUSS SYSTEMS, AND IS NOT A MANUFACTURING STANDARD."

➤ GERMAN TRUSS STANDARD - THIS PAGE

maybe the time is near when touring stages will be dismantled at the flick of switch!  
[www.electromotif.co.uk](http://www.electromotif.co.uk)

## FREE SEMINARS

The Institute of Mechanical Engineers is proposing a series of two-day workshops and a one-day seminar during 2002, some of which may be of interest. These are:

*Project Procurement - Building Relationships for Success* - September 2002

*Setting Up and Running a Successful Consultancy* - mid-October 2002

*Using Consultants to Translate Technological Innovation and Knowledge Products Into Competitive Advantage* - Nov/Dec 2002

The middle one may be of most interest to consultants, with topics scheduled to be covered including: Setting up a consultancy; professional indemnity insurance; taxation and National Insurance Issues with specific emphasis on IR35; marketing (advertising/networking/gaining and retaining clients); conditions of contract/engagement.

Should you be interested in attending one or more of these please e-mail [technical@plasa.org](mailto:technical@plasa.org). Costs, if there are any, will be advised and you do not have to be an IMechE member to attend.

## STANDARDS NEWS

The latest issue of PLASA's Standards News contains a list of new, industry relevant standards. Following is a synopsis on a few choice topics that have recently come to light. Our illustrious standards organizations certainly like to keep people on their toes: four pages of new and revised standards, regulations and codes of practice are listed in this issue, covering subjects from Alarm Systems to Video and Recording.

The PLASA Standards Office is on the lookout for input into various guidance documents and standards. These range from the eight-pin Bulgin-style connectors commonly used on disco lighting equipment to the four-pole Amphenol C16-1 locking mains connectors used in audio applications (see February's TF), and any comments or preferences before draught guidance documents are issued is welcomed. In the case of standards, willing volunteers to represent PLASA members on various standards committees would also be welcome. Contact Tim Cox for more info via [tim@plasa.org](mailto:tim@plasa.org), or check the website at [www.plasa.org/standards](http://www.plasa.org/standards) for a list of subjects.

## GERMAN TRUSS STANDARD

VPLT (The German equivalent of PLASA) has introduced a code of practice concerning truss for entertainment purposes. The code aims to ensure a uniform level of safety for the preparation and use of truss systems, and is not a manufacturing standard. Covering the handling, use and erection of trusses, marking and inspection, this code may affect you if looking at touring equipment into Germany.

Again, further information can be obtained from the Standards Office or, for German speakers, via VPLT's website at [www.vplt.org](http://www.vplt.org)

## FALL ARREST LANYARDS

The results of new research carried out by the HSE have highlighted the need to carry out appropriate pre-use checks and inspections of fall arrest systems. The motivation for the research came after two fatalities in which failure of the lanyard had caused the death of workers, in the Republic of Ireland and Manchester.

As those who have used them will know, fall arrest lanyards are energy-absorbing devices for connecting one's full body harness to an anchorage point; basically acting as a shock

absorber to prevent your extremities detaching themselves from your torso when you come from terminal velocity to stop in a time less than it takes you to say 'jump'!

The project investigated the causes and effects of degradation of man-made textiles used in the construction of lanyards, and the research findings indicated that a



significant loss of webbing strength in the lanyard can occur in a variety of ways; especially by the ingress of dirt, physical damage and exposure to ultra violet (UV) light.

The project has underlined the vital importance of carrying out pre-use checks and keeping well-documented records on equipment identification, inspections and defect reporting. The HSE recommends that regular detailed inspections are carried out every six months and if used more frequently, or in conditions that are more arduous than normal, the detailed inspection should be carried out every three months.

The requirement for these formal inspections to be in place is found in Regulation 7 of the Personal Protective Equipment at Work Regulations 1992 (PPE Regs.), which states:

*Every employer shall ensure that any personal protective equipment provided to his employees is maintained (including replaced or cleaned as appropriate) in an efficient state, in efficient working order and in good repair.*

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and importantly . . .

*Every self-employed person shall ensure that any personal protective equipment provided to him is maintained (including replaced or cleaned as appropriate) in an efficient state, in efficient working order and in good repair.*

Regulation 11 of the same also states:

*Every employee who has been provided with personal protective equipment by virtue of regulation 4(1) shall forthwith report to his employer any loss of or obvious defect in that personal protective equipment.*

All pretty straightforward stuff really, but when in a hurry, easily overlooked. To that end, the HSE has said that those employers, self-employed and employees who fail to carry out the required procedures for the safe use of fall arrest systems can expect enforcement action. And the same is true for other PPE.

An HSE Information Sheet containing guidance based on the research is about to be published. Until then copies of Operational Circular 282/29 'Inspection of energy absorbing lanyards made from webbing or rope', issued to HSE inspectors, are available on the HSE website at [www.hse.gov.uk/lau/lacs/68-5.htm](http://www.hse.gov.uk/lau/lacs/68-5.htm) or can be obtained free of charge by telephoning +44 (0)161 952 8404. The research report will be published by HSE later in the year.

## DISABILITY DISCRIMINATION ACT

The Standards Office has also issued a guidance note on the Disability Discrimination Act 1995 (DDA). There has been occasional uncertainty and confusion regarding the implementation and application of the DDA, and how PLASA members are affected. There are the more obvious points covered about how the DDA affects employers, but also the ramifications

of providing services to clients who apply the DDA to their own organization.

To assist in the interpretation of the document, the guidance note forms a brief guide to Part II of the Act which is concerned with employment.

## QUESTIONS & ANSWERS

Have you got a technical or standards-related enquiry? Write to us at the address on page 5 or via [technical@plasa.org](mailto:technical@plasa.org) and we'll find you the answer.

**Q: How can I get hold of a copy of the new draft British standard (mentioned in April's L&SI) 'Event Stewarding and Crowd Safety - a code of practice'?**

**A:** The preparation of this standard is apparently ahead of schedule, although not out yet. A draft for public comment will be available in March 2003, with the standard due to be published in May 2004. If you want any further information, contact PLASA's health and safety standards officer, Ron Bonner ([ron@plasa.org](mailto:ron@plasa.org)).

**Q: What is the difference between electronic and magnetic ballasts? Am I better to use electronic?**

**A:** Which type is better to use depends on the application. The ballast in a discharge lamp performs two operations. Firstly, it converts the mains voltage into high enough voltage to strike the arc across the electrodes; this is normally in the region of 2-10kV for a cold bulb. The arc striking voltage is also dependant on the pressure of the gas in the bulb itself; when cold, the striking voltage is lower and when hot, the internal gas pressure is higher and around

ten times the voltage (20-70kV) is needed. This is one reason why bulbs need time to cool down before re-striking as not all ballasts have a 'hot re-strike' capability. Secondly, once the arc is struck, the voltage needs to be dropped down to a suitable level for correct operation of the lamp.

Magnetic ballasts are basically designed around an inductor (choke) that is used to control the flow of current, and consists of copper coils wound round an iron core similar to a transformer. One of the inherent problems with this is that the power factor of the unit is very low, and needs correcting - poorly designed ballasts have quite low power factors and can result in problems with your mains supply.

Also, the voltage applied to the bulb is sinusoidal and at the same frequency as the mains supply and this may present an issue if the luminaire is going to be used for camera work; the flickering at 100 or 120Hz can interfere with the camera shutter speed. The final issue of magnetic units is that they are often heavy - because of the large chokes required.

Electronic ballasts do not use the conventional 'iron supply' method. Instead, electronic regulators are used to control the supply of current to the lamp. The mains voltage is converted to DC and then to a square wave (having a frequency of tens of kHz) with the pulse width and amplitude set according to the lamp's requirements. The advantages of this electronic control is that they are more efficient, the power factor is usually nearer 1 and they are lighter. It is also easier to generate the higher voltages for hot re-strikes and the current and voltage can be automatically adjusted to maintain a uniform output power. Unsurprisingly though, with more electronics there is more cost, and accordingly they are more expensive.



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SEE THE WORLD IN A NEW LIGHT



This month L&S has carried out a pretty exhaustive review of moving heads currently available on the market for hire or purchase. With 27 manufacturers and over 120 fixtures, the list is probably the most comprehensive database of current moving lights today. If you are looking to specify any type of moving head luminaire, be it for installation, show or rental stock, then this chart should make life a little easier.

The L&S team has trawled through reams of manufacturers' information to collate as much data as possible so that readers can make a rapid selection against a burgeoning market of moving head luminaires. For reasons of space we haven't been able to list every single fixture, but we have endeavoured to give as broad a representation of manufacturers' products as possible. It is anticipated that in the near future, a moving mirror version will be completed, augmenting the database even further. The only exceptions from the database are units with a power exceeding around 2kW, i.e. those that fall into the moving searchlight category.

At this point it is worth noting what information the database contains. As far as possible, the information has been faithfully transcribed from information published by manufacturers, and as such includes as much relevant information as possible: DMX channels, colours, gobos, power requirements and so on. Unfortunately, not all manufacturers publish all the information some feel necessary, such as weights and dimensions, or power requirements in their cut-sheets.

From an equipment specifier or lighting designer's point of view, seemingly innocuous data (for example, the power factor of a device, or heat output) is quite important when designing for new installations as the electrical or HVAC contractors invariably require such information to discharge their duties.

Also, in some instances, different terminology is used to describe particular functions, and where this is the case some wording may have been abridged to ensure that the information can be presented in a clean and suitable way for easy comparisons.



Some manufacturers excel when it comes to cut sheets - going so far as to specify things like what size cable is required for the mains supply. Some, however, are a little more confused with the important versus totally irrelevant; for example,

most would want to know what size gobo a device takes rather than what voltage the integral cooling fans run on.

The full database listing all the parameters will shortly be available from [www.plasa.org/media](http://www.plasa.org/media) and a plea goes out to manufacturers to complete and check the information on their products. Some may like to use it as a template for their own cut sheets, as there are a few very brief data sheets around for some fixtures.

Finally, many of the manufacturers do not have English as their first language and have had their data sheets translated; whilst L&S has made every effort to be exact and faithful to the translated version, some aspects may have been confused in the original process with the result that functions can be somewhat misleading (a three-step beam reducer is not a zoom device!).

So, if you want to add information, insert new products or remove discontinued ones, please e-mail [technical@plasa.org](mailto:technical@plasa.org) or fax us details on +44 1323 646905, so that the database can be kept as relevant as possible.

### THE DATABASE . . .

#### MANUFACTURERS

There are few surprises in this area, most are fairly well known and established in the market. There are a few lesser known manufacturers, American based Techni-Lux have a couple of wash and spot lights, and German-based JB Lighting have a few entry level/semi-pro devices. A relative newcomer is Chinese company Pearl River, who would claim to be not quite so new as they have been making moving lights for others to badge since 1984. The most surprising aspect is how few UK-based manufacturers there are. Italy pretty much leads the way, with nine of the 27 manufacturers and 44 of the products being inspired by copious quantities of Chianti.

#### RESOLUTION

Most devices can handle more than 8bit DMX. As has been discussed in previous issues of this column, a single channel of DMX consists of 255 increments between 0 and 100%. If those eight bits only are used to drive a pan motor for example, the resolution of the pan would be 360 degrees over 255 increments, i.e. 1.4 degrees per step. This is fairly coarse, and so another channel is often added to give a fine resolution over the original 8bit coarse channel.

Being two 8bit channels 'bonded' together giving 16bits, the theoretical resolution is 65,536 steps, probably more accurate than the mechanics driving the device. Often only the first 4bits of the second channel are used, giving 4096 steps. Despite this, some manufacturers still claim the pan and tilt have 16bit resolution as two 8bit channels are used to control them.

The quantity of DMX channels are specified in 'coarse + fine' in the table. To operate, for example, pan and tilt in 8bit mode would require two channels, in 12bit would require four. So, the minimum required channels is 2 plus the 2 extra for fine operation, and would be listed as 2+2.

#### COLOUR

Colour is one of the more difficult attributes to compare - the colour devices either consist of CMY (cyan, magenta and yellow (or amber)) subtractive colour mixing or colour wheels. With CMY, it is a fair bet that the user can select pretty much every colour one can think of; with colour wheels, however, some prefer to present the total number of colour permutations available from an unidentified number of wheels.

