

# LIGHTING+SOUND *International*



**Two Major Features:  
PLASA Light & Sound Show 86  
Bolshoi on Tour**

**PLASA**

published in association with the Professional Lighting and Sound Association

**September/October 1986**  
Volume 1 No.10

**£1.50**

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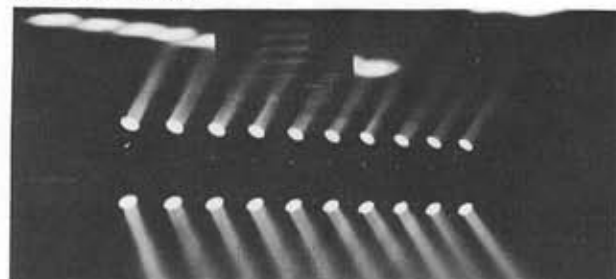
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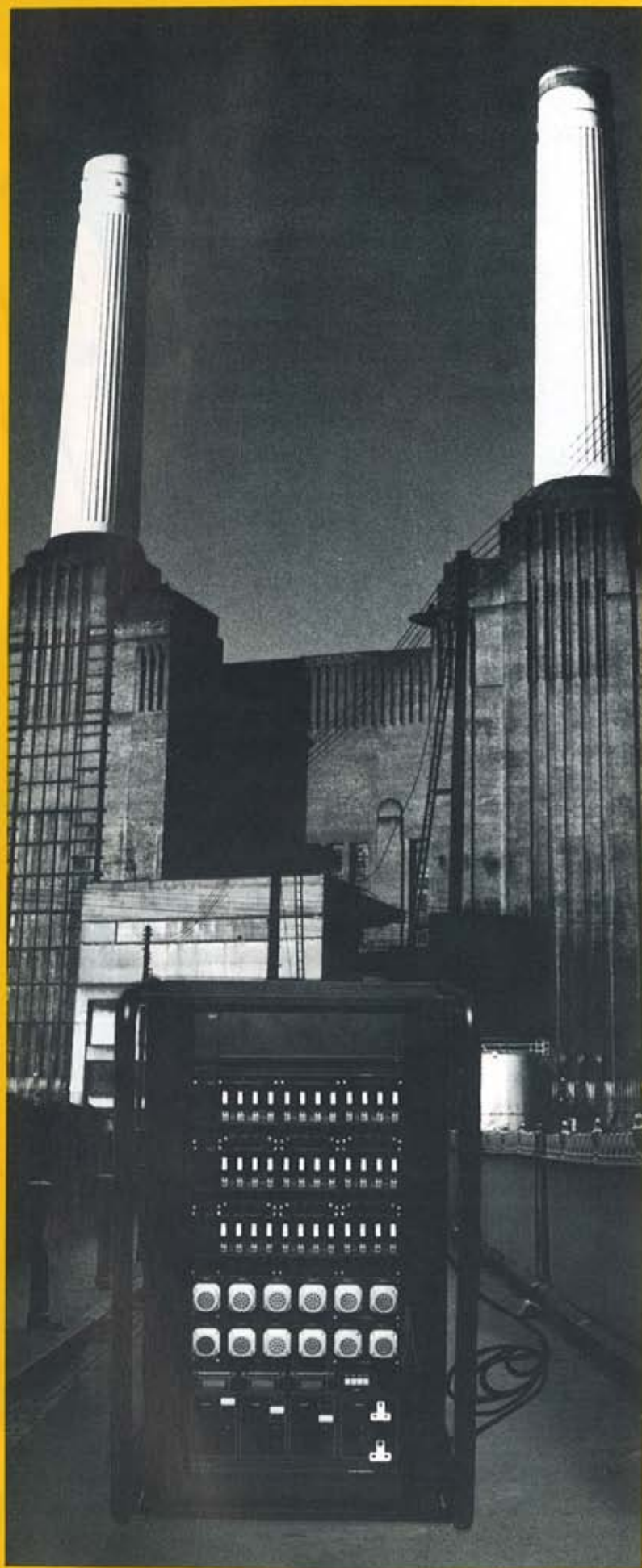
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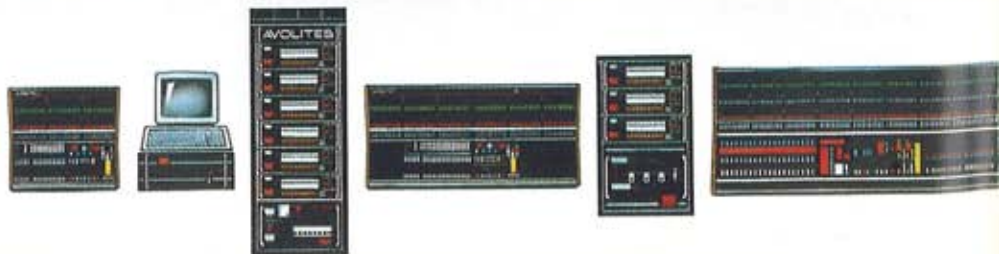
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**Exclusive Light & Sound Show Colour Photography in this issue by NIK MILNER.** Ring 01-633 0963 for details of additional colour photographs of the Show.

### Show People . . .



Tony Kingsley gets his own show going in the Avitec 'nightclub'.



Laser master Andy Holmes and a one-handed demo on the Laserpoint stand.



McCormack Electronics' David McCormack with the company's new white designer pinspot.



HH Electronic's marketing executive Peter Lawson (right) hard at work on the new VX Series.

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# LIGHTING|SOUND *News* International

## Michael Lowe leaves Strand Lighting

Strand Lighting have announced that managing director Michael Lowe has resigned from the company to pursue his career elsewhere. For the time being Strand Lighting's European Operations will be under the executive control of Marvin Altman, president of Strand Lighting Worldwide.

## DDA Installations

DDA have announced a continued series of UK installations for their AMR24 consoles, introduced just over twelve months ago.

In early June a 28 input AMR console was delivered to a new installation, Tone Deaf Studios, in Oxfordshire. Also during June a 36 input with custom modifications was installed by Turnkey at Unit 3 studios in Utopia Village. This console has subsequently been fitted with 60 channels of Audio Kinetics Master Mix, the first such installation anywhere.

In early July a 28 input console was delivered to Paul Hardcastle by Turnkey as part of a package to include the first Synclavier direct to disc recording system. In late August a customised 36 input console was delivered to Ambiance Recording Studios in Sussex.

More recent installations included a customised 36 input console for Dave Gilmour installed on his houseboat by Turnkey, and a 36 input console with 60 channels of Master Mix for Surrey Sound Studios.

## ABTT Trade Show Belfast

A trip to the ABTT's London or Manchester Trade Shows is an expensive proposition for theatre people in Northern Ireland, so the ABTT's local committee have decided to organise one of their own. This will take place on October 22/23 1986 at the Cambridge Ballroom, Park Avenue Hotel, Hollywood Road, Belfast.

Exhibitors will be mainly local companies, including agents for such household names as Strand Lighting, CCT and Pulsar. Eurolight and Specialist Lamp Distributors will be there in their own right and it is expected that among the local suppliers showing their wares will be General Engineering Products, Stage Services North, Session Music, Baird Sound Systems, AEL Video and Belfast Sound & Lighting.