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£1,435



# coemar

MANUFACTURER	MODEL	TYPE	PAN/TILT	RESOLUTION	DMX Ch	COLOUR	GOBO 1	GOBO 2	SIZE	EFFECTS	STROBE	DIMMER	ZOOM	IRIS	FOCUS	BEAM ANGLE	HOT RESTRIKI	
American DJ	XP-3	Spot	NQ	8	4	1CW (8 cols)	17	-	NQ	N	Y	No	-	N	Man	NQ	-	
Amplown	Controlite Washlight HX (or HP)	Wash	340/270	8	13(HX)/18(HP)	CMY	-	-	-	N	Mech	-	-	-	DMX	9-36"	NQ	
	Controlite Washlight HX (or HP) TV	Wash	340/270	18	13(HX)/18(HP)	CMY	-	-	-	N	Mech	-	-	-	DMX	9-36"	NQ	
	Controlite Washlight HX (or HP) SQ	Wash	340/270	8	13(HX)/18(HP)	CMY	-	-	-	N	Mech	-	-	-	DMX	7-28"	NQ	
	Controlite Four Light	Flood	340/240	8	4	See notes	-	-	-	N	N	Electronic	-	-	-	-	-	
Clay Paky	Controlite PNL MK2	Spot	355/270	16	NQ	2CW (6 Cols each + 1TCF, 1FF)	6MR	-	E	N	Y	Mech	N	Y	DMX	12"	Y	
	Stage Color 300	Wash	450/252	8/16	8+2	CMY, CVF	-	-	-	N	Y	Mech	-	-	-	NQ	N	
	Stage Color 575	Wash	450/252	8/16	11+3	CMYA, CVTFC, 1CW, UV, 3FF	-	-	-	N	Y	Mech	-	-	-	NQ	Y	
	Stage Color 1000	Wash	450/252	8/16	8+2	CMY, 1CW, UV, 1FF	-	-	-	N	Y	Electronic	-	-	-	NQ	N	
	Stage Color 1200	Wash	450/252	8/16	11+3	CMYA, GTC, 1CW, UV, 3FF	-	-	-	N	Y	Mech	-	-	-	NQ	Y	
	Stage Light 300	Spot	450/242	8/16	8+2	2CW, 2TCF, UV, 2FF	6R	-	-	NQ	15P	Mech	Man	N	DMX	NQ	N	
Coef	Stage Zoom 1200	Spot	450/252	8/16	18+3	CMY, 2CW, 2TCF, UV, CVF	4R, 4S	-	-	NQ	4IP	Mech	DMX	Y	DMX	NQ	Y	
	MP250	Wash	450/270	16	8+1	80 Colours from 2 wheels, 2TCF, UV, CVF	-	-	-	N	Y	Mech	-	-	-	NQ	NQ	
Coemar	MP250 ZOOM	Spot	540/270	16	8+1	1CW (10 Cols)	-	-	-	NQ	Y	Mech	DMX	BR	DMX	NQ	NQ	
	MP700 ZOOM	Spot	540/270	16	NQ	33 Colours from colour wheels, UV, CVF	6MR or GR	-	-	NQ	1RP	Y	Mech	DMX	Y	DMX	NQ	NQ
Coemar	CF7 WASH ZOOM X	Wash	624/270	NQ	NQ	CMY, 1TCF, 1CW(5 Cols), 1FF	-	-	-	N	N	Mech	DMX	-	2L	18-18" (See notes)	NQ	
	CF7 WASH ZOOM	Wash	630/270	NQ	NQ	CMY	-	-	-	N	N	Mech	DMX	-	Elliptical	7-28" (See notes)	NQ	
	CF7 HE X	Spot	630/280	NQ	NQ	CMY	6R	6S	NQ	2RP	Y	Mech	DMX	Y	DMX	14-36 5"	NQ	
	CF 1200 HE	Spot	370/280	8/14	NQ	2CW(6 Cols each), 1TCF	4R, 5B	-	-	NQ	2RP	Y	Mech	DMX	Y	DMX	13-24"	NQ
	CF 1200	Wash	370/270	NQ	NQ	CMY, 1CW (4 Cols, TCF)	-	-	-	N	Y	Mech	-	-	-	NQ	NQ	
	Spot 575	Spot	355/280	NQ	NQ	2CW (7 Cols each)	6R	6R	NQ	1RP	Y	Mech	N	BR	DMX	21/25/27"	NQ	
	Spot 150	Spot	538/270	NQ	NQ	1CW (7 Cols)	6R	-	-	NQ	N	Y	No	N	N	N	22"	NQ
	360 PF 3600	Spot	360/300	8/16	5+2	1CW (7 Cols)	7S	-	Fixed	N	N	Mech	N	N	Man	NQ	NQ	
	362 PF 3602	Spot	360/300	8/16	8+2	1CW	5R, 1S	-	-	25/20	1RP	Mech	N	N	N	NQ	NQ	
	362 PF PB 3622	Spot	360/270	8/16	8+2	1CW	6GR	-	-	27/21	1RP	Mech	N	N	N	NQ	NQ	
363 PF 3613 COLOR	Wash	390/270	8/16	8+2	CMY	-	-	-	-	N	Mech	N	N	N	18" or 36"	NQ		
364 PF 3604	Spot	450/270	8/16	13+2	1CW (7 Cols), UV, 2TCF, 1FF	7MS	5GR	NQ	2RP	Mech	N	Y	DMX	N	DMX	12 or 18"	NQ	
Futrelight	MH-420	Spot	530/285	NQ	8	1CW (11 Cols)	11MS	-	-	Fixed	N	Mech	N	N	Man	19	NQ	
	MH-440	Wash	530/285	NQ	8+2	1CW (11 Cols)	-	-	-	N	Mech	-	-	-	-	NQ	NQ	
	MH-480	Spot	530/285	NQ	8	1CW (11 Cols)	4MR, 2GR	-	-	27/23	N	Mech	N	N	Man	19	NQ	
	MH-640	Wash	530/280	8/16	14+2	CMY, 1CW (3 Cols + 2TCF, UV), FF	-	-	-	-	N	Mech	-	-	-	Man	8-22"	NQ
	MH-680	Spot	530/280	8/16	14+2	1CW (11 Cols)	4MR, 2GR	-	-	27/23	1RP	Mech	N	N	DMX	15	NQ	
	MH-840	Wash	530/280	8/16	14+2	CMY, 1CW(4 Cols + 2TCF, UV) FF	-	-	-	1RP	Mech	N	N	DMX	7-28"	NQ		
	MH-860	Spot	530/280	8/16	14+2	2CW (Total 15 cols, 2TCF, UV)	9MS	3MR, 3GR	27/23	1RP	Mech	N	3 Step	DMX	15/18/22"	NQ		
	OBY-3	Spot	570/270	8/16	11+2	1CW (11 Cols)	6MGR	-	-	31/25	1RP	Mech	Mech	N	N	DMX	14.5"	NQ
Geni	OBY-5	Spot	570/270	8/16	14+2	2CW (Total 20 cols, 2TCF)	15MGR	-	-	31/25	1RP	Mech	Mech	N	Y	DMX	4-15"	NQ
	Motor Spot	Spot	360/300	8	6	1CW (15 Cols)	16MS	-	Fixed	1RP	Y	No	N	N	DMX	13"	NQ	
Genus	Motor Color	Wash	390/280	8/16	NQ	CMY, 2TCF	-	-	-	1RP	Y	Mech	-	-	-	DMX	8-22"	NQ
	Motor Show	Spot	390/280	8/16	14+2	1CW (11 Cols)	9MS	9MS	NQ	1RP	Y	Mech	N	BR	DMX	15"	NQ	
	Micromax	Spot	360/300	8	6	1CW (7 Cols)	7MS	-	Fixed	N	Y	No	N	N	Man	15"	NQ	
	Omega	Spot	300/300	NQ	NQ	1CW (11 Cols)	10MS	-	-	NQ	N	Y	No	N	N	Man	15"	NQ
	Omega 2	Spot	300/300	NQ	8	1CW (11 Cols)	7MR	-	-	NQ	N	Y	Mech	N	N	Man	15"	NQ
Graven	Acrobat PE MSD-250	Spot	370/300	8/16	8+2	1CW (8 Cols + UV), FF	4MR, 3MS	-	-	NQ	1RP	Y	Mech	N	N	NQ	16"	NQ
	Acrobat FE MSD-250	Wash	370/300	8/16	8+2	2CW (54 Combinations + UV, 2TCF) FF	-	-	-	-	N	Y	Mech	-	-	DMX	23-27"	NQ
	Acrobat PE MSD-575	Spot	540/300	8/16	12+3	1CW (8 Cols + UV), FF	4MR, 2MS	-	-	24	1RP	Y	Mech	N	N	DMX	16"	NQ
GLP	Max250	Spot	360/360	8	8	1CW (20 Cols)	21B	-	Fixed	N	Y	No	N	N	Man	16"	NQ	
	Studio Spot 250	Spot	540/270	8/16	18+NQ	1CW (11 cols + TCF), FF	7GR	-	-	NQ	4 (See notes)	Y	Mech	N	Y	DMX	18"	NQ
High End	Studio Spot 575	Spot	370/255	8/16	24+NQ	2 CW (10 changeable cols, 1TCF) FF	5GR	-	-	NQ	N	Y	Mech	N	Y	DMX	18"	NQ
	Studio Spot CMY	Spot	370/255	8/16	24+NQ	CMY, FF	5GR	5GR	NQ	N	Y	Mech	N	Y	DMX	18"	NQ	
	Studio Color 250	Wash	540/280	8/16	15+NQ	CMY, 1CW (UV, 1TCF, 4 Cols)	-	-	-	N	Y	Mech	Y	-	DMX	21-25"	NQ	
	Studio Color 575	Wash	370/240	8/16	16+NQ	CMY, 1CW (1TCF + 4 changeable cols) CVF	-	-	-	Wide lens	Y	Mech	Y	-	DMX	8-22"	NQ	
	Studio Beam	Wash	540/258	8/16	18+NQ	CMY, 1CW (2 Cols + 1TCF) CVF	-	-	-	-	N	Mech+Elec	Mech	Y	-	DMX	15-30"	Y
	X-Spot	Spot	630/240	8/16	NQ	CMY, CVTFC, CVF, 1CW (5 changeable cols)	7GR	7GR	NQ	7 (See notes)	Mech+Elec	Mech	Y	Y	DMX	12-45"	NQ	
Irideon	Irideon AR50	Wash	NQ	NQ	NQ	NQ, CVF	-	-	-	N	N	Mech	N	-	-	N	7-37"	NQ
	Irideon AR500	Wash	NQ	NQ	NQ	CMA, CVF	-	-	-	-	N	N	Mech	N	-	-	See notes	NQ
JB Lighting	VS Micro 150 / 150+	Spot	370/270	NQ	NQ	1CW (7 Cols)	11MS	-	-	NQ	N	Y	No	N	N	Man	NQ	NQ
	V8 575	Spot	370/270	16	NQ	1CW (7 Cols) 1TCF, 1FF	5MR	-	-	NQ	1FP	Y	Mech	N	Y	DMX	NQ	NQ
	V8 1200	Spot	370/270	8/16	NQ	1CW (7 Cols) 1TCF, 1FF	5MR	-	-	NQ	1FP	Y	Mech	N	Y	DMX	NQ	NQ
	VC Micro 150	Wash	370/270	8/16	NQ	1CW (7 Cols)	-	-	-	NQ	N	Y	No	N	N	N	NQ	NQ
	VC8 575/2	Wash	370/270	16	NQ	CMY	-	-	-	NQ	N	Y	Mech	N	N	N	NQ	NQ
LED	MH575	Spot	NQ	8/16	8+4	1CW (7 Cols)	5MR or GR	-	-	NQ	1RP	Y	Mech	N	N	Man	NQ	NQ
LSD	Icon Washlight	Wash	360/270	-	-	Requires Icon Protocol	-	-	-	N	NQ	NQ	-	-	-	See notes	NQ	
	Icon Luminaire	Spot	360/270	-	-	Dichroic colour system* with split colour option	7MS, 7MR	-	-	NQ	N	Y	Mech	NQ	Y	Remote	NQ	NQ
MAD Lighting	AX1S 150	Spot	NQ	8	8	1CW (8 cols + UV)	13MS	-	-	NQ	N	Mech	N	N	Man	14"	NQ	
	AX1S 250 / 250Pro	Spot	NQ	8/16	8+2	1CW (8 cols)	5MR	-	-	NQ	N	Mech	N	N	Man	18"	NQ	
Martin Professional	MiniMAC Maestro	Spot	540/270	8/16	8+5	None	4MR or 4GR	-	-	37/30	N	Mech	N	N	DMX	18.3"	NQ	
	MiniMAC Profile	Spot	540/289	8/16	8+4	1CW (12 changeable cols)	7MR or 7GR	-	-	22.5/17	N	Mech	N	N	DMX	18.7"	NQ	
	MiniMAC Wash	Wash	540/289	8/16	4+4	1CW (12 changeable cols)	-	-	-	-	N	Mech	-	-	-	23 or 40"	NQ	
	MAC 250	Spot	540/289	8/16	9+4	1CW (12 cols)	6MR or 6GR	-	-	22.5/17	1RP	Mech	N	N	DMX	See notes	NQ	
	MAC 250+	Spot	540/289	8/16	9+4	1CW (12 changeable cols)	6MR or 6GR	-	-	22.5/17	1RP	Mech	N	N	DMX	18.3"	NQ	
	MAC 300	Wash	540/285	8/16	9+4	CMY, 1CW (8 changeable cols) CVF	-	-	-	-	N	Y	Mech	-	-	Man	59-67"	NQ
	MAC 500	Spot	440/308	8/16	12+4	2CW (9 changeable cols, 9 fixed cols)	9 MR or GR	5MR or GR	28/23	1RP	Mech	N	Y	DMX	23.5"	NQ		
	MAC 600	Wash	440/308	8/16	11+4	CMY, 1CW (4 changeable cols) CVF, CVTFC	-	-	-	-	BS	Y	Mech	-	-	NQ	NQ	
	MAC 600NT	Wash	440/308	8/16	10+4	CMY, 1CW (3 cols, 2TCF) FF	-	-	-	-	2BS	Y	Mech	-	-	N	25"	NQ
	MAC 2000 Performance	Spot	540/287	8/16	28+3	CMY, CVTFC	5MR or GR	-	-	E	See notes	Mech	Y	Y	DMX	10-28"	NQ	
Morphous Lights	MAC 2000 Profile	Spot	540/287	8/16	20+4	CMY, 1CW(3 cols + 3 static gobos)	10MR or GR	See Colour	E	See notes	Mech	Y	Y	DMX	10-28"	NQ		
	PWR Spot	Spot	360/270	NQ	NQ	Fading dichroic colour system, UV, FF	6MR	-	-	NQ	N	NQ	NQ	Y	DMX	NQ	NQ	
	PWR Soft	Wash	360/270	NQ	NQ	Fading dichroic colour system	-	-	-	-	N	NQ	NQ	NQ	Y	DMX	5-12"	NQ
	Brite Burst 1200	Beam	360/180	NQ	NQ	11 Frame scroller	-	-	-	-	N	Mech	-	-	-	NQ	4-22"	NQ
	Brite Burst 2500	Beam	360/180															

LAMP	LIFE (hrs)	WEIGHT (kg)	DIMENSIONS (HxWxD)	SUPPLY	RESET	LAMP	NOTES
ZB-JCRH5 15V, 150W	500	8.64	318x296x216	AC	NO	NO	Colour and gobos on same wheel. Independent strobing shutter
HX600GKV or HMP575SE	NQ	19 (HX) / 24 (HP)	NQ	NQ	NQ	NQ	HX Halogen version, HP Discharge lamp
HX600GKV or HMP575SE	NQ	19 (HX) / 24 (HP)	NQ	NQ	NQ	NQ	HX Halogen version, HP Discharge lamp
HX600GKV or HMP575SE	NQ	19 (HX) / 24 (HP)	NQ	NQ	NQ	NQ	Square' has integrated barndoor effect. HX Halogen version, HP Discharge lamp
4No 650W PAR36 or ACLs	NQ	33	NQ	110V or 220-240V 2.8kVA	NQ	NQ	Rainbow 15' scroller optional extra
HMI 1200	750	36	NQ	180-240V 50/60Hz 1.7kVA	NQ	NQ	Optional 8" and 16" lenses
HTI 300 / HMD 300	750/3000	NQ	NQ	NQ	NQ	NQ	
HMI 575 SEL	1000	NQ	NQ	NQ	Y	Y	
Halogen 1kW	250	NQ	NQ	NQ	Y	Y	
HMI 1200	750	NQ	NQ	NQ	Y	Y	
HTI 300 / HMD 300	750/3000	NQ	NQ	NQ	NQ	NQ	
HMI 1200	750	NQ	NQ	NQ	Y	Y	
MSD250/2	2000	20	510x360x360	NQ	Y	Y	
MSD250/2	2000	20	540x360x360	NQ	Y	Y	
MSR700SA	500	37.5	560x370x450	NQ	Y	Y	
MSR700SA	500	29.3	NQ	NQ	NQ	NQ	Beam angle dependent on lens & diffusion settings
MSR700SA	500	28	NQ	NQ	NQ	NQ	Beam angle dependent on lens & diffusion settings
MSR700SA	500	32	NQ	NQ	NQ	NQ	
MSR1200SA	500	39	NQ	NQ	NQ	NQ	
MSR1200SA	500	23	NQ	NQ	NQ	NQ	
MSD575	3000	39.5	NQ	NQ	NQ	NQ	
CDM-T 150W SA	6000	17.5	NQ	NQ	NQ	NQ	
MSD250/2	2000	16	320x500x320	230V 50Hz 950VA (60Hz to order)	NQ	NQ	
MSD250/2 OR MSD200	2000	17	320x500x320	230V 50Hz 950VA (60Hz to order)	NQ	NQ	
HSDMSD 250	2000	17	320x500x320	230V 50Hz 900VA	NQ	NQ	
MSR575/2 HSR575 OR MSD575	2000	36	620x470x485	230V 50Hz 800VA (240V and 60Hz to order)	NQ	NQ	
MSR575/2 HSR575 OR MSD575	2000	NQ	NQ	230V 50 or 60Hz, 800VA	NQ	NQ	
CDM-T 150W 830	6000	10.5	415x292x378	230V 50Hz 300W	NQ	NQ	19" beam angle
CDM-T 150W 830	6000	10.5	415x292x378	230V 50Hz 300W	NQ	NQ	
CDM-T 150W 830	6000	10.5	415x292x378	230V 50Hz 300W	NQ	NQ	19" beam angle
MHD, OSD and HSD200, 250 or 250/2	2-3000	16	500x425x372	230V 50Hz 400W	NQ	NQ	Beam shaper - wide or flat effect rotatable between 0-180°
MHD, OSD and HSD200, 250 or 250/2	2-3000	16	447x425x372	230V 50Hz 400W	NQ	NQ	12" or 18" lenses optional
HSR and MSR 575 or 575/2	750	33	580x450x470	230V 50Hz 800W	NQ	NQ	
HSR and MSR 575/2	750	33	580x450x470	230V 50Hz 900W	NQ	NQ	
HSDMSD 250 OR 250/2	2000	24	540x380x400	100/120/220/230/240V 50/60Hz 400W	NQ	NQ	
MSI575HR or I2 and HMI575GS	1000/750	26	540x380x400	220/230/240V 50/60Hz 800W	NQ	NQ	
ELC 24V 250W	NQ	NQ	260x240x360	220/240V 50 or 60 Hz 3.15A	NQ	NQ	Blackout on strobe function
HSDMSD 250	2000	NQ	495x470x380	220-240V 50Hz	NQ	NQ	
HSDMSD 250	2000	NQ	495x470x380	220-240V 50Hz	NQ	NQ	3-step beam reducer iris on gobo wheel 2. Optional 12 or 18" lenses
MSD200 or 250	2000	15	500x250x300	220-240V 50Hz	NQ	NQ	Blackout on strobe function
HMI575	750	NQ	850x360x360	220-240V 50Hz 4A	NQ	NQ	Blackout on strobe function
HMI575 SE or MSR575W	750	NQ	850x360x360	220-240V 50Hz 7A	NQ	NQ	
MSD250	2000	23	342x390x600	230V 50/60Hz 1.5A	NQ	NQ	
MSD250	2000	21.5	424x410x555	230V 50/60Hz 1.4A	NQ	NQ	
HSRMSR575, MSD575	750/2000	27	424x390x630	230V 50-50Hz 3.5A	Y	Y	
Halogen 250W	300	13.5	240x335x430	NQ	Y	NQ	
MSD250/2	2000	22.4	586x496x295	100-240V 50/60Hz 375W	NQ	NQ	Double stacking Litho option. 27 or 40" lens options. Effects interchangeable
MSR575/2 or MSD757	750/2000	26.8	713x551x318	100-240V 50/60Hz 750W	NQ	NQ	Optional 13" or 30" lens
MSR575/2 or MSD757	750/2000	26.8	713x551x318	100-240V 50/60Hz 700W	NQ	NQ	Optional 13" or 30" lens
MSD250/2	2000	22.4	544x485x295	100-240V 50/60Hz 375W	NQ	NQ	Variable beam shaper
MSR575/2 or MSD757	750/2000	29.5	610x483x305	100-240V 50/60Hz 700W	NQ	NQ	
MSR700 SA	400	22.4	616x496x295	100-240V 50/60Hz 1kW	NQ	NQ	Electronic strobe function in addition to mechanical. Lamp boost circuit
MSR700 SA	500	29	625x523x520	90-250V 50/60Hz 1.2kW	NQ	NQ	ACN Ready Data feedback on lamp status. Optional shutters, remote beam field adjuster. Effects interchangeable
Philips DL50 HID 50W	3000	4.1	NQ	100-240V 50/60Hz	NQ	NQ	Requires DMX protocol converter
MSD700 SA	3000	75	NQ	100-277V 50/60Hz	NQ	NQ	Requires DMX protocol converter 5 lenses available for angles in range 6-68°
HTI150	NQ	9.8	460x370x330	NQ	NQ	NQ	
HMI575	NQ	19.8	535x386x360	NQ	NQ	NQ	
HMI1200	NQ	42	NQ	NQ	NQ	NQ	
HTI150	NQ	9.5	NQ	NQ	NQ	NQ	
MSR575/2	NQ	19.8	535x386x360	NQ	NQ	NQ	
HMI575GS	NQ	24	580x360x390	230V 60Hz	NQ	NQ	
HPL575	NQ	11	574x397x397	90-260V 5/60Hz	NQ	NQ	
HTI600	NQ	35	803x485x485	90-260V 5/60Hz	NQ	NQ	
TBC	NQ	NQ	NQ	100 - 250V 50 or 60Hz	NQ	NQ	
BA250 SE D or MSD250/2	NQ	NQ	NQ	100 - 250V 50 or 60Hz 540W	NQ	NQ	
CDM-SA/T 150W	NQ	14	415x318x390	100/120/210/230/250V 50/60Hz 245-265W Voltage dependent	NQ	NQ	
Martin Metal Halide 150	NQ	11.8	415x318x390	100/120/210/230/250V 50/60Hz 200-220W Voltage dependent	NQ	NQ	
Martin Metal Halide 150	NQ	11.6	415x318x390	100/120/210/230/250V 50/60Hz 200-220W Voltage dependent	NQ	NQ	
MSD200, MSD250/2, HSD250	NQ	21	525x384x330	100/120/210/230/250V 50/60Hz 350-370W Voltage dependent	NQ	NQ	4 selectable beam angles of 12.1, 14.6, 17.5 or 23.3°
MSD200, MSD250/2, HSD250	NQ	22	525x384x330	100/120/210/230/250V 50/60Hz 350-370W Voltage dependent	NQ	NQ	
MSD200, MSD250/2, HSD250	NQ	19.9	536x384x330	100/120/210/230/250V 50/60Hz 330W	NQ	NQ	Optional 18-35" lens
MSR575/2, HSR575/2, MSD575, HSD575	NQ	32.8	673x481x356	200/230/245V 50Hz, 208/227V 60Hz 780W	NQ	NQ	Electronic ballast available
MSR575/2, HSR575/2, MSD575, HSD575	NQ	31.5	652x481x356	200/230/245V 50Hz, 208/227V 60Hz 750W	NQ	NQ	Electronic ballast available
MSR575/2, HSR575/2, MSD575, HSD575	NQ	31.5	652x481x356	200/230/245V 50Hz, 208/227V 60Hz 750W	NQ	NQ	Electronic ballast available
Osram HMI1200 WWS	NQ	41.5	743x490x408	100/120/208/230/250V 50/60Hz 1450-1570W Voltage dependent	NQ	NQ	Additional gobo animation wheel, rotating effects wheel with static prism, wide angle lens, variable frost
Osram HMI1200 WWS	NQ	47	743x490x408	210/230/245V 50Hz, 208/230V 60Hz 1500W	NQ	NQ	Effects wheel: rotating prism, rotating beam shaper and variable frost
HTI 600	NQ	16.4	673x305x254	120V 50/60Hz 9A	NQ	NQ	
HTI 600	NQ	13.4	673x305x254	100/120/220/240V 50/60Hz 4A at 240V	NQ	NQ	
HTI1200 W/SE	600	41.4	711 Hanging sphere	Head 120V 50/60Hz 5A, Ballast 220V 50/60Hz 6A	NQ	NQ	
HTI2500 W/SE	600	74.5	711 Hanging sphere	Head 120V 50/60Hz 5A, Ballast 220V 50/60Hz 6A	NQ	NQ	
ACL	NQ	12.7	508x571x260	NQ	NQ	NQ	
NQ	NQ	12.7	508x571x260	NQ	NQ	NQ	Information states both 400W UV source and Dichroic UV filter. No bulb stated.
HTI150	NQ	11.5	300x250x400	120/230V 50/60Hz 280W	NQ	NQ	
HTI300/DX	NQ	18	500x400x340	120/230V 50/60Hz 480W	NQ	NQ	
PH-CD-T 150 or PH-CDM-T/SA 150	10,000/6000	NQ	NQ	230V 50Hz 219VA	Y	Y	
PH-CD-T 150	10,000	NQ	NQ	230V 50Hz 210VA	Y	NQ	
PH-CD-T 150	10,000	NQ	NQ	230V 50Hz 210VA	Y	NQ	
MSD250/2 HSD250/2	2000	NQ	NQ	NQ	NQ	NQ	
MSD250/2 HSD250/2	2000	NQ	NQ	100,115,208,208V 50/60Hz 600W	Y	Y	
MSR575/2 MSD575/2 HSR575/2	750/2000/750	NQ	NQ	100,115,208,208V 50/60Hz 900W	Y	Y	
MSR575/2 MSD575/2 HSR575/2	750/2000/750	NQ	NQ	100,115,208,208V 50/60Hz 900W	Y	Y	
MSD250 HSD250 MSD250/2	2000	NQ	NQ	100,115,208,208V 50/60Hz 455VA	Y	Y	
MSD250/2	NQ	20.8	520x410x380	Switch mode 90-245V 50/60Hz	Y	Y	
MSR400HR	750	24.8	520x410x380	Switch mode 90-245V 50/60Hz	Y	Y	
MSR1200SA	NQ	30	770x530x475	Switch mode 90-245V 50/60Hz	Y	Y	
MSR400HR	750	24.8	520x410x380	Switch mode 90-245V 50/60Hz 600W	Y	Y	
MSR1200SA	NQ	30	770x530x475	Switch mode 90-245V 50/60Hz	Y	Y	
HMI575 or 1200 GS	750	30 (575) 35 (1200)	642x390x390	200/250V 50/60Hz 4.0A (575) 7.0A (1200)	NQ	NQ	Electronic ballast available
HMI1200 SA	750	35	642x390x390	200/250V 50/60Hz 7.2A Max	NQ	NQ	
CP91 2.5kW, CP92 2.0kW, CP91 1.2kW	NQ	15	480x550x550	Data box: 100/250V 50/60Hz 3.15A Lamp as fitted	NQ	NQ	Lamp electronics separate from yoke. Yoke requires separate PSU. Fresnel and PC lenses supplied. Uses adaptor for CP91
HTI150	750	10	450x400x400	2360V 50/60Hz 200W	NQ	NQ	
HTI150	750	10	450x400x400	2360V 50/60Hz 200W	NQ	NQ	
HTI150 or HTI152	750/2000	10	370x300x330	2360V 50/60Hz 200W	NQ	NQ	
MSD250/2	2000	17.5	540x370x370	200V 50Hz, 208-230V 50/60Hz Optional 110V	Y	Y	Electronic ballast available
HMI575 or MSR700	750	21	520x530x680	230V 50/60Hz 7A	NQ	NQ	Electronic ballast available
MSR1200SA or HTI1200 SE	600	37.5	610x800x710	230V 50/60Hz 8A	NQ	NQ	2 stripped-down versions available without CYM mixing and/or effects. Electronic ballast available
MSD250/2	NQ	19.9	NQ	120/240V 50/60Hz	NQ	NQ	Optional 12 or 18" lenses
MSR575/2	NQ	35.9	NQ	NQ	NQ	NQ	
MSD250/2	NQ	19.9	NQ	120/208/230/240V 50/60Hz	NQ	NQ	
MSR575/2	NQ	35.9	NQ	NQ	NQ	NQ	
HTI600	NQ	27	654x445x445	85-130V, 170-260V 50/60Hz 900W (Approx)	NQ	NQ	
HTI400 W/SE HTI404 W/SE	NQ	17.24	518x355x355	85-265V 50/60Hz 750W (Approx)	NQ	NQ	Beam angle dependent on lamp fitted, diffusion and focus settings.
Philips 1kW 100/120/230V, 1.2kW 120V only	NQ	12	680x407x413	Lamp dependent	NQ	NQ	Own dimmer required. 5 lenses available to give beam angles between 60° and 41x24°
575W Arc lamp	NQ	14	680x407x413	Requires APS6 Supply 85-265V 50/60Hz 1kW (Approx)	NQ	NQ	
MSR400 SA	NQ	10	627x371x419	Requires APS6 Supply 85-265V 50/60Hz 400W (Approx)	NQ	NQ	Beam angle dependent on lens fitted, either near, medium or wide field
MSR400 SA	NQ	13.2	673x419x445	Requires APS6 Supply 180-265V 50/60Hz 400W (Approx)	NQ	NQ	Beam angle dependent on lens fitted, either near, medium or wide field
700W SA	NQ	13.2	673x419x445	Requires APS6 Supply 90-264V 50/60Hz	NQ	NQ	Beam angle dependent on lens fitted, either near, medium or wide field
MSR700SA	NQ	30.8	775x550x610	Requires APS6 Supply 180-265V 50/60Hz	NQ	NQ	
MSR700SA	NQ	31.3	775x550x610	Requires APS6 Supply 180-265V 50/60Hz	NQ	NQ	
575W or 1200W SA	NQ	31.3	797x603x489	[1.2kW] 180-264V 50/60Hz 12A (575) 90-264V 50/60Hz 7A	NQ	NQ	
700W SA	NQ	36	645x419x470	80, 96VA 50/60Hz 1kW (Approx)	NQ	NQ	