## Avolites in Denmark

Berkey Technical of Denmark are now agents for Avolites lighting equipment. Berkey, a company with twenty years of service to the lighting industry in Denmark, will provide sales and service facilities throughout the country from their offices in Copenhagen and Herning. The move follows an increasing interest in Avolites equipment in Denmark. T. H. Ericksen of Copenhagen now have a 60 and a 30 way 'Rolacue' control console and Paradise Lighting two large 5k dimming systems. Anyone interested in Avolites equipment in Denmark should contact Bent Ingemann on Copenhagen 106211 or Jens Meyer on Herning 269500.

## Morecambe Winter Gardens

One of the North West's most famous halls is to reopen next year after being dark for more than nine years. The Winter Gardens in Morecambe has been saved by a Trust which is now undertaking essential work to remove dry and wet rot, and to make the roof watertight.

Morecambe Sound and Lighting has estimated that new systems could be installed at a cost of £130,000. A good deal of old and obsolete equipment has to be removed, and the indications are that a new Gemini installation will be favoured - probably running 180 2kw circuits.

There will also be a new grid which is likely to be supplied by A. S. Green of Haydock Park who have 19 counterweight sets available, being the remainder of the Blackpool's ABC installation, the rest of which found a new home in the restored Wakefield Opera House.

The cost of restoring the Winter Gardens is to exceed £1m, but the Trust are hopeful that the funds can be raised and the theatre reopened within the next twelve months.

## Images and Numbers

The 1986 Photokina event, held from September 3-9 in Cologne, has reported total visitor figures of 126,000, of which 34,000 were from overseas. Of the 1218 direct exhibitors, 726 were foreign companies.

## Light and Sound Show

Reports and pictures of the Show run from pages 21 to 36 in this issue.



Foyer freebie - Sue Offord (right) hands out Lighting+Sound International's Official Catalogue for the PLASA Show.



Laser Systems - their regular laser demonstrations were one of the best attended shows within the PLASA Show.

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Zero 88's sales director Freddie Lloyd pictured at the PLASA Show with Koji Ichikawa, managing director of GENB Co. Limited of Osaka, Japan.

## The Way Into Japan?

Selling discotheque equipment into Japan is very much a pioneering business. Apart from major international centres, where overseas clientele can be attracted, the discotheque as we know it is something of a non-starter, principally for social and cultural reasons. But maybe there is a "way in" after in, through Japan's Kara-oke establishments that abound everywhere, and form part of the structure of the country's society.

"Kara-oke is an amusement which is peculiar to Japan," explained Koji Ichikawa, whose company is based in Osaka, and imports lighting and sound equipment from leading British and European manufacturers. "The office worker will go to a bar or club for Kara-oke at the end of the day to forget his worries. There will be taped music, and each person stands up to sing to the music, and the singer will be spotlit - to make them feel like entertainers. These bars and clubs are very numerous - even the smallest village boasts one,



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and lighting is beginning to be popular in these venues. There is a boom in Kara-oke, and any owner of a bar or club who introduces effects and sound equipment doubles or triples his turnover."

Koji Ichikawa visited the 1986 PLASA Light and Sound Show to keep up to date with the latest trends and developments. He is already importing Zero 88's Mercury range, and looks like extending into more sophisticated areas with the Eclipse memory lighting control. Other companies he deals with include Le Maitre, Coemar, Clay Paky, ACR, and General Electric from the USA.

## Theatre Projects Win Lighting Design Competition in Far East

Theatre Projects Consultants, in association with Accent Lighting Design Services of Malaysia, have won the top prize in a 100,000 Malaysian Dollar competition to design the atrium lighting of the Metroplex Mall Shopping Complex in Kuala Lumpur. The competition was organised by Metroplex Holdings Sdn Bhd, the developer of the complex. The Metroplex Mall, which will be Malaysia's biggest shopping complex, is located in the heart of Kuala Lumpur, with six levels of retail shopping and four levels of car parking.

Alan Russell and David Taylor from Theatre Projects Consultants collaborated with Ernest Poon from Accent Lighting Design to create the design entitled 'Light in Motion, A Timeless Piece of Art'. This was achieved with coloured cold cathode tubes fixed to the trusses of the 50 metre wide, 23 metre deep central space and 30 metre high roof of the atrium. Some 24 light movements will be on display on the contoured glass canopy of the Mall's atrium. The changing designs will be visible on the outside.

The kinetic effect is achieved by computerised dimming control pre-programmed to address groups of cold cathode in matrixed patterns, allowing for light 'waterfalls', 'curtains' and ripples to cascade across the large glass atrium. A developing performance of light provides a dynamic and exciting backdrop to the shopping halls and rest areas whilst from the outside setting an intriguing focus in the Kuala Lumpur landscape.

## Lasergrafix Head Hunt

Lasergrafix Limited has announced the addition to its staff of leading UK laser operator Maurice Perry, who has joined them as production director. His six years' experience within the industry has seen him extensively involved in all aspects, including equipment design and show production.

When he commenced his career in the industry, he was instrumental in the design of both the popular Maestro and Magnum laser controllers. He then joined another key laser company as production designer and operator, extensively involved in the design of custom laser shows for major clients. Having been 'head-hunted' by Lasergrafix, he will take control of production design and operation for all the company's clients.

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Please reply to:

25 April 1986

Dear Sirs.

Pulsar Digital Interface

Having just finished the School production of Max Frisch's "The Fire-raisers", I must tell you how pleased we have been with your digital interface for complete computer control of stage lighting.

Our installation is a 36 channel rack with a two preset manual desk. As rehearsals progressed, it became evident that a greater flexibility and speed of response than could be provided by the manual control was needed to do justice to the producer's demands (what's new!), so your digital interface was purchased and installed 10 days before the first performance. Two fourth year boys were completely self-taught by the Tutor program in the package you provide and became fully proficient in operation of the system within 24 hours. They operated the system faultlessly and to great effect for the performances - all 72 cues!

Your software provided the much looked for speed of response to producer's demands during technical rehearsals and completely eliminated the time consuming business of writing out cue sheets. The variety of cross-fades possible was fully exploited during the production with a smoothness which was fully professional.

Many congratulations and thanks for producing such an effective package at such a moderate cost.

Yours faithfully,

*Ian H. Rowse*

Ian H. Rowse  
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## Stars for Stars

After building Fibre Optic Star Cloths for theatrical productions such as 'Super Ted and the Green Comet', 'The Freddie Starr Show', and 'Peter Pan, The Musical' the Upstart Fibre Optic Company this year developed Star Cloths that are effective for use in television.

Fibre Optics have been used in TV productions for some time, but because of relatively low light levels of the star points in comparison to the studio lighting, fibre optic effects have not been very strong and have tended to lose out against the foreground lighting. A second problem that has also been highlighted is that the standard blue sparkle colour wheel cannot always be read by the camera, and this has meant that all that is seen on vision is the occasional flash instead of the full effect.

This year Upstart Fibre Optics was asked to produce a cloth that would work well 'on camera' by Central Independent Television for the Autumn launch programme 'New Faces of 86'. Working with designer Tony Ferris, director Peter Harris and producer Richard Holloway, studio tests were carried out to find the best possible combination of projectors, fibre optic cable size, harness length and effect wheels. The final format of materials was agreed and building commenced.