**KEY:**

CMY	Cyan, Magenta, Yellow	G	Glass</
-----	-----------------------	---	---------



A fixture with two wheels and, say, eight colours in each (plus, of course, open white) would get 80 or so combinations. What is often the case, though, is that said colour wheels may have a frost filter, UV (Woods Light) filter, colour temperature correction filters and so on, and these are included in the total figure given. It doesn't leave much to the imagination as to what happens when a 3200 degrees K colour correction filter is placed in front of a UV filter. Accordingly, be wary of 'total colour combination' figures.

To keep the table as concise as possible, the 'colour' open white has been omitted from the colour column in all cases. A lot of manufacturers state that their fixture is capable of 'X colours plus open white' and one would hope so too!

### GOBOS

Again, this is a slightly grey area with not all stating whether the gobos fitted are glass or metal. Where this is the case, the table lists only the number and whether they rotate or not. Interchangeable gobos are indicated by

the size in adjacent column, or 'Fixed' if not. Some wheels will take a particular number of metal gobos and a particular number of glass - presumably due to mounting constraints. This being so, quantities are listed of each.

### EFFECTS

This column commonly prescribes attributes such as rotating prisms, wide lenses and so on. Many manufacturers list a 'Rainbow' effect which transpires to be rotation of the colour wheel. As pretty much all DMX controllers can ramp up and down a channel, and as the colour wheel rotates anyway, it is fair to say that scrolling through the colours is an 'effect' that can be taken for granted.

### STROBES AND DIMMERS

Often a strobing shutter is used to perform both blackout, strobe and dimming functions. Where this is the case, 'Mech' (mechanical) breaks across both rows in the table. Where the dimmer is additional to the strobe shutter, the dimmer is listed as either mechanical or electronic, invariably dependent on lamp source.

### OPTICS

Zoom, iris and beam angle pretty much speak for themselves. Beam angle is quoted where possible as the broadest range with available effects from a standard lens, i.e. from the tightest spot with tight iris and focus to the biggest wash. Check before specifying or purchasing though, as some require the lens to be specified beforehand - Vari\*Lite, for example, has five different lenses for the VL5B, as well as beam diffusion functions.

### HOT RE-STRIKE

This is a useful attribute, particularly for live shows. Where the mains supply has dropped out momentarily, or similar, causing the lamp to extinguish, it is really frustrating to wait for the prescribed five or ten minutes to let the bulb cool before re-striking the arc, particularly when there is two minutes to 'house open', or even worse, when the house is already open. Being able to do it rapidly is a great bonus - especially if the unit has 'remote reset' and 'remote lamp on/off' features allowing it to be done from the lighting desk in the comfort of an upturned flightcase. As can be seen from the table, this is an area in which manufacturers are sometimes reluctant to extol their virtues!

### WEIGHTS & MEASURES

The figures given for weight, dimensions and also power supply are based on the standard unit with magnetic ballast (if there is a choice). Many have optional electronic ballasts with universal power supplies, and this does have a bearing on weight and sometimes dimensions. As there are so many permutations, only the 'standard' figures are given.

### LAMP LIFE

Whilst there are standard figures for the expected lifetime of particular bulbs, only the fixture manufacturers' quoted values are listed. The reasoning behind this is that some overdrive or underdrive the bulb to achieve more light or longer life, and as a result it is best to rely on the figures from the fixture rather than the bulb manufacturer.

### WEB VERSION

It is impossible to fit all the information on each fixture into a double page spread, and as such, certain elements have been left out of this printed issue. The full version will be found on the web for download and will be updated periodically. At the risk of labouring a point, an invitation is herewith extended to manufacturers to check their entries and send in updates to keep the database as up-to-date as possible for the benefit of all potential customers.

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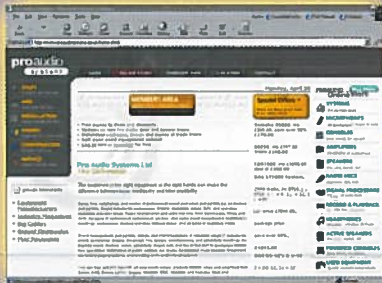
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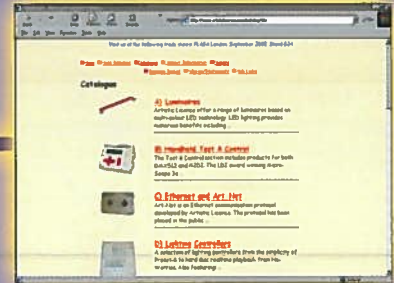
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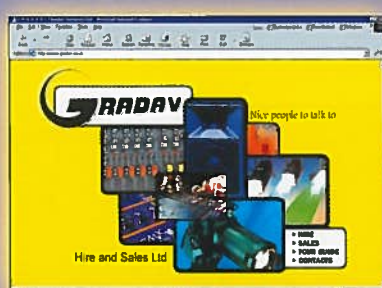
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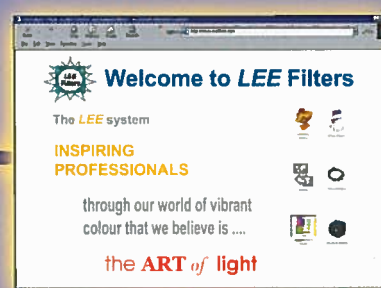
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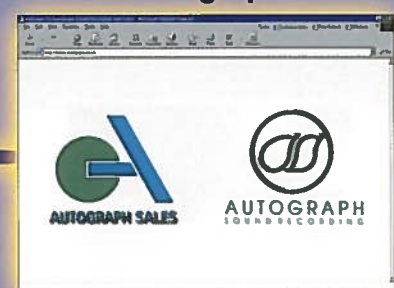
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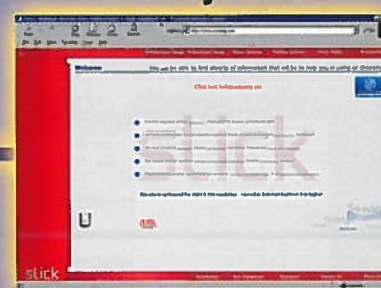
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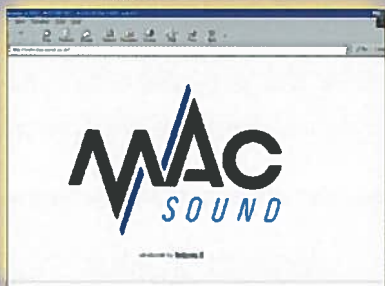
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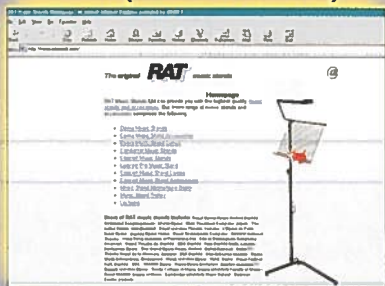
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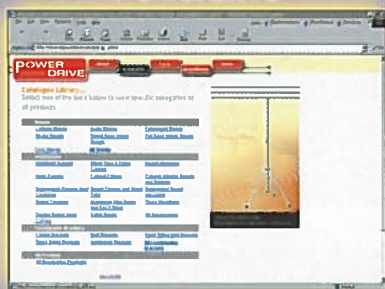
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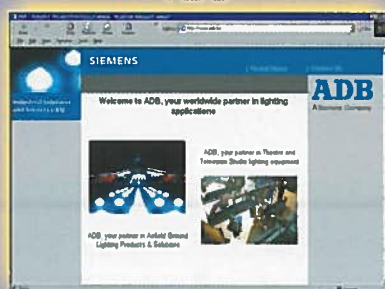
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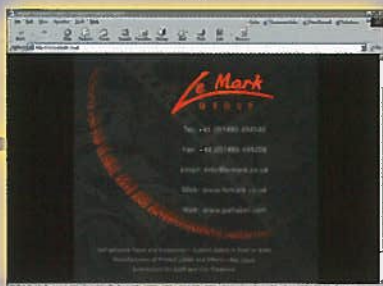
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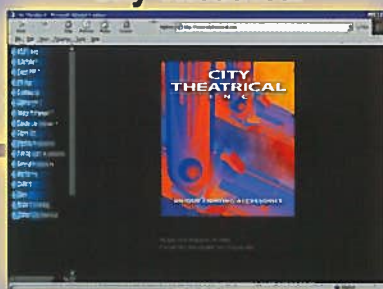
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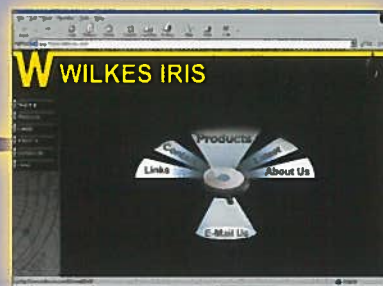
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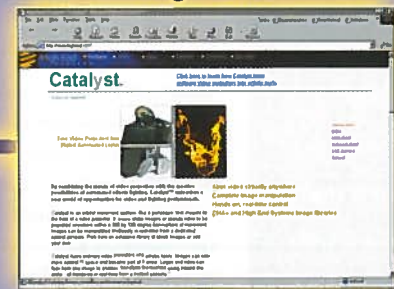
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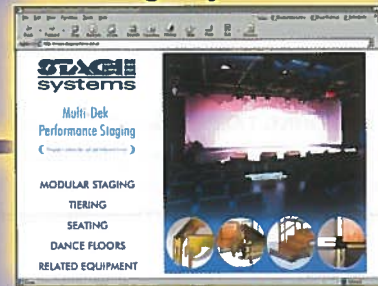
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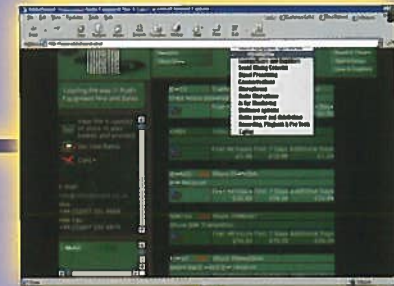
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# John Watt

## Second Take...

John Watt's view from beside the camera

**M**ay already, and the pantomime season hardly over, or at least I thought it was until I saw Celine Dion on Parky - the ultimate, though familiar, 'look at me' syndrome. The last time I remember using that phrase was concerning a particularly arrogant lady presenter who it was my misfortune to light a little while back. The racks guy and I really struggled with her flesh tones across the

beginnings of a lengthy series, but for several days she looked, not only slightly odd, but not even consistently odd.

**IN DESPERATION** we decided to seek out the make-up girl. Remember when they used to sit at the back of lighting studying the pictures and discussing things with the lighting director? I liked that way of working, some of my best friends were make-up girls - anyone who remembers Marge at Didsbury will recall their gravity-defying personalities -

plus you were always in with a chance of a haircut during the coffee break.

**BUT THIS SEEKING OUT** involved a trek to the make-up room to beard the lady in her lair. In fact, a beard was the only bodily adornment she didn't have. "We can't seem to make Kate's flesh tones work and they are not even consistent."

"Oh, we use a different base for each show - it's a

fashion statement." And there was us thinking Mr Sony's finest electronics had gone doolally.

**NO SUCH SIMPLE EXPLANATION** to a lady's problems encountered last week. Yes, only last week, so there is an embargo on where and who. Suffice to say in my blossoming new career as loss adjuster in the nation's news studios, I found myself called in to offer suggestions for a 'new look' in a studio that in all honesty didn't look, by any means, beyond redemption. The aforementioned lady must have heard that the fire brigade had arrived (yours truly) and found me quietly sitting in the control room watching the pictures.

**THERE THEN FOLLOWED** the television lighting equivalent of road rage. Before I could heave myself out of my chair (school motto "always a gentleman") she let me have it with both barrels (the spellchecker won't like this). "Now see here, what I need is lots of uplighters and lots of soft light, ladies of a certain age need it, they use it at ITN and they use it at Sky News and the results are stunning, I've been there and I know, everyone who is anybody uses it, it's the only way to lose ageing and bags under the eyes, so just get on and supply it and don't muck about with anything else."

"But I . . ."

"No, don't say it, it's what we must have, don't even think about anything else, I'm telling you, that's how it's done, I know!"

**I'M NOT ENTIRELY SURE** I've got the job yet, I may give it a go if they promise to keep her chained up, but is it time to gracefully exit stage right I ask myself?