Initially the star cloth was used as a backing for the computerised score-board which has approximately 30 kilowatts of tungsten lighting plus numerous high voltage neons. Obviously with that amount of lighting and the score-board being large, the star cloth was not being used to its best advantage and was moved upstage to be a backing in its own right. During the recordings confidence grew in the fibre optic effect, various changes of effects wheels were made, and the use of lightweight plastic screens placed downstage of the Star Cloth gave visually very interesting break-up aurora effect.

For more details watch 'New Faces of 86' on Friday nights or contact Pam on (0752) 663777 or write to Upstart Fibre Optic Company, PO Box 88, Plymouth, PL1 1SZ.

## Northern Light - Scottish Expansion

Until this Autumn, Northern Light's presence in Glasgow has been maintained by offices in St. Vincent Street, but due to increased sales and equipment hire in the West of Scotland, the company are moving into warehouse/office accommodation in Govan, just off the M8, on 15th October.

The expansion allows for a new sales counter and hire store stocked with a complete range of stage lighting including spotlights, controls and trussing. Sales stock held in Glasgow will include stage spotlights and dimming from Strand Lighting, curtain tracks and scenery hardware from Hall Stage Products, and colour filters and designer materials from Rosco. Le Maitre



## Cats' Sound in Australia

Rank Klarion, Soundcraft's local distributor for Australia, negotiated the sale of a Series 800B 24 channel console to the Adelaide Festival Theatre who provided the entire production for the Show, currently running at the Theatre Royal in Sydney. 'Cat' in picture is actor Bruce Macarthur.

pyrotechnics will also be available. A small demonstration area is also planned which will provide Glasgow customers with a chance to test and handle new equipment and stage materials.

The new premises are at 79 Loanbank Quadrant, Govan, Glasgow G51 3HZ telephone 041-440 1771.

## Contract Acoustics

Bill Webb, formerly responsible for new product design and development at Martin Audio, has announced the formation of Contract Acoustics Limited. The new company will provide the leisure industry with a professional 'one-stop' sound system design, manufacture and installation service using state-of-the-art techniques and hardware.

Completed projects include 'Gas' in Cheltenham for Michael Gibson, where a digitally sourced system using 30 of the newly developed Acoustic Image VH Series of ultra-compact loudspeakers has been installed. Acoustic Image VH Series loudspeakers and a VHS format music source have recently been installed at 'Weekends' in Aberdeenshire for Ladbroke Hotels.

Contract Acoustics is based at 16-24 Brewery Road, London N7 9NH telephone 01-609 7495.

## AJS all at Sea

A contract worth £80,000 has been won by AJS of Bournemouth as part of the major refit of the P & O Sea Princess due to take place at Malta in November.

"It will change the face of the Ship," said the company's Adrian Sant. Equipment to be installed includes a Zero 88 Eclipse Desk, 2 dance floors by Novas, a Thorn illuminated ceiling, Electrosonic dimmers, and CCT spotlights.

## Paul Farrah takes on C Audio

To enhance the strength of their sales department Paul Farrah Sound have been appointed as sole distributors of the C Audio range of amplifiers. They will stock both the professional SR Series and the CAM range of amplifiers and crossovers. Full demonstration facilities and hires can be obtained by contacting Bruno Wayte at Paul Farrah Sound on 01-549 1787.

## Laserpoint Confirm Turkish TV Contract

Cambridge-based Laserpoint have just received a £250,000 order for the first phase of a major installation for TRT - Turkish Radio and Television. It involves the installation of 4 Krypton Argon combination systems controlled by 4 Triple Scan Aries 2 control and effects systems for their studios in Istanbul.

"The systems will be fitted within the light entertainment studios of TRT to provide various effects - the first time a television company has installed its own system," explained Laserpoint's Andy Holmes. "It followed on from our installation at the PLAZA Club in Istanbul, Turkey's major club."

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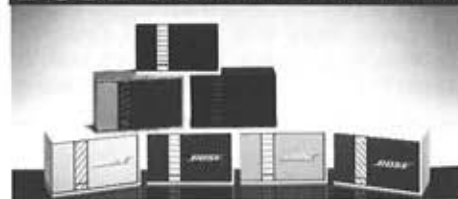
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# Touring the Bolshoi

focusing on preparations for performances at Dublin and Battersea Park

The 1986 tour of the United Kingdom and Ireland by Moscow's Bolshoi Ballet will be recorded in ballet annals as a huge success, with massive attendances—and full media coverage, from the Sunday colour pages to a complete Saturday evening on BBC1.

In technical terms it will be remembered for totally different reasons. Five venues played host: London's Royal Opera House, Manchester's Palace Theatre, and Birmingham's Hippodrome were the middle three, and traditional as far as major theatrical touring is concerned, fully equipped, and ready for anything the most demanding production requires. It was the first and last venues that provide the focus for our story on 'Touring the Bolshoi'.

The first venue, the Royal Dublin Society's show complex at Simonscourt is more usually known as the place where horses

move to centre stage. The last, a mere six weeks or so away in late August, hadn't even been built when the curtain went up on the tour in Dublin. The famed 'tent' in London's Battersea Park was still a project on the drawing board.

The Bolshoi appearances in the British Isles were organised and promoted by Peter Brightman and Victoria Charlton of London's Entertainment Corporation, a new but rapidly growing company set up in 1983. Together, they've flown in and out of the Soviet Union over 25 times in the last three years, as part of a determined attempt to provide the link for arts and entertainment events between the UK and the Soviet Union, taking artistes and attractions in both directions. From their initiatives came the decision to undertake the daunting tasks of presenting the Bolshoi in both Dublin and at

Battersea Park. In some ways it was probably just as well that they didn't fully realise the sort of headaches they would be giving to the technical men . . .

Production manager for the tour was Bill Hammond, based at Ballet Rambert. He picked up the task just eight weeks before the planned opening night in Dublin, and was already committed to three weeks at Sadler's Wells and two weeks touring Germany with one-night stands. Apart from some background planning, he had just two full weeks to concentrate fully on the pleasures in store.

Getting hold of the information from the Bolshoi was not the easiest of processes. "The first thing I did was to draw up an enlarged version of the Ballet Rambert standard dance rig, and then we had to find out if they were bringing any scenery to Dublin and the tent. By the time I had left for Dublin they had started looking at Battersea Park, so that we had some idea and knew roughly the scope and the shape and size. We also knew how much weight we could hang. It was planned that the tent would go up while we were in Dublin, and while the Bolshoi spent three weeks at the Royal Opera House we could sort out what was going to happen at Battersea.

"I am sure they had no idea of what they were letting themselves in for, and were suitably astounded with what they got. They certainly didn't appreciate a lot of the problems, and they couldn't understand why it took a long time to arrange.

"We found at Dublin there was a roof we could hang off, and there were lots of beams to work from. So we organised where we were going to put the orchestra pit, where we were going to put the stage, and went back and drew up a plan. We sent that off to Moscow, and also asked them what colours they wanted, and sent a load of swatch books over. They said it was all fine, and 'we use Cinemoid'. And I said to myself, 'Oh, do you . . . !'

They sent over the colour call, and one of the colours was 4a. Well we'd never heard of 4a, but 5a possibly I seemed to remember in the dim recesses of my memory used to be a Cinemoid colour. So to some extent we were forewarned as to what was coming. They ended up using Lee for obvious reasons, and we then started talking roughly the same language.