**THE 'B+ YOUNG TALENT AWARDS'** application form has come my way. Flattering, but about 35 years too late in my case. These awards are "designed to showcase young TV and film-making

talent in the UK - produced in association with BBC resources - your chance to shape the future of TV and film production." A modest enough ambition - maybe they could sort out the Israelis and Palestinians on their day off. They should have hung on to some of the older talent they already had, methinks. Could it be that young equates to cheap?

**ANYWAY, ONE CATEGORY** is for camera/lighting person. Silly I know, but I've been proud to be a 'lighting director' all these years; 'lighting person' doesn't quite have that ring to it. Again I quote: "The award will be presented to the camera/lighting person that has shown creative flair as part of their role and also shown versatility and an ability to adapt to different scenarios within a team framework."

**IT CONTINUES WITH MENTIONS** of "worthwhile contributions and fresh ideas". It's a perfect job description and outlines the fundamentals of being a lighting director - it's what we all try to do all the time and hardly merits an award. It's a bit like giving a plumber an award for joining pipes. Talking of which, do you realise that ballcocks are being largely replaced with Tormec valves thus depriving me of a valuable source of cheap jokes? Anyway, being particularly good at all the above may merit an award, but if they insist on bracketing Camera and Lighting person together, then Jacks of all trades are a more likely result and we all know the next line.

**BY WAY OF A GOVERNMENT HEALTH WARNING** you had better note that I am once again involved in Showlight, miles away (2005) but in the planning stage. It keeps me off the streets and gives my friends the excuse to suddenly remember a previous engagement just as I launch into my, now well-known and honed, sales pitch. Ideas, other than 'forget it', are always welcome. If you've never been to one, shame on you, where were you? Watch this space.

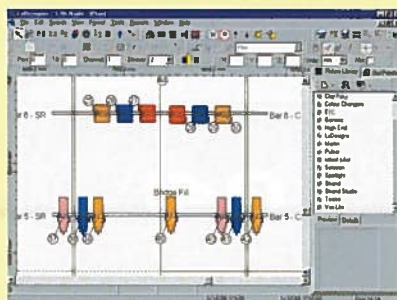
**NEXT MONTH YOU CAN LOOK FORWARD**, or not as the case may be, to a blow-by-blow account of my efforts to tell a group of young people what lighting is about. As I said last month, I'm expecting to learn a lot but not so confident about what they will gain. My learning curve this month was as driver of a Luton van (no I'm not doing it full-time Baz). On the way to your next gig, do move over a lane to let the heavies out, those revs have taken a lot of building and once lost take a lot of getting back. A bit like a career in lighting but as the pneumatic drill operator said "d d d d o y y y y you call this a c c c career?"

"There then followed the television lighting equivalent of road rage. Before I could heave myself out of my chair (school motto "always a gentleman") she let me have it with both barrels."

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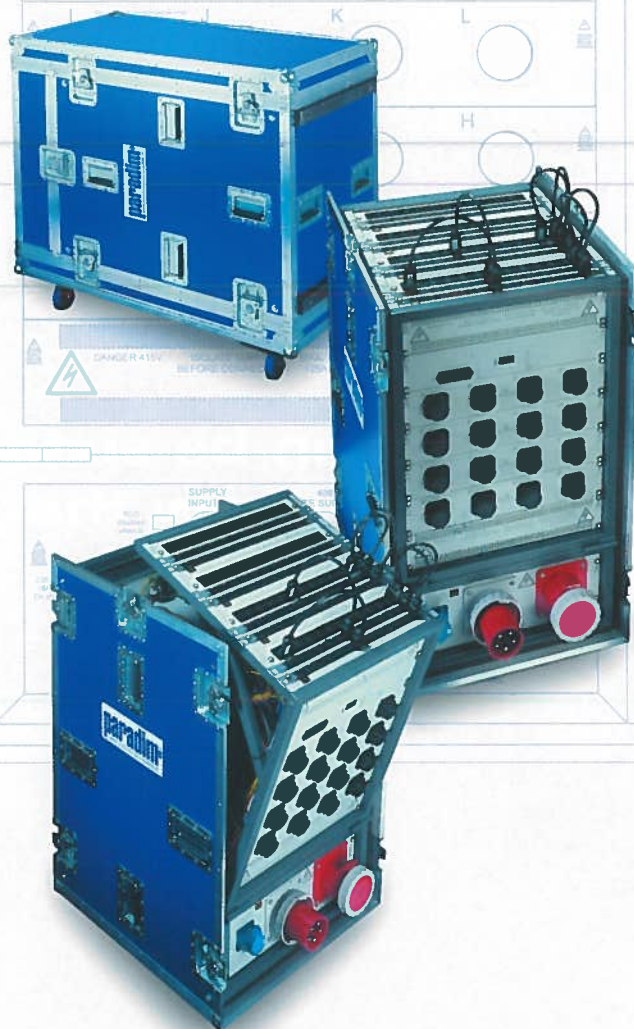
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# SIB 2002

The SIB exhibition has a new home and new look.

Lee Baldock reports from Rimini . . .

It was clear this year that Rimini's SIB exhibition has moved away from its past in more ways than one. Most obviously, it has moved from its usual home - the relatively tatty old Fiera - to the gleaming, air-conditioned, marble-clad new Fiera. But behind the simple fact of location, there seems also to have been an effort to make this a more 'professional' exhibition, i.e. to cut out much of the nonsense for which SIB has been known and loved for years.

The 'old' SIB epitomised the unique Italian discotheque culture, and the show floor was a vibrant mix of promoters, performers, punters and posers, squeezed alongside the lights, lasers, smoke and sound - all generously applied. The show still retains elements of its past: a separate hall contained a vestige of the former, while the latter - the unrestrained use of smoke and SPLs - was still in evidence in places. However, that special buzz seemed all but gone, and with the apparent abundance of space at the new venue, SIB looked for the most part like it was making a brave effort to grow into a big pair of sensible shoes.

That said, this was not a bad show: business was pretty good according to most exhibitors and the post-show report stated visitors were up almost 2% on the 2000 event. At the end of the day, it's the business that matters, but SIB always used to show that business and fun are not mutually exclusive . . .

PLASA took a group of UK exhibitors under the DTI's SESA (Support for Exhibitions & Seminars Abroad) scheme, and all seemed pleased with the result. The group included DHA Lighting, Vivid Innovation, Lee Filters, Avolites, The Smoke Company, Shipley Dial, Pulsar, Harkness Hall, Martin Audio, Cadac and Celestion. Members of the group received a visit from Richard Northern, the British Consul-General based in Milan, lending his support to UK companies doing business in Italy.

AC Lighting introduced the first items in their new TourMate range of innovative, tour-friendly connectors. The robust Multilock 19-pin connector range offers a number of improvements over models currently available. A unique spider clamp provides individual clamping for six-circuit cable assemblies and is IP67-rated. Other features include six-circuit identification, first mate/last break earth contacts and an integral insulation sleeve in the backshell. All connectors are compatible with Socapex and Veam ranges.

Also new is the TourMate Splitline power adapter, a cost-effective alternative to commonly-used 16A cable splitters, available in two versions: the 230V version is a 1-in x 3-out mains adapter; the 110V version has one pair of the output sockets wired in series to 110V sockets, while retaining a single 230V through connector.

ADB's Dirk van Nieuwenhuysen showed the company's touring dimmer rack systems, available in six versions and based on ADB's Memorack 30 dimmers. Despite its traditional market being in film and television, ADB has found its dimming systems making considerable inroads on the European touring market, with several leading rental houses choosing their product. ADB was exhibiting on the stand of its Italian distributor Spotlight, who also showed product from Compulite, Dynalite, Pani, Tomcat and Lite Structures, among others.

Audio Link is a leading Italian distributor of sound equipment and, under the auspices of its Lite Link subsidiary, of lighting and associated equipment, representing brands such as Avolites, PCM, James Thomas and Vari-Lite (for whom AudioLink is a new sales dealer). Avolites' Koy Neminathan was busy demonstrating the new off-line editor for the Pearl console. The PC-based Avolites Pearl Simulator allows off-line creation and editing of shows, which can then be transferred to the console via disk. Used in conjunction with the Visualiser, the Pearl Simulator is designed to be used as an offline editor or as a training tool, and is also useful as a means of presentation to clients. Vari-Lite Europe's Simon Roose said that the exhibition debut of AudioLink was also the first opportunity to show the new VL1000 Tungsten and Arc luminaires to the Italian market. Roose reported a "fantastic" response to the new products.

Chainmaster showed their latest product, the VarioLift 1000 - a VBG-compliant hoist which offers speed of movement from 1m/min to 19m/min.

Clay Paky traditionally makes a big impact in Rimini, and this year the company completed its range of 'Silent Version' projectors with the introduction of the Stage Profile Plus SV and the 'basic' version of this fixture, the Stage Profile 1200 SV. Both units offer the clever framing system which allows triangles and quadrilaterals of all types and sizes to be formed, morphed and rotated through 90°. What the 'Plus' model offers in addition to this are features such as the FMI (Framed Moving Images) effect, the two combinable wheels of rotating gobos (4 + 4), linear



From top: The Smoke Company's Steve Sykes demonstrates an impressive flame effect to British Consul-General, Richard Northern.

Koy Neminathan (right) tells Richard Northern (left) what Avolites is all about . . .

AC Lighting's Pete Floyd, Glyn O'Donoghue and Cally Bacchus.

Clay Paky's Stage Profile Plus SV completed the company's 'Silent Version' range of luminaires



From top,

Laura Piatelli of Coef with the previewed MP700.

The impressive Coemar stand.

A display of architectural lighting from Griven.

LDR's Rossano Baietta, Marco Baietta, Lisa Papi and Fabiano Besio line up with the company's newly-restyled range of theatre luminaires.

variation frost, the effects disc with three prisms and light frost and CMY colour-mixing (the 1200 SV offers seven interchangeable colours plus white).

The combination of double rotating gobos, prism effects, CMY colour-mixing and beam shaping facilities makes the Plus SV a really impressive tool. Its low-noise design, along with its half-power/half-noise option, give added appeal for theatre, studio and presentation applications where the whirr of motors is a big turn-off.

Clay Paky also introduced the CP Color 575 - an IP65-rated exterior architectural colour-changer, which is the latest addition to the CP Color range. This can be fitted with either HSD or MSR 575W lamps, and features 0-100% dimming, an optional revolving ovalising filter,

frost filters and a diffusion filter which gives an 80° beam spread. It can be programmed from a DMX desk, but also has a number of pre-programmed chases for stand-alone mode.

Also new from Clay Paky were the Golden Spot 1200 effects projector and the Golden Color 1200 washlight, both moving head luminaires suitable for the more budget-conscious touring, theatre or club application. Finally, the 300W Color Wash, which offers seven colours plus white, and the latest addition to the Display Line - the VIP 1200, effective for throws of up to 50m.

Coef showed a prototype of their new MP700 moving head washlight, which will feature CMY colour mixing and a full range of other features - full details of which will be made available when the product receives its full launch at the PLASA Show in September . . .

Coemar's biggest news of SIB 2002 wasn't product-related (see L&SI April 2002), but nonetheless the company did release a clutch of new products. These included the iSpot 575, offering twin rotating gobo wheels and twin colour wheels, remote focus, stepped zoom and rotating prism, all in a stylish yoke-mounted head. The new ProSpot 575 LX is an option for lower-budget applications, and is essentially a reduced-feature version of the iSpot 575.

For architectural applications, the Panorama CYC 250 is a small weatherproof colour-changer with an excellent output, fully DMX-controllable, but well-equipped for stand-alone operation. Again, a reduced-feature version, the CYC 250C, is available for smaller budgets.

The iCYC 250 is an interior colour-changer, sharing all of the same features as the Panorama 250, plus an external LED display for addressing or programming the unit. For less money, the ColourCyc 250 LX has all the same features, except full colour-mixing capabilities: a colour wheel is provided instead.

SIB gave ETC Europe another chance to introduce the Emphasis control system to another major European market, following its appearance at SIEL in Paris and Pro Light & Sound in Frankfurt, alongside the latest WYSIWYG software from Cast Lighting. Both these developments were covered in our report on LDI 2001 (see L&SI December 2001). ETC recently passed an impressive milestone with the sale of its one millionth Source Four fixture. To celebrate, four special gold-wrapped fixtures are being shipped worldwide, with the lucky recipients winning a range of Source Four fixtures.

Latest products from Italian manufacturer Fal included the Three-Sixty Pro 1200, a high-powered moving head with full CMY colour-mixing, a rotating three-facet prism and a variable beam spread of 14° to 33°. A fast action shutter provides beam blackout, adjustable strobe effect and linear dimming. For the television market, Fal introduced the Day Light 1200, available in two versions with conventional or electronic ballast, the latter version denominated 1200 EB. The Day Light uses a 1200W HMI lamp (colour temperature

6000K). Fal also introduced the Stage Yoke, a DMX512-controlled yoke fixture with digital display which uses a 1000W halogen lamp and offers 420° pan and 90° tilt, high resolution movement.

Gobo Lighting was showing the C3 Submarine - a 16A CEE triple connector developed for the entertainment industry. The C3, which is manufactured by the company in Denmark, offers flexibility in building up terminals, keeps cables in-line and is particularly intended to be used with power supplies for moving lights and backline use. The connector, rated to IP44, is supplied with a strap allowing it to be fixed to pipes and truss.

Griven furthered their push into the architectural market by launching a new range of exterior colour changers, named the IP65 range after their exterior protection rating. Unlike Griven's other multi-purpose colour changers, the IP65 units are designed specifically for architectural use, with four models from 150W to 1000W, featuring beam angle variation options, CMY colour mixing, lightweight cast aluminium bodies and stand-alone or DMX control. An interesting wireless (UHF) DMX transmitter/receiver system is an option on all models.

Also interesting and possibly unique is Griven's new multi format exterior projector, the Promotion 1200, an MSR 1200 zoom lensed unit with a dedicated range of DMX-controlled internal effect modules such as indexed multi-gobo rotator, film scroller, etc. Another Rimini launch was the fully specified Acrobat 1200, now top product in Griven's Acrobat moving head range.

Hantarex made an impressive display of their professional plasma screens. Visitors to the stand were able to see the latest additions to the Slim Plasma Display line, comprising the PD40 (40", 4/3 ratio), PD42 (42"), PD50 (50") and PD61 (61") models, all compatible with standard PAL, NTSC and SECAM formats. Also on stand was a new range of flat screen LCD TFT screens, available in 15" and 18" (4/3 ratio) and 22" (16/9 ratio) models. These are aimed at applications requiring energy efficiency, with minimal thermal and electromagnetic emissions.

Theatrical and architectural luminaire manufacturer LDR is a stylish company, and the now-completed restyle of the company's product range proves the point. The core range of spotlights - Fresnel, PC and profile ranges from 500W to 2000W - now exist as the new 'Plus' versions. The latest re-style is the Tono Plus, a compact and powerful 2k or 2.5k luminaire with a wide beam angle of 10°-70° (Fresnel version) or 9°-70° (spotlight version). This now joins the Tempo (650W), Suono (650W), Aria (1000W) and Nota (1200W) fixtures, all of which have undergone improvements and now also benefit from the standardisation of spare parts.

Martin Professional made a high profile entry into the top-end of the lighting control market with the introduction of the Maxxyz control desk. The desk has a built-in 3D visualizer with



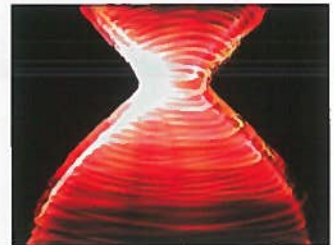
real-time Preview mode, which can be used without interrupting the running show. There are all the state-of-the-art features you would expect - Ethernet capability (10/100 Mbit) for DMX universes and multiple console linking, remote access via a laptop/PC or Internet network, automatic Internet updates, customisable programming and control characteristics, service and support, etc. Processing is based around two Pentium III-based computer systems, which communicate via COM+ technology. Eight DMX 512 outputs give a total of 4096 channels. Each DMX output is opto-isolated, half duplex, and the DMX-timings and refresh rate can be adjusted individually.

Other features include two super high luminance SVGA TFT screens, a built-in Effects Generator, built-in DVD/CD-RW, motorized assignable and multi-functional playback faders, SMPTE/VITC/LANC timecode reader and generator, MIDI in/out and balanced audio in/out. For the discotheque market, Martin also debuted the new 'Ego' series of effect lights. The two models, Ego 01 and 02, feature a 250W halogen lamp, in a stylish plastic moulded design. Features of the 02 model include a new patent-

pending colour-changer system which produces over 200 colours. Also on the Martin stand, **Jem Smoke** showed several new products including the Interphazer, a haze machine for the stage, event and studio market, and the Magnum 950, a low-cost, high-powered fogger for the DJ market.

**MGC Lamps** were displaying the two new HTI Lamps from Osram. At just 92mm long, the double-ended HTI 575W/DE metal-halide lamp is the smallest lamp of this wattage anywhere in the world. Like the HTI 700W/DE lamp, it is designed to withstand temperatures up to 450°C, 100°C higher than comparable lamps, thanks to eXtreme Seal (XS) technology. Also on show for the first time was the new ELC/7 a 700-hour version of the popular ELC 24V 250W MR16 lamp, available later this year.

**Novalight** (who have now dropped the 'La' prefix from their name) were showing a pre-production version of the High Ground, a searchlight fixture which boasts zoom and colour-changing capability and will be available either as a stand-alone or in a moving yoke version (High Ground M-Y).



From top left, Poul Tønder of Gobo Lighting with the C3 Submarine connector.

Phill Bullock (right) of MGC lamps with Alison Quinn of Osram and the new ELC7 lamps.

Omar Bertani and Chiara Gorgaini of Fal with the Three-Sixty 1200

Marcello Bertini of Novalight with the new High Ground searchlight fixture.

The Spectravibe effect in action

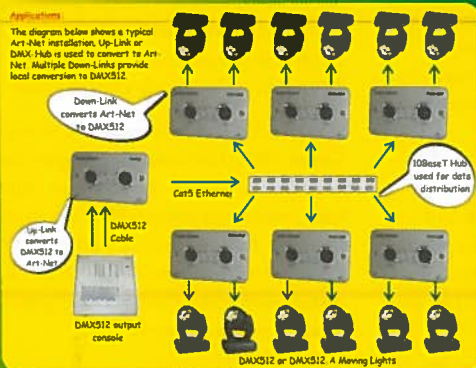
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# Ethernet Solutions



*This page, from top:*

*Martin Professional made their high profile entry into the top-end lighting control market with their Maxxyz controller. Martin's Mark Colemont (left) was on hand to demonstrate.*

*Pulsar's Snowy Johnson, Andy Graves and Paul Mardon are pictured with a new Datapak.*

*Pearl River's vice-president Paul Dodd with general manager Dave Liang.*

*Kevin Caldwell of Ace Visual & Sound Systems and Andy Blackwell of Shipley Dial demonstrated the ShowMagic control system.*

interchangeable rotating gobos and a high-speed rotating three-facet prism. Also new is the FleXo range of single-arm moving yoke fixtures. The FleXo features 11 dichroic colours plus white, 11 interchangeable gobos, high-speed strobe and gobo 'shake' effect at variable speed. The FleXo Color and Super FleXo make up the family of three.

The latest followspot in Sagitter's theatre range is the Supertracer 2500 HTI, aimed at long-throw applications up to 150m. The Supertracer boasts a new optical system and a new low-noise cooling system, new motorized mechanical iris and dimmer and full electronic control via the fixture's integral control panel or via DMX.

There were four new product lines on display from SGM. The Regia 2048 series of controllers comprises three models - the Opera (for theatre), Live (for touring) and Pro (for TV, club and other applications). The console offers 2048 channels of DMX control, four independent DMX lines, a trackball for accurate positioning, a fixture library covering all major fixtures, plus CD-ROM, hard-disk and two external SVGA ports. The Live version also incorporates two built-in 8.4" TFT monitors.

SGM's Powerlight series of digital dimmers is designed for both permanent and mobile applications. The three models - 1212D (12 x 12A), 625D (6 x 25A) and the 612D (6 x 12A) are controllable via DMX or RS232 and are available with a wide choice of output panels. A built-in processor controls a wide range of functions, and chases of up to 32 steps each can also be programmed for use without an external controller.

On the lighting fixture side, SGM introduced the stylish Palco colour-changing washlights, which can be used as cyc lights in theatre and TV applications, or as exterior washlights for architectural applications. These are available in 250W or 2500W versions, both with CMY colour-mixing, and controlled either via DMX or used in stand-alone mode.

The latest moving heads from SGM are the three models in the Giotto 400 series - Spot, Wash and Profile - aimed at top-end entertainment applications. The light and compact units feature a 400W hot re-strike MSR lamp providing an even field. The Spot offers 30 colour combinations, while the Wash has full CMY colour-mixing capability. The units also boast silent operation, motorized zoom, electronic ballast, linear iris, CTO and 1/2 CTO filters and customizable effects wheel.

Finally, SGM also previewed the heavy-duty Giotto 1800, the company's biggest moving head fixture to date, featuring an 1800W MSR lamp, motorized zoom with three beam angles (9°-15°, 12°-20° and 18°-30°), CMY colour mixing plus colour conversion filter, two customisable colour wheels, two gobo wheels, rotating prisms and more.

The ShowMagic multi-media control system, on display at SIB with Shipley Dial, has been used in a number of attractions recently, as Dial's Andy Blackwell and Kevin Caldwell (of system developer Ace Visual & Sound Systems)

The motor then rotates at high speed, and the cord forms a spinning helix of colour - simple but effective. This effect (international patents pending) was filmed by at least two Far Eastern visitors with camcorders, so expect to see a version of it soon.

Pearl River is a Chinese manufacturer based in Guangzhou, displaying at SIB a full range of intelligent lighting products on an impressive-looking stand. The range includes the heavily-featured Navigator PR-1200 scanner, which offers CMY colour-mixing, plus a wheel of six dichroic colours (plus white). It also has six rotating (variable speed) and seven fixed gobos - all interchangeable, two variable speed bi-directionally rotating prisms, two correction filters (3200°K and 6000°K) and more. In the moving head field, PR offers the Pilot 150 and Pilot 300 projectors, each of which has 10 dichroic colours plus white, a three-facet prism, seven interchangeable gobos and a two-blade shutter for dimming (Pilot 300 only), blackout and strobe. The company also offers a wide range of club lighting effects. Pearl River is now represented in the UK by Miltec.

Pulsar had an eye-catching display of its ChromaRange of LED lighting fixtures aimed at a wide range of entertainment and display applications, as well as a number of other new product additions. These included the ChromaPSU2, a new power supply unit which provides the necessary 24VDC power and 0-10V control signals for the red, green and blue levels for up to two ChromaRange fixtures.

Also on show were four new models of the Datapak dimming and switching packs. The new 18 x 10Amp, 18 x 5Amp, 12 x 10Amp and 12 x 5Amp versions feature double-pole thermal magnetic circuit breakers (DP-MCB). These offer thermal trip protection against longer term overload and magnetic trip for instant disconnection of fault currents. They also allow channels to be turned off independently if required. Also new from Pulsar is an XLR and DIN low voltage power supply which can power an analogue controller via the DIN sockets or a digital PMX or DMX controller via the XLR, or both at once.

Sagitter introduced the Moving FX 2002. This moving head spot offers up to 32 coloured and bicoloured beams via an eight-colour wheel and colour correction filters, an additional colour/gobo wheel, five indexable and



In a show where very little was really 'new', Spectravibe from Omnitek 2000 was an interesting exception. Based in Hungary, and run by Hungaro-Canadian Peter Danczkay, this company has done for string what Vari-Lite did for the bucket, and turned a length of 3mm nylon cord into a unique effect which also forms its own projection surface for gobo or effects projection. The system consists of a high-speed motor and lighting elements integrated into a single base unit, plus a ceiling or wall attachment to hold the other end of the cord.



explained. The deceptively simple system, which provides flexible control of a wide range of effects (see L&SI April 2001), is now controlling elements of soundtrack and lighting effects through 10 zones of a children's dark ride at the Trafford Centre in Manchester, and as part of the Predator & Prey area at the Magna Centre in Rotherham.

**Space Cannon's** display made much of the use of its 7kW Ireos Pro units on the recent 'Tribute in Light' on the site of New York's twin towers (see news story on pages 32-33). New products include the Space Cannon One - a compact moving spotlight with integrated power supply inside the head, available in 2500W or 3000W versions.

The **ColorArt** colour-changing architectural washlight featuring electronic dimming, fast dichroic colour-mixing, shutter and beam shaping, available in 2000, 2500, 3000 and 4000W versions. The **SC Helicopter** is a moving head searchlight which uses sealed mercury sliding contacts, originally developed for military use, to ensure high quality continuous rotation: all are DMX controllable.

Space Cannon also introduced some smaller-scale architectural fixtures: the **Deimos 250F** is a DMX-controllable interior colour-changing unit aimed at exhibition, retail and leisure applications, and the **Focus 575** is an exterior colour-changing fixture for harsh environmental conditions. Finally, the **ColorLite** is a 400W exterior colour-changer, while the **Black Cannon** is a 160W exterior blacklight fixture. Both units are IP66-rated.

**The Smoke Company** was promoting the Wings range of discotheque lighting effects, which includes a broad range of scanners, flowers, prisms, strobes and more. The company's own PowerFog range of smoke machines include the miniature Goblin handheld unit and the top-end Pro 1500H (haze) and Pro 1500S (fog) units. Also on show were the company's high quality silk flame effects, including the impressive Excalibur silk flame, available in flame sizes of up to 3m.

**Studio Due** showed the XS600 and XS700 moving heads. Designed for television and live events, the XS features two rotating gobo wheels, one glass wheel, two colour wheels, two conversion filters, two rotating prisms, electronic dimmer and shutter/strobe. Studio Due also previewed the latest addition to its CityBeam range of colour-changing architectural floods, the **CityBeam 1800**, which is an IP54-rated fixture utilizing an MSR-SA 1800W lamp.

**Zero 88** previewed its latest Frog desk - The Mambo Frog. Aimed at the club and touring markets, it is primarily a 'fixture only' console, with no preset faders to control dimmers, although dimmers can be controlled by assigning them as fixtures, and using the desk wheels, making it ideal for intelligent-only rigs or rigs with a small number of dimmers. The combination of a theatre-style memory stack, with fader and button-controlled submasters, allows fast-access to lighting states.

SIB returns in 2004 . . .



Top, left to right, *The Smoke Company's* Steve Sykes, Bill Hall (in his highland regalia, a source of fascination for many Italian visitors) and Gary Teasdale.

*Studio Due* previewed their **CityBeam 1800** architectural wash fixture

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# Phil Ward.

# ... Audio File

"DJs have got a bad image," Allen & Heath's Andy Rigby-Jones told me recently. "The live-sound engineer's image of the DJ is someone with his baseball cap on backwards - driving everything into clipping. The reality is that a lot of DJs making it big are very serious engineers. They're proud of what they do, and they're into technology."

"If you look properly you only need to go as far as the next county to start changing the world, and in the meantime you can chuck out the Beijing Yellow Pages."

"THERE'S ALSO SOME CYNICISM from manufacturers towards them, who seem to think that they can put out any old rubbish for the DJ market. We'd like to raise the standard."

**CUE THE XONE: V6**, the 6-channel high-end valve mixer that swaps sliding faders with rotaries and cynicism with a healthy dose of respect for the art of

DJ'ing. And it doesn't stop there. "The meters on the Xone: V6 are not some Chinese reproduction of an old VU component," Andy adds. "They are a genuine 1950s design that is still in manufacture in the UK - a little company down in Devon."

**SO THERE YOU GO** - if you look properly you only need to go as far as the next county to start changing the world, and in the meantime you can chuck out the Beijing Yellow Pages, along with your calculator.

**ROTARY FADERS** are a great way to mix precisely, being much more incrementally accurate than a linear fader. A rotary is also a performance tool, suited to Kraftwerk-inspired

electronic musicians who appreciate the understated panache of a well-aimed tweak.