"We then started asking them what they wanted to hang, or how many bars they needed, how many pieces of scenery do you want, how many pulley sets do we need. There was absolutely no answer at all. So we had to guess. We cut to the bare minimum and then waited to see what would turn up. There was only one thing they were adamant about, and the only piece of information that kept coming back was that the proscenium must be 8.5 metres high. When we saw the scenery we actually found out why. Their average scenery height is about 13 metres, and the width of their borders is something in the region of 26 metres. Also, it is extremely heavy.

**Mikhail Kurilko-Ryumin** graduated from the college at the Moscow Arts Theatre in 1977, and 12 months ago became technical director of the Bolshoi Ballet. "The college prepares stage designers and also technical directors of any theatres," he explained. "In 1975, according to the programme of education, I had practice for one year at the workshops of the Bolshoi Theatre." He later joined the Bolshoi as a stage engineer before becoming assistant to the technical director, and finally technical director. He has toured abroad with the company, visiting Australia and New Zealand, and Brazil and Argentina.

"I was very glad to hear we were coming to Britain, because the tour is prestigious to us, and of course is very demanding. I came to Britain in January this year to see the venues to enable us to prepare for the forthcoming tour," he said.

One of the major problems associated with any tour of the Bolshoi Ballet is the sheer size of stage the huge company is used to at the Bolshoi Theatre in Moscow. "Our stage is rather big. It measures 18 metres wide, and is 21 metres deep with 5 metres of stage apron."

The theatre is currently undergoing some reconstruction and new equipment is due to be

installed. In fact, the Bolshoi Theatre is following in the footsteps of the Royal Opera House at Covent Garden and has ordered a memory lighting control from the German company Seimens.

I asked him about his reaction to the British team of technicians assisting with the tour. "I believe we have an excellent relationship with them, and the British team has helped us a great deal. Naturally they are professionals, and we understand each other, and sometimes manage without an interpreter because theatre workers have a common language."

Are there any techniques or anything you have found unusual or new that interests you?

"Of course, each tour brings something new to us - something to find out from the point of view of technology, or something new in the arrangement in preparation of the performance. For example, at Covent Garden I saw some new technological ideas - very simple ones, but very useful in our work. As far as I understood, Covent Garden liked our rostra and scenery which they took to their workshops to study how they were made."

I asked about the numbers involved with productions at the Bolshoi Theatre. "We have two stages and also a big stage at the Kremlin Palace of Congresses. On the stage of the Bolshoi Theatre we have 80 carpenters, 36 electricians, 32 props, 37 male dressers, 36 female dressers, and 34 make-up artists. The second stage only has a stage crew. On the stage at the Kremlin they have 56 technicians, and 32 in the lighting department. They work for seven hours a day in two shifts - from nine to four and from four to eleven."

The Bolshoi usually spends two months of the year touring abroad, and for the UK tour brought 17 technical staff with them. They also regularly tour major cities within the Soviet Union.

Based upon artistic principles, the Bolshoi tends to build up each new performance from scratch when it goes to a new venue, and this is obviously much more easily achieved in a major and fully equipped touring theatre, wherever it happens to be. With this in mind, touring to places like Dublin and organising performances in a tent in Battersea Park did not prove easy.

"The venues are mainly very good. Covent Garden of course is very convenient for us because they have a lot of electrical equipment there and very good people to work with, as in Manchester and Birmingham. The only thing that was not convenient for us (at Dublin and Battersea) was that we had to set up the lighting from the very beginning, which took too much of our time. But of course we must say that everything was done very professionally."



Mikhail Kurilko-Ryumin, technical director of the Bolshoi Ballet.



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"The first thing they wanted to do was to alter the standard rig, but we had to put our foot down and say 'no'. The way things tended to work when you were setting up or coming into a lighting session is you put up the rig, you then try to focus it, or you do the standard focus. They then came in and started putting specials where they thought they were going to need them. The lighting designer is there purely to interpret what the general designer wants to do. He is an intermediary. It appears that lighting designers as we know them don't exist. There is a director who will say 'I want light here, a red there, green light here'. We got to the situation where the blue that was in the 161 wasn't blue enough. The Russians answer to that is not to go into the swatch book and pick another blue, but actually put in two sheets of 161. So you suddenly find yourself having to cut something in the region of 200 sheets of colour, which does not go down too well.

"The set was put up by two elderly gentlemen of the stage crew, who would argue amongst themselves where they were going to put anything. There were no plans of any description of anything, and if you didn't know what they were trying to aim at life became extremely difficult. Then the next line of authority would come in and they would want to change things. Ultimately the designer would come in and he has absolute authority over all departments. If he wants something done, then everyone scurries around after him. He is the only decision maker. Consequently he could walk in and invalidate the whole morning's work, which we found extremely difficult to cope with. Covent Garden had more of that to deal with than we did, because we eventually



The Bolshoi Theatre in Moscow, first opened in 1856. Its huge stage size brings problems of adaptation for any Bolshoi performances in different venues.

saw the finished product.

"The idea of actually touring a rig is totally alien; it is not something they would do. They usually go into a theatre and start from scratch, or work with whatever happens to be lying around at the time. To the Bolshoi, sound was nothing. They are obviously used to travelling with an orchestra, and if they want tape cues they were quite happy to put

them in, but I'd hate to see what Russian tape recorders are like.

"Both in Dublin and Battersea the orchestra needed reinforcing and it had to be fairly subtle, because at certain times there was just solo violin or harp. The back seats were 56 metres away from the orchestra, and as far as I am aware when sound engineer Charlie Peacock started talking about 6 ways

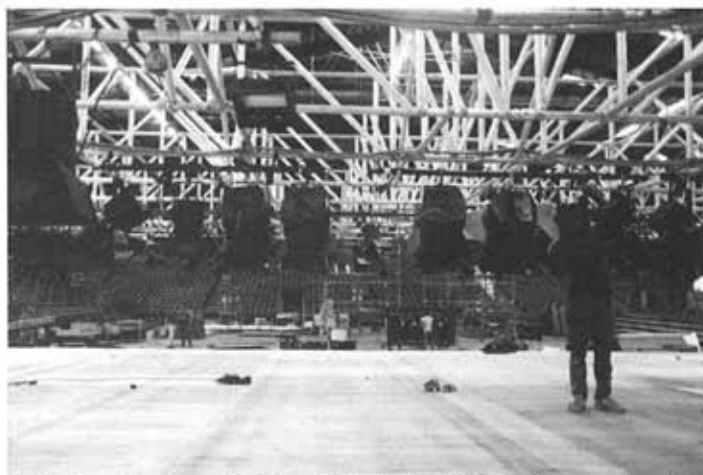
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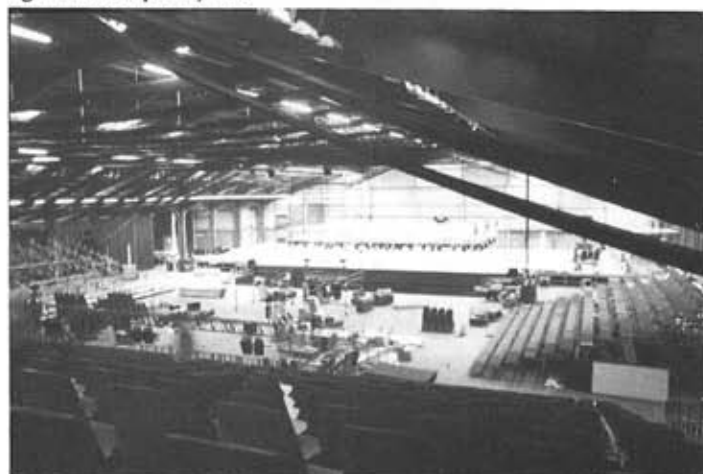
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A view from the stage at Dublin with the back lighting bar in preparation. The rig was developed by 'U2'.