**ANOTHER QUALIFICATION** DJs have for the Academy of Doing Things Properly is that - so far, at least - they're used to working in analogue. In partnership with vinyl, the Xone: V6 represents an apotheosis of sound that would have Orpheus pawning his lyre. In partnership with CD or MP3, however - the two formats emerging in new DJ-targeted products that use digital sources - it's more likely to draw comparisons such as signal processing pearl before original signal swine. Andy again: "The inputs are switchable to line, and with the Pioneer CDJ-1000 I think CD is going to gain more acceptance in clubs. But MP3 files are so compressed, I don't think any high-end interface is going to help. So I don't think innovations like Final Scratch will catch on in the clubs themselves until the resolution of the audio improves."

**WHICH LEAVES US** with the perennial puzzle of the entertainment technology business plan. How long do you allow for digital audio resolution to finish packing and finally get into the taxi? In the meantime, xoom into the xone - and don't worry about Allen & Heath's difficulty with 'Z's and 'X's. I visited Cornwall as a child, and each morning there were xebraz xooming past the window playing zylophones. If you don't believe me, just check out the titles Aphex Twin conjures up for his ambient noodlings.

Digigram's new EtherSound protocol aims to solve nothing less than the latency problem that prevents real-time networking of audio devices - in other words, effective networking of audio devices in a live sound reinforcement scenario.

**THE FIRST ENGINE** for speeding up connectivity using this protocol is called ESnet, and already promises - with enough modules - 64 channels of 24-bit audio zapping between devices up to 100m apart. There's no limit to the number of

devices, either, and they can be connected serially or in a star configuration.

**EACH PASSAGE THROUGH A DEVICE** takes 1.22 micro-seconds, so it's going to have to be a pretty big venue - say, Texas - before latency gets a look-in. ESnet is a component that anyone can build into their equipment, and already Digigram is deep into business with a manufacturer near you of loudspeakers, amplifiers, signal processors or control networks.

**IN TRUTH**, the area of PA that deals with live messaging and paging, including alarm and other security applications, is more likely to establish EtherSound as a standard than the realm of live music. But alarm systems and entertainment systems in general will converge with the help of EtherSound, particularly as recent regulations have dictated that certain venues must have voice-announcements rather than automated alarms.

**THE OEM MODULES AVAILABLE** from Digigram are PC boards that enable cost-effective access to Ethernet, and you can design your own product around it DSP-free - that is, without using up any of your device's DSP to effect access to the network. ESnet, the first, enables your device to send or receive eight channels of audio over the network - digitally. You can, therefore, build up a product around DSP if needed, or an analogue product by enclosing the module in simple A-D and D-A converters.

**THE BUSINESS MODEL** repeats Digigram's relationships with its radio automation customers built up over the last decade. The company doesn't compete with anyone making applications based on its core technology - a roster that, in radio, includes phenomenal digital radio success stories like Dalet and Nétia. So it won't be making amps and speakers itself, but either selling ESnet modules to those that do or entering deeper relationships in which bodily fluids such as schematics, algorithms and intellectual property are exchanged so that EtherSound can be scaled to the internal architecture of the OEM.

**ACCORDING TO DIGIGRAM**, most OEMs are ready to network their products now, and are literally at the stage of wondering whether to make their own solutions, or buy in. Buying in from a third party, of course, obviates revealing intellectual property to direct competitors. And as applications get more complex, with greater and greater interconnection of audio, lighting, video, control and monitoring, the need is growing.

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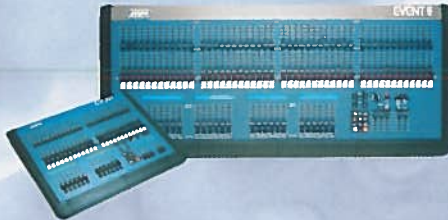
## Event 4

If you're looking for a compact, full-featured lighting console - one especially designed to control both conventional and automated lighting fixtures, then don't look past the Event 4.

The Event 4 is a hybrid console, featuring all the familiar characteristics of a 2 preset memory board along with an Effects Processor and Fan Function. This easy to use and highly flexible console now comes with version 4.2 software

## Event 3

Event and Event Plus offer all the simplicity and features of the ESP II with additional programming and playback options. Event is a hybrid, designed to give maximum hands-on flexibility, but with sufficient features to control moving lights and colour changers with all the sophistication of most dedicated moving light consoles.



## ESP II

The ESP II successfully combines power with simplicity. One button recording and editing of scenes, chases, stacks and crossfades make the ESP II an ideal choice for the demanding requirements of live shows.

## Stage 12/24

Stage is a range of DMX consoles with 2 preset and flash manual operation, which can also be used in Wide-Mode to double the number of available channels. In addition Stage has 2 Hold memories and a chase facility.



## 4PAK II

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# SOLUTION PROVIDERS

Media Projects has made a name for itself in the creative application of digital and mixed media technologies. Louise Stickland met with founder Malcolm Lewis to discuss the past 20 years and the ways in which the company is adapting for the future



Malcolm Lewis, pictured at L&S's Multi-Media Round Table in February 2001 (photo: Chris Toulmin). Below, a visual from the Land Rover Freelander launch for which the company provided the projection elements.

Media Projects International is a consultancy, design and production company involved in making quality interactive and audio-visual media, software and communication tools for all areas of the entertainment and presentation industry.

Its remit is wide-ranging and covers leisure, theme parks, museums and heritage installations, retail, corporate events, product launches and brand awareness exercises. Its project and client list is equally diverse and includes several World Fairs, the Dickson Cybermall in Hong Kong, the Wellcome Trust, Dubai Municipality, the DTI, BAA, British Aerospace, Hongkong Telecom, Vinopolis, The Museum of London, areas in the Millennium Dome and much much more.

The company has built its own success from introducing tasteful and expressive atmospheres into a wide array of environments. The ancient psychology of theatre and drama provides the essence of all these experiences.

The company's offices are secreted in the recesses of trendy Camden Town - a base from which Media Projects has survived and thrived in a competitive world, made more so by economic circumstance, that's recently claimed many victims.

The company is headed by the softly-spoken and highly eloquent Malcolm Lewis. His full time in-house team currently numbers 15, and he believes that the key to Media



Projects' continued success is its diversity, non-corporate structure and ability to offer creative and value-conscious solutions. The pervading atmosphere is one that encourages individual talent to flourish freely.

Lewis studied Fine Art at Walthamstow School of Art (together with Ian Dury). Realising that the media side, and not the painting bit, was where he wanted to be, in 1961 he successfully applied to study the Royal College of Art's Film degree. A three-year period of great creative fun followed, in the days when conceptual art was radical and at the cutting edge of new 'media'.

Just before leaving, Lewis was invited by set designer Sean Kelly to work on the British Pavilion at the World's Fair in Montreal, with a challenging brief to produce 5½ minutes of film that encapsulated 5,000 years of British history, in what would now be labelled an 'immersive environment'.

Leaving the RCA, meeting Kenny and working on the World's Fair project, made Lewis realise that he was unemployable in the traditional sense of the word. It was this that fuelled the

imaginative and practical impetus for the birth of what is now Media Projects.

Lewis worked with Kenny on several large-scale West End theatrical spectaculars, all pioneering in their use of film and moving image media. They produced the groundbreaking *Gulliver's Travels* at The Mermaid Theatre in 1970, one of the first theatrical productions to create a set entirely using film projections.

At the time, Lewis had been working from his bedroom, and had acquired an assistant, but his workload rapidly outgrew his bedroom so he moved to the first floor of Sean Kenny's Soho premises and into the ideal environment to pitch ideas to the fledgling industrial theatre movement. Like Lewis, they were hungry for new technology and creative risk taking.

During the mid-seventies, Lewis moved on to produce mixed media theatrical-style car

launches for Ford and others who pioneered what became the modern conference and corporate presentation industry. They worked closely with Mitchell Monkhouse Associates in the early days - the company that became HP:ICM. Lewis remembers the many 'rich', off the wall and creatively ambitious experiences of this period fondly. "When I look back, we were all so young, green and optimistic," he comments. "It was a great training ground . . . there's nothing like a large, one-off live event to get the adrenalin flowing. We made the rules up as we went along. You pressed the 'Go' button and prayed that all the multi-media control would work."

That was very much the spirit that led Lewis to evolve his company into New Media Productions in 1983. He teamed up with Rosie Vickers-Harris from the publishing world, who was interested in developing the facilities to offer a complete creative identity and production package.

As New Media Productions, they dedicated themselves to embracing new technology and interactive programmes. "Bleeding' as opposed to 'leading' edge," as Lewis succinctly puts it! However, the bottom line, Lewis always emphasizes, is not technology, but ideas. Without ideas you have nothing, no basis from which to apply the technology creatively and dramatically.

In 1986, Media Projects emerged, a tripartite collaboration between Lewis, Vickers-Harris and management consultant Rob Garrett. As a team, they were working on the production



of numerous different media packages for a diverse selection of clients - on permanent installations, for governments and museums as well as for corporates and individuals. In the late eighties, they achieved an original goal of working around the globe, making films for Hong Kong Telecom and others. It's grown steadily and sustainably ever since.

Media Projects tends to go through phases of working in certain market sectors - they



Left, a concept visual for the Millennium Dome. The company provided audio-visual and ICT consultancy to the Dome overall, together with the initial designs for two zones and the design and production of interactive multi-media programmes for the 'Explore' area of the Body zone.

Below left, the Trocadero Atrium Show (London) - a mixed media show, including a 108-screen videowall, animatronics, mechanicals, lasers and special sound and lighting effects.

Below right, Vinopolis, London. The company handled the audio-visual consultancy, design and production of a range of video programmes, videowalls and mixed media for the 'Wine Odyssey' experience.

might have a run with telecoms clients, or computer or car companies. Always striving to move forward, Lewis observes: "The technology obviously advances and the way the client thinks about using it also changes." As a production company, Media Projects responds to this evolution.

In 2000, the company won a massive project to produce and supply interactive media for the Dickson Cybermall in Hong Kong. It proved to be one of the company's most challenging projects. At this point, project manager Colin Payne came on board, initially to work on Dixon and thereafter to develop new directions for the company in the 21st century.

Dixon Cybermall was highly creative in terms of its general use of AV, and the client, The Dickson Poon Corporation, was extremely demanding. The intense timescale was just six months from conception to completion.

Media Projects worked with an international team of consultants, engineers and designers including Electrosonic, suppliers of all the AV hardware. Payne assembled a crack team of 49 people, pulled from the Media Projects in-house staff and their talented pool of regular freelance producers, software programmers and designers. They set up a temporary office and international communications hub in a top floor suite of a Hong Kong hotel, and worked furiously around the clock.

It was a baptism of fire for Payne into the world of Media Projects, but the results were hugely rewarding. They delivered on time and within budget, and picked up a clutch of awards for innovation, style and technology from the retail industry.



Since then (September 2000), Payne has been developing new strategic directions for Media Projects. He's exploring alternative markets, focusing on retail in particular, seeing how Media Projects can creatively contribute to what's becoming essentially a more theatrical, entertainment-based and interactive attitude to shopping in the West.

Collaborating with retail designers Zebra, Media Projects is embarking on a joint venture called Atmosphere, which is offering retail markets stylish and complete environmental and branding solutions.

Atmosphere's first major project was Pharmacia on the fourth floor of Selfridges. They designed the interior, the interactives and the lighting, amalgamating all into an



The Origins visitor centre attraction, part of the Forum development in Norwich. MPI were responsible for all the AV software for the MediaWall interactives and video.

effective, modern 3D environment. The project has been a resounding success.

Payne and Lewis both clearly see a role for Media Projects in creating an identity architecture for consumers and visitors to experience the full circle of brand culture. This encompasses the logo right through to the internet, where they will also design and develop e-commerce sites for clients. Meanwhile, the company's clients in the museums, heritage and corporate events sectors are also benefiting from new creative concepts and technologies. Media Projects' flexibility and eagerness to embrace the new, whilst still delivering the goods, has certainly helped the business flourish.

They feel they are offering the corporate world a more holistic service in the early 21st century. That might sound like a contradiction in terms, but Payne is adamant

that clients are more concerned about bigger picture elements like interior design, which can be integrated with the production of quality media like video, and all of which can be rolled imaginatively into event-based work.

Media Projects has the advantage of experience, continuity and an established track-record, as well as an understanding of keeping on message in developing corporate identities.

Some corporates, burned by jumping into bed with new media companies blighted with dot com syndrome, unable to deliver at the crunch, actively seek out their creative stability and sensibility. They are being approached by clients willing to invest in their experience - not always the cheapest option - to get them through current economic humps. "It's difficult right now,"

confirms Payne "but long term, we are able to offer good value for money."

Getting the right message across has also become a more heightened and difficult exercise in the age of information overload. "People think much more carefully about what to do with information and we have to make it more sensitive and in tune to the end objective," agrees Lewis. "We try to be acutely attuned to the undercurrents of change."

He adds that the business climate within which Media Projects currently operates is characterized and driven by a faster pace of life. In turn they have to respond by being more focused and flexible. "We have to understand a client's business better than they do. That's a real change of mindset to how people thought 20 years ago."

Project photos: Media Projects



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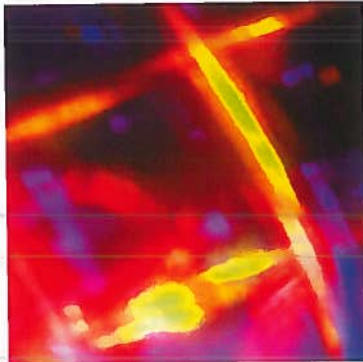


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# The Invisible Band



*Following rehearsals at Bray, Travis have launched themselves on a tour of UK Arenas. Steve Moles links up with them at Sheffield Arena*

**W**hile the USA seems capable only of offering a meagre diet of Nu-metal (literally a regurgitation of punk and grunge with a light dusting of irony and bombast), the UK has Travis. They haven't made it yet, not in the States at least, but here they've reached critical mass as evidenced by their recent trawl through the arena circuit.

Interestingly, a trawl nearer to home, along a crash barrier peopled mostly by teenage girls, revealed a social grouping linked by their former liking for the Spice Girls, Boyzone and other constructs. This is heartening news, many in the biz shake their heads in woe, bemoaning the record industry for spoon feeding insubstantial pap to young minds; the concern being that once these sub-teenies gain their schmartz and realise the flawed and bankrupt nature of the fayre, they will be put off Live Music for years. Not so it seems, on this showing at least, and due in no small way to the well crafted nature of a Travis song. In the fine traditions of r'n'r, Fran Healy offers us thoughtful lyrics, accessible but not simple tunes, and a shiny persona. He also offers something rare in a pop star, a remarkable contribution to presentation.

## LIGHTING, VIDEO & SET

Once again, the hand of Willie Williams is clearly visible in his trademark conceptualist touch of the 'new and interesting', not least the arc of plasma screens that embraces the band from behind. Video as an abstraction is key to this show, and it's here where both Williams and the band's Fran Healy provide the innovation and fresh ideas, as the band's LD of the past three years, Matt Jensen, explained: "Although the video takes a central role, it's not used in every song. Much of the video content comes from Fran [Healy], so too some of the stage looks - the peel-off drapes, for example."

Jensen then recounts a delightful story from

two years earlier when the band were touring the US: "We were in Chicago having just done a show. I was awoken by a call from Fran at five in the morning. He was watching the Oscars and was excited enough by what he saw to rouse me." Jensen's immediate reaction to peeling drapes that reveal and frame a white backdrop was not recorded.

While Healy provided many ideas, Williams integrated within his concept and supplied the realisation; a good example being his filming of the UK's under-16s female trampoline champion for use 'en silhouette' in 'Driftwood', which was quite exquisite in its dreamy quality while taking nothing away from the music. Conversely, the flame effect that appeared later, played on both the plasmas and projected from FOH, was overwhelming, dare I say it, awesome. The time may fast be approaching when Williams takes up the director's baton for a feature movie - he can certainly hold the vision.

Supplied by XL Video, three Barco ELM R12s provide the muscle, the plasmas are 4:3 ratio from Pioneer, "and remarkably robust for touring," said Jon Shrimpton from XL.

Besides the recorded images three cameras are also used, one front house centre, the other two less conventionally up in the tribunes, a nice touch that when cut to, allowed the floor audience to watch the full stage look. Director Stefan 'Smasher' Desmedt has no vision mixer for this show, just switching, another Williams'ism; giving the show its one edgy element as he cut to and fro. At Sheffield, use was also made of the side screens, adding to the visual potency.

Against such a backdrop you might imagine lighting took second place - "there's no real front light," said Jensen - but not so. This deceptively simple-looking rig from LSD provided plenty of surprises, and bright ones at that. The core components, MAC 2000s and High End Studio Colors, provide largely static but colourful beam work, supported by

a veritable battery of seven truss spots arrayed around the two opposing semi-circles of truss that constitute the rig proper. "They just don't like front light," Jensen repeated. "They like to see the audience. But it's still bright enough because the punters want to see the band's expressions."

Which is a fair embodiment of why Travis succeeds as a live act: the two-way line of communication twixt band and audience proving fundamental to the experience. Thus, lighting is key in supporting the cameras: the live shots might be infrequent, but they have a pivotal role in the communication equation. Whatever the varied inputs from Williams, Jensen and Healy, "and we're still waiting for him to go up the truss and focus his own lights," quipped LSD's account manager Lester Cobrin, "to a degree, this is joined up thinking and it makes for a remarkably coherent light and video show."

## AUDIO

Capital Sound is providing its new M3D Meyer system at the request of Travis's house engineer Giles Woodhead: "I got to use it last June for a tour with Dido. Between the band and myself we decided then and there to use it for this arena tour. It has all the usual benefits of line-array systems; long throw, coherence, great control over the HF end, truck space etc. Beyond that I believe it has much better bass response than other systems I've used. Those I've used rely too much on floor subs which are difficult to control, with this - to my astonishment - we can get away with just three subs per side. The subs are restricted 30-60Hz; with 11 M3D cabinets in the air there's enough low end coupling up there to provide the energy, and extend the range lower so that I can cross-over at 60Hz."

With such a ringing endorsement I was obliged to wander the aisles of Sheffield at length during the show; it was my observation that indeed bass coverage was good,



Right, LD Matt Jensen (centre) with 'Hels' and 'Stoner'. Inset, sound engineer Giles Woodhead

specifically tight, with little wasted energy into the general building reverb', especially off Sheffield's unfriendly flat back wall.

Curiously, high end was not as good as it could have been, particularly lacking across the bright upper registers of Healy's vocals. I bumped into Capitals' system tech, Mark Ballard, patrolling the

hall on Woodhead's behalf and he confirmed: "There's a problem with the high end. It's not as it normally is." That said, I also explored the room during support act The Doves and there was no discernible weakness then (not that their vocals are as bell-like as Healy's) but there was a marked difference in room temperature, and hence humidity, between their set and Travis's.

One other benefit as perceived by Woodhead was the system's self-powered attributes: "You always get the same amps, whereas renting other PA systems you might get the same cabinets with different amps, something that inevitably produces differences in performance." A sound argument for only buying from those few manufacturers smart enough to insist you buy their amps as well as cabinets, 'because they're matched'.

Woodhead has all the usual suspects, Midas XL4, a couple of TL100s, Rev3, XTA SIDD, etc. What was different was his choice of mics: "I've got a fair number of Neumanns. I have TLM179s for the guitars, which really capture



the original sound with little colouration. I've got KMS150s on all the front line vox, offering very good near side rejection which helps the monitors be even louder, and with Fran ranging from whisper to belting it out, they cope with the huge dynamic variance in SPLs and retain clarity."

Audio-wise they might be well worth the candle but aren't they a bit expensive? "Yes, it would be unfair to expect a PA supplier to provide mics like these. Some I've bought myself, and the really expensive ones are owned by the band." Seems like an entirely appropriate solution, a real aid to the engineer, and one that can be easily carried everywhere, even festivals in the Outer Hebrides.

### CONCLUSION

The gag of invited punter being allowed to play Grand Turismo on what must be the largest PlayStation display ever for the song 'Running Around', proved once again the playful nature of the band. Healy's intervention earlier during a fracas in the opening numbers put the seal on their pacific milieu, "Come on," he opined to the combatants, "at a Travis gig?" Which points to their one weakness, they're a bit nice. Still, this was ultimately a joyous evening, and beautifully rendered. Thank you Travis.

### TRAVIS FACTOIDS

- Williams provided many other strong punctuations to the show lighting: searchlights (from the eponymous Searchlight in Cambridge) are a 1.6kW Xenon with a rotating pyramid mirror - nice chunky beams. Also, there were good old Lowell Omnis front and rear from the floor on each band member. Inventive use of Source Four profiles hung backward-firing, off the front edge of centre stage, provided another way of projecting the RGB colour key onto the backdrop. There were also Panoramas for a big back blob of colour, Industrial Sodiums for that chilly but bright touch and a profusion of strobes.

- The show rehearsed at Bray for five days, just two with the band in attendance, giving Williams, Jensen, and the currently ubiquitous Vince Foster (Hog II programmer in this instance) ample time and opportunity to produce what was, by show six, already a highly polished performance. Between rehearsals, the extensive list of lighting effects gear, video in toto, and Williams' fee, this is no small investment by Travis, but worth every penny, watch 'em come back, time after time.

- Mark Ballard, systems man on Travis, rates the M3D flying system highly. "It's totally free of bits; the flying frame can be landed and parked on top of a stack of three cabinets and fork-lifted straight into the truck." LJ Evans takes the honours for monitors; he uses a Midas Heritage 3000 for a system of largely Martin wedges.

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Please send your CV with covering letter & daily rate expectations to:  
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# In Profile...

## L&S Talks to the Industry Trend-setters

“This is my third year, I’ve been freelance, and done a lot of studio stuff; mainly Bob’s Studio at M’Batho in North West Province. It’s one of the best facilities in the African continent - Neve, SSL, Focusrite - it’s all there.” If it weren’t for the M’, would this sound unfamiliar?

His ‘third year’, is a reference to the time Kentse (pronounced Ken’so) Mpahlwa has spent working with Gearhouse South Africa, but it’s already obvious from his opening statement that there’s much more to this individual than a journeyman sound engineer working for a production company - albeit the biggest in Africa.

“I got my training in Atlanta, Georgia. I funded myself - a one year course in Music Business.” He was 21 years old when he boarded a plane to another world, fulfilling a dream he’d held for six years. “I was doing grade 10 at school, age 15; that’s when I decided my destiny was in the music business. My

parents had set up a band, that was my big influence.” There’s an authority in Kentse’s voice - erudite and certain, one suspects the conviction he held as a teenager was absolute.

“When I left school I opened a record bar and made just enough money to fund my first term in Atlanta and pay for the air ticket. After that, it was down to me getting jobs in the States.” He ended up running three simultaneously; just enough to keep a roof over his head and pay the fees for the rest of the course. “I ended up some days only getting a couple of hours sleep, but it was worth it. It was a very good course, it opened me up to the whole industry. We covered everything - business, legal, technical - not just sound engineering. Sure, I would have loved to stay, but getting a work permit would



have been difficult, besides I had my family, and I needed to come home.” There’s a warmth to Kentse’s voice that makes you like him instantly.

So how has Kentse applied all those skills acquired in far off Georgia? “Well, for example, I’ve just made a presentation to Vodacom for a communications event (Vodacom is a large mobile telecoms provider in Africa). They’re launching a service in the Democratic Republic of Congo and will be staging some corporate events there.”

At this point, the passion emerges, formerly quiet and measured, Kentse becomes animated and we begin to get a measure of what drives this man. “You see our industry lacks standards, I make it my job to prove those standards. This weekend I’m doing a Food Aid concert, I’ve been backed by Cai’ Phus Semanya who was based in the States and worked with Quincy Jones. Yes, I’ve worked with lots of people like that - Hugh Masekela, Miriam Makeba. I did studio work with Hugh on his Black to the Future album, and engineered with Cai’Phus. But I only want to do studio work with artists who want me specifically to do it. I’m not interested in a permanent engineering position. I love mixing the live sound, the challenge that comes with it. You have to produce results, and produce them now. I get a kick out of that. I’m lucky, I have a good ear.”

Learning how to listen was a skill Kentse acquired very soon after leaving Atlanta: “I did five years touring the world with Sarafina,

directed by Mbongeni Ngema,” but it was not all plain sailing. “I was taking the show over from another guy, and basically he didn’t want to lose the gig, so he told me nothing. I had to write my own sound script for the show. But I was lucky - we toured Europe, the Far East, Japan and Australia. In Europe especially, I was helped by a German sound company, Neumann and Mueller. They provided a dB PA, and those guys really taught me a lot about sound and how to listen.”

It’s a skill that sets him apart: “It’s very rare to find a black guy developed to this level.” He says this without guile, and with no sense of boasting. Is that fact down to a lingering discrimination? “Well, you have to prove yourself a lot harder sometimes. That’s one of the nice things about the relationship I have with Gearhouse, they don’t discriminate over jobs, and I mix white bands as much as I mix black. But the bottom line is you have to be a go-getter. There are a lot of black guys who are great systems technicians, but that’s where they stop. I think it’s down to the bands to encourage them further; these guys need to try out their skills mixing in little clubs, and those bands need to develop these engineers along with their own careers. For me it’s easy, I love all the music that comes out of Africa.”

For a self-evidently contented man, does he have any dreams? “Well yes, at a mundane level I’d like to try out the new Yamaha PM1D, but more importantly I’d like to work with Sting, I’m a great admirer of Hugh Padgham’s work with him. And Cheikh Lo from Senegal - if I had my way I’d work for him. Foreign African artists are just now starting to come through South Africa, so who knows?”

In his mid-thirties Kentse is a man at the height of his powers, self-assured and competent, and with all the skills his chosen trade can impart. It would be a surprise if he doesn’t fulfil all those dreams. ■

Lighting & Sound

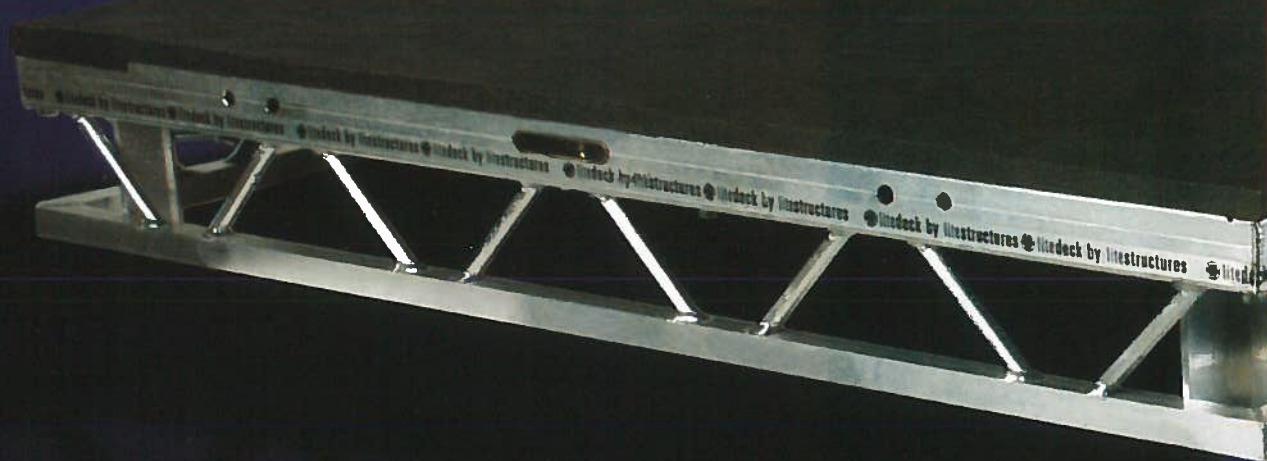
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