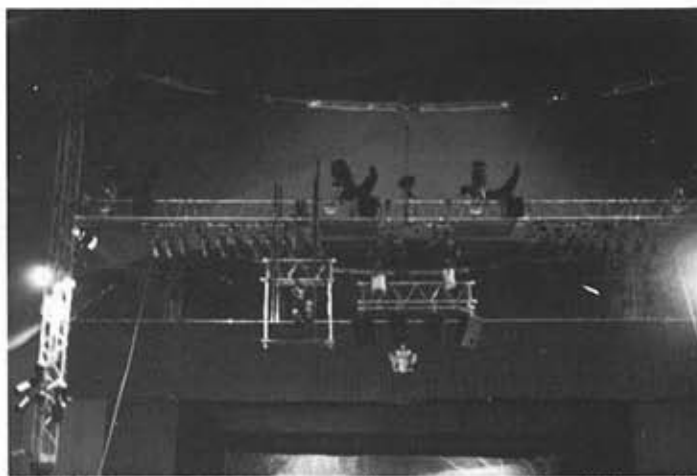


The Dublin venue at Simmons Court begins to take shape, showing stage in background with lighting grid lowered.





View from the stage inside the Battersea Park 'tent'. A cluster of four Hackney Cabs can be seen at the top of the picture, suspended from the follow spot trussing.



The follow spot truss at Battersea, with four operator positions. It also carried 2 banks of Leko's, the speaker cluster, and to the left of the speakers a 'Hot Head' BBC remote camera position.

of delay lines it didn't mean a lot to them."

I asked Bill Hammond whether this was due to a language or knowledge breakdown. "I am fairly convinced it was a knowledge breakdown," he said. "Sound technology here and in America has developed enormously over the past few years."

Did he get the feeling that this is not because they don't have the availability of the latest equipment but that the structure of their organisation doesn't allow it to be introduced into the system?

"The age of the people who are actually working on it to some extent will pre-empt that. If they have not developed their knowledge along the line, there could be people with the knowledge banging their heads against a brick wall. The line of authority or command is downwards; very little goes back up. I don't envisage a situation where the lighting designer may say he wants a particular instrument to be used in the theatre."

Did he feel after the performances in Britain that the assistance we have available from our advanced technology would have enhanced the productions?

"Undoubtedly—even though you could argue that you cannot improve the biggest, the best, the greatest ballet company in the world. They have worked that way for 'x' number of years. They will change things if somebody perceives the need for a change, but there is nobody who is looking around for anything. They will not say 'that's a good idea - let's use that'. They will wait until they

are forced to do it. They get themselves into a situation where they need something that will provide a certain type of light in a certain place and then they will do it. As long as they stick to theatres, which they generally do, there is no reason in the world for them to get involved in sound, for instance.

"They don't tell you anything unless they think you ought to know. Sitting in Moscow, they cannot imagine what is required in Dublin, and people asking questions is not particularly relevant to them. Therefore, they don't see the need to tell you anything. That is what seems to happen.

"Having said that they are lovely people, and I think they enjoyed their visit, but their approach and way of thinking is very different to ours.

"The average British technician on seeing a new piece of equipment he hasn't seen before will ache to get his hands on it, play around with it, and see what it does. The Russians didn't do that, although we had presented them with a board they hadn't seen before. One thing we did say in advance, when I gave them the plan, was that we were going to tour a rig which went together quickly and it was going to be operated with a memory board - albeit a fairly simple one - and having recorded the show in Dublin we would then use the floppy disk and do it all again in Battersea. And we also explained that we wanted to take a graph plot of what they put up in the Opera House to transfer to Manchester. There was simply no way this could be done."

Did he think the Bolshoi technical people would have asked themselves a few questions as a result of their visit?

"I don't know, because the feedback is very limited. They had a lighting board which they hadn't seen before, but they didn't question it or have a play with it. No one said 'my God, what is this?', grab a translator and ask for explanations as to how it all worked. They just sat back and let it happen. But having said that they are getting a Siemens board into the Bolshoi Theatre in Moscow. I don't think anyone who came on the tour would be operators of that, and they will obviously have to train more than one. It would be interesting to see how the Germans train the Russians on how to use it, and having got the machinery to see how they will apply it. Touring the world you see a lot of very large and expensively equipped theatres with no knowledge of how to use their equipment properly."

The way the Dublin venue was transformed into a performance area fit for the Bolshoi is more adequately told by the pictures ac-

companying this article. At least there was some sort of enclosed structure as a starting point.

Battersea was a completely different story. The man called in to assist with the technical set up was Alan Jacobi of The Unusual Rigging Company. "It was very interesting at the first meeting," said Bill Hammond, "because Alan took one look at the plans (nobody had seen the tent) and knew exactly what was required. He took all the bits and pieces away and got consultant engineers to look it over before he decided it would be right."

"It was a fairly simple job for us because it followed on from our experience with Torville and Dean's Nottingham show in a tent," explained Jacobi. "We created a theatre grid, without flying facilities, to provide positions for legs, tabs, borders, house curtains, and lights, etc. Front of house, Tas-Stage trussing was flown on three electric hoists with four overhead mounted follow spots. Access was by rope ladders at each end. The hardest thing was to get the specification from the manufacturers of the tent in Italy, and having done that, convincing the authorities that what we planned to do would be safe."

Sound equipment for both Dublin and Battersea was provided by Hardware House, and I spoke to Tim Foster about the installation.



Bill Hammond, production manager for the 1986 Bolshoi tour of the United Kingdom and Ireland.

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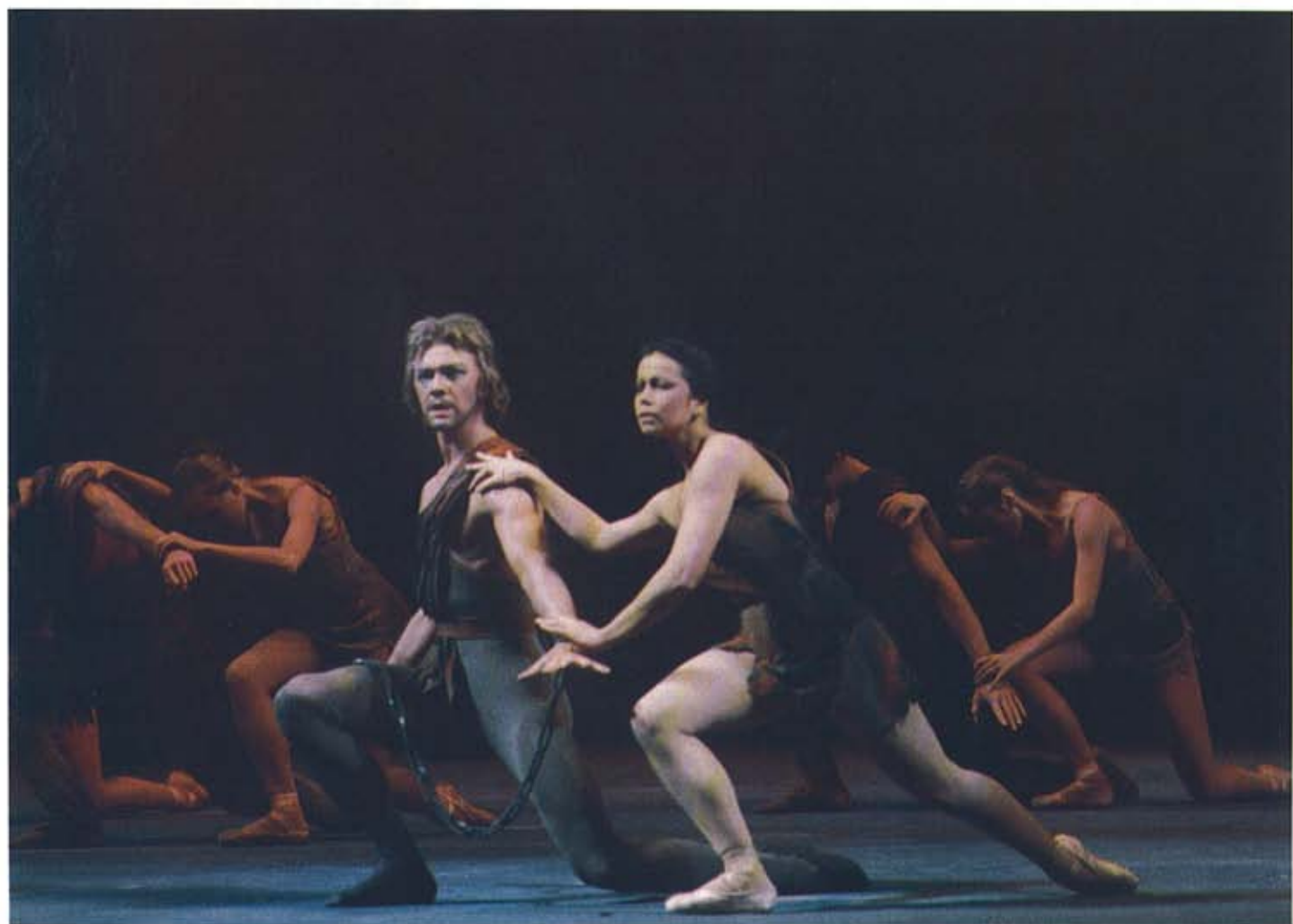
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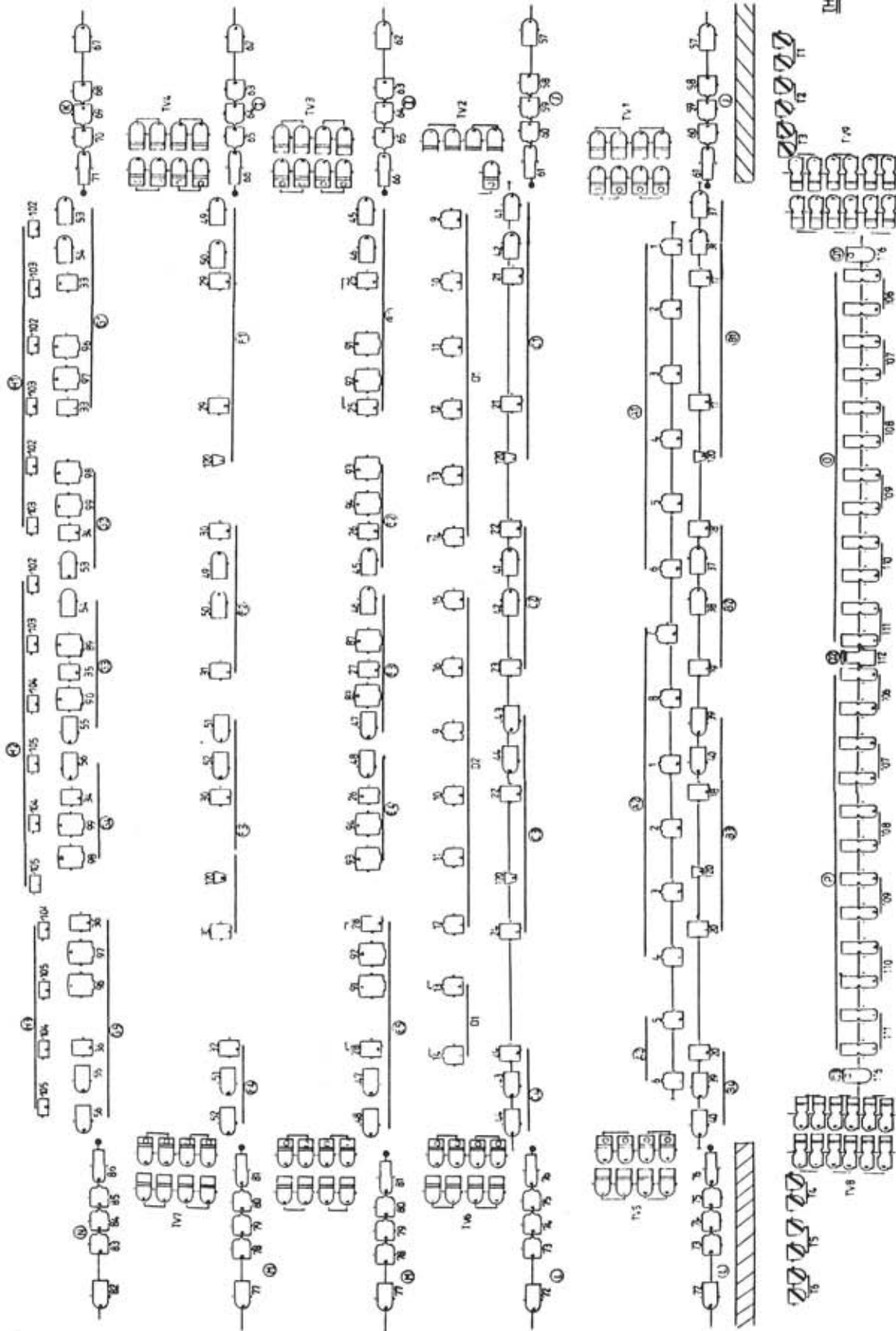
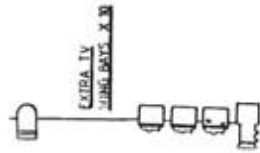
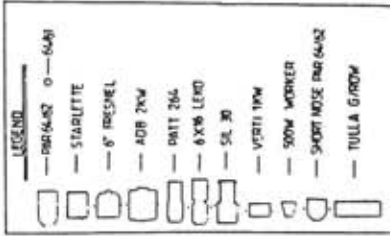
Rigging as supplied  
to the Bolshoi Ballet  
for their performances  
in Battersea Park



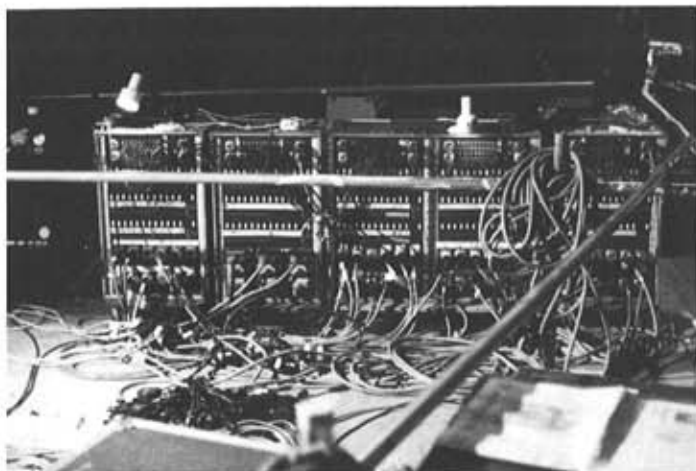
Two scenes from the Bolshoi's 'Spartacus'.







Production electrician Barry Tofield's original basic lighting plan for Bolshoi Ballet performances in the 'Tent' at London's Battersea Park - complete with his own satirical title.



Battersea's bank of Celco dimmers.



Battersea Park - sound operator Chris Coxhead in the control position at the rear of the 3650-seat tented auditorium. A television camera is in the background.

"The only clear advance information from the Bolshoi was that the quality and power of the stage monitoring system was critical and that one of the ballets may be danced to tape," he explained. "Apart from that, the design of the system was left pretty much to us.

"Since there was no precise line-up of the orchestra, we provided a selection of AKG and Neumann condenser mics including a number of variable pattern types to give as much flexibility as possible. Although we were quite surprised at the request for the radio mic, it did prove a great success with the Bolshoi director and choreographer who used it for control of rehearsal, classes and performance announcements.

"The mixing desk was an AMEK M1000 24 channel. Other control equipment included six channels of Formula Sound graphic equaliser, Klark Teknik delay line and a Yamaha digital reverb. Both venues were large and had potentially difficult acoustics, and it was decided to use a greater number of smaller speakers spread around the hall to keep the overall level low enough to provide the most natural reinforcement of the classical orchestra. Digital delay lines were used to keep the image as close to the live orchestra as possible."

The final result at Battersea was a stage as big as that at Covent Garden, and an auditorium with 3650 seats in the world's biggest 'tent'. The stage had a 1 in 25 rake just like the one at the Bolshoi Theatre in

Moscow. All performances were sold out, and the atmosphere in the auditorium electric.

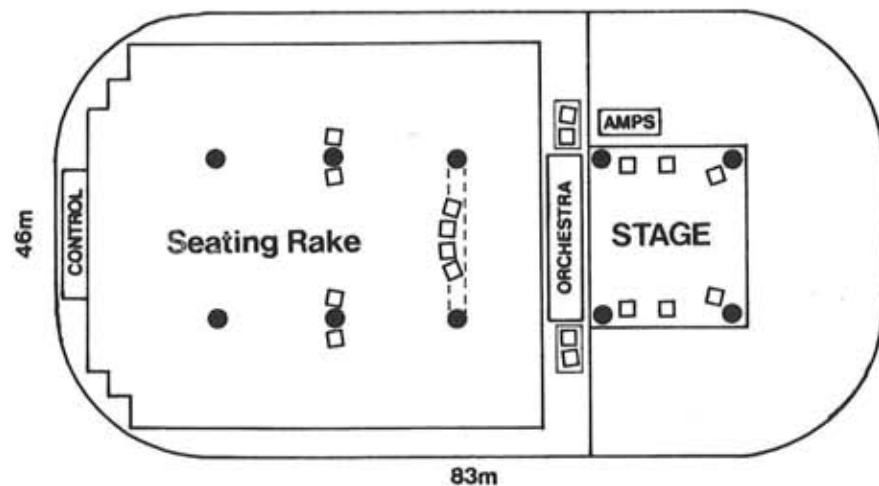
For Bill Hammond it was an experience he wouldn't have missed. "The shows were stunning, and the dancing quite something. It is always intriguing to see how other people work. It had moments of great levity, like when someone was introduced to a radio mic, which they hadn't seen before. It had moments of total exasperation where you just could not see the wood for the trees. They might spend five hours on one lighting state, for one reason or another. There is no set way—it depends on what they are feeling like that week. You don't know from day to day what the Russians are going to do. The tour was hardly a lighting and sound extravaganza by any stretch of the imagination."

But it was a huge success, for three principal reasons: the Bolshoi Ballet is the best ballet company in the world; the Tour was excellently promoted by the Entertainment Corporation; and Britain has available exceptional skills and imaginative talent in all areas of theatrical production.

**John Offord**

**Production Manager** Bill Hammond  
**Stage Director** Robert Howe  
**Stage Manager** Ingrid Haskell  
**Production Electrician** Barry Tofield  
**Lighting Hire** Key Light (UK) Limited  
**Sound Equipment** Hardware House (Dublin and Battersea)  
**Overhead Rigging** The Unusual Rigging Company (Battersea only)  
**Lighting and Electrics** Thorn EMI Lighting Limited (Battersea only)  
**Curtain Tracks** Triple-E Limited (Dublin and Battersea)

## Sound at Battersea



Hardware House used the recently developed Hackney Cab speaker system, providing high quality and power from a small cabinet. The layout of the speakers at Battersea was as follows: Proscenium - two Hackney Cabs and one sub bass each side.

Flown Cluster - four Hackney Cabs.  
 Rear uprights - four Hackney Cabs.  
 Onstage - four JBL/ATC bi-amp stage monitors.  
 Two Martin LE200 stage monitors.  
 Power amps - four Amcron PSA2, three Amcron Microtech 1000, two EAA 1000.

There were no monitoring requirements for the Orchestra.

Note: The Hackney Cab speaker system is the result of collaboration between Hardware House and Cue Systems. Both companies are widely experienced in live performance sound where high power is required from a "visually discrete" speaker system. Primarily designed for theatre applications, the cabinet is based on a 12" cone

driver and horn. Frequency dividing, electronic equalisation and driver protection are performed in the system controller. For the more serious music applications, the Hackney Cab is used in conjunction with a sub bass speaker. In this configuration a bass cut is applied to the Hackney Cab allowing greater clarity and punch at higher levels.

### Mic Schedule

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Cellos	2 x AKG C414
Double Bases	2 x AKG C414
Harp	1 x U89
Woodwind	1 x Neumann KM84 and 2 x KM86
Percussion	2 x Neumann KM84
Piano	1 x AKG C414
Celeste	1 x Neumann KM85
Guitar	1 x BSS DI
Announcements	1 x NADY 700 radio mic

**Sound Engineers** Charlie Peacock and Chris Coxhead



Follow spot operator Peter Hart in the lighting control area at Battersea. The Celco memory lighting control desk in the foreground was used for the BBC1 television performance, with BBC monitors in picture, right centre. The two Berkey Colortrack controls for performance lighting are furthest from camera.



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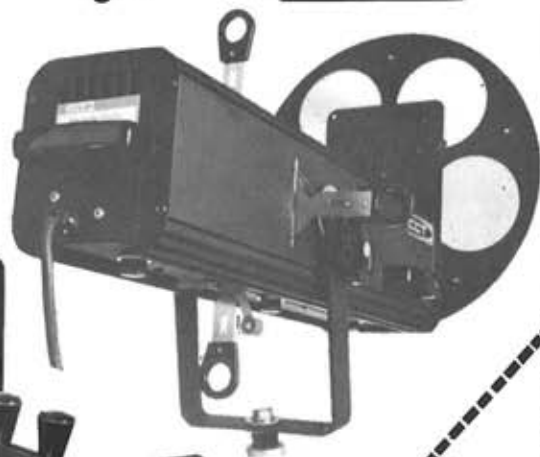
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# London's Light + Sound Show

A festival performance in four acts, the 1986 PLASA Light and Sound Show attracted its biggest annual audience yet. According to general secretary Roger Saunders, the 4000 figure had been passed, and they were "still counting" as we went to press. He hoped for a near capacity audience of up to 6000.

It was a performance of subtle colour and sound, with scene changes as varied as the 90 exhibitors set up on stage. And there was the added bonus of mini Light and Sound Shows within the big one. Half a dozen or more impresarios were at work putting on performances of effects technology where light and sound were the star turns.

The PLASA Show has now come of age. It was much more professional in many aspects. Sound levels were more controlled, and the quality of stand presentation moved another grade upwards.

"I am sure I and most exhibitors are staggered at the changes in the Show, both in its size, attendance, and the general professionalism of the exhibition," said PLASA's chairman Peter Brooks. "Looking forward to next year at the same venue but a little later (September 6-9, 1987), whilst it is in some ways unfortunate that we will be restricted in space we can offer to exhibitors, we must use this to advantage to further increase the attendance of both overseas and domestic buyers and specifiers. Also, during the year ahead we propose to further enhance the professionalism of PLASA as an Association, without losing sight of its roots."

Internationally, the PLASA Light and Sound Show ranks amongst the top three in the industry, and one major criticism is that the organisers have only just realised quite how important it is. At least they **have**, and next year we will see overseas visitors hosted as they should be, and special attention and facilities awarded for the trade press.

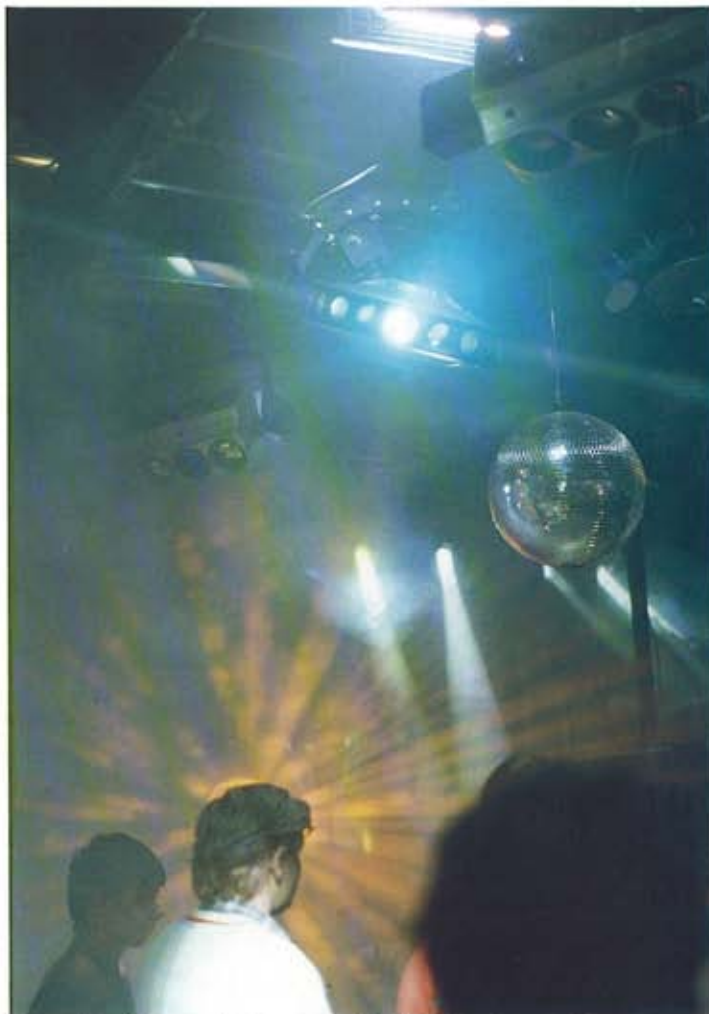
As one of the most important contact points within the major home market, and as a link to vital worldwide markets, it is highly important that the spotlights on future PLASA Light and Sound Shows are correctly focused.



Inside the Avitec emporium, many visitor's starting point for the PLASA Light and Sound Show. Pictured during one of their regular demonstration shows is a Krypton centre-piece mounted on a Lynx elevator.



Malham Limited - magic with mechanics.



WB Lighting/Coemar - high impact, with a little help from Carlsboro.



Satel UK's sales director Graham Bowen (left) and managing director Paul Morrison (centre) with Victor Gomez from Satel Spain. Product launches included the Quantum electronic range of control equipment, 'Precise' lamp products, and syncro-scanning motorised effects.



Squire's line-up in the Salon Bourgogne. London Branch manager Mike Bailey (left) and service manager Chris Simpson (right) pictured before the Monday morning's first performance of their Light and Sound Spectacular with the 'impresario' himself, Roger Squire. Commentary for the shows was provided by Kevin Mitchell of the Glasgow branch and Mark Haywood of the Manchester office.



Lynx Lighting's Nick Searle demonstrates the Syncro Scan. Major interest was received for the new 'Swing' and 'Trapeze' lighting movement systems launched by the company.



Avolites marketing manager Michael Till presents Disco Aid's Theo Loyla with a C6 lighting control for the Light and Sound Show raffle.



Part of the Bose line-up in Salon Muscadet.



Manhattan Sound and Light's Bill Allen (centre) and Bill Larkin (right) explain the virtues of their new Micro Elite smoke machine. Keeping it company was the Fogger Elite Mk1 version, and a selection of lighting equipment including Multisweeps (new styling on the 4-way) and 4 Dancing Scanners in a bank.



Lightfactor's Mike Hannaford (left) with Uli Petzold of LMP (Germany).



Alistair Peacock (centre) pushes his thoughts on disco finance (and Astron's Light Schemes).





Optikinetics cement their new Swiss link. Neil Rice (left) and Colin Freeman (right) with Robert Schaetti of ACR Switzerland, manufacturers of the Mac Argus and Mac Spot and the Original Supernova.



McCormack Electronics' innovative Moon Flower on stand 2 gave visitors a preview of what the Light and Sound Show 86 was all about.



Anytronic's Bob Hall gives the camera a sideways glance during a non-stop on-stand performance. His comment for L+SI was very simple: "It was the best show we've ever done anywhere - we've now got the task of organising production to suit the major orders received."



James Bishop (right) of Donmar scores the magic '1000' and wins the 1000th Mercury from Zero 88. David Caterall hands out the congratulations.



After drawing winning tickets for the 'Disco Aid' raffle, PLASA chairman Peter Brooks is presented with a T-shirt by Theo Loyla (right).



Mike Henden (centre) and Sally Fisher of Luton Sound and Lighting. "The event was better organised than previously, and for us a good show all round," Mike reported to L+SI.



Pulsar's ever-smiling Derrick Saunders with Onofrio De Nitto (centre) and Caterina Quagliarella of LED Elettronica of Bari, Italy.



Pete Dyer of Saturn Sound and Light on stand with Dave Winfield of Jivelight. They reported massive interest, particularly on the export side for Jivelight's Megamist smoke machine and new Flashline products.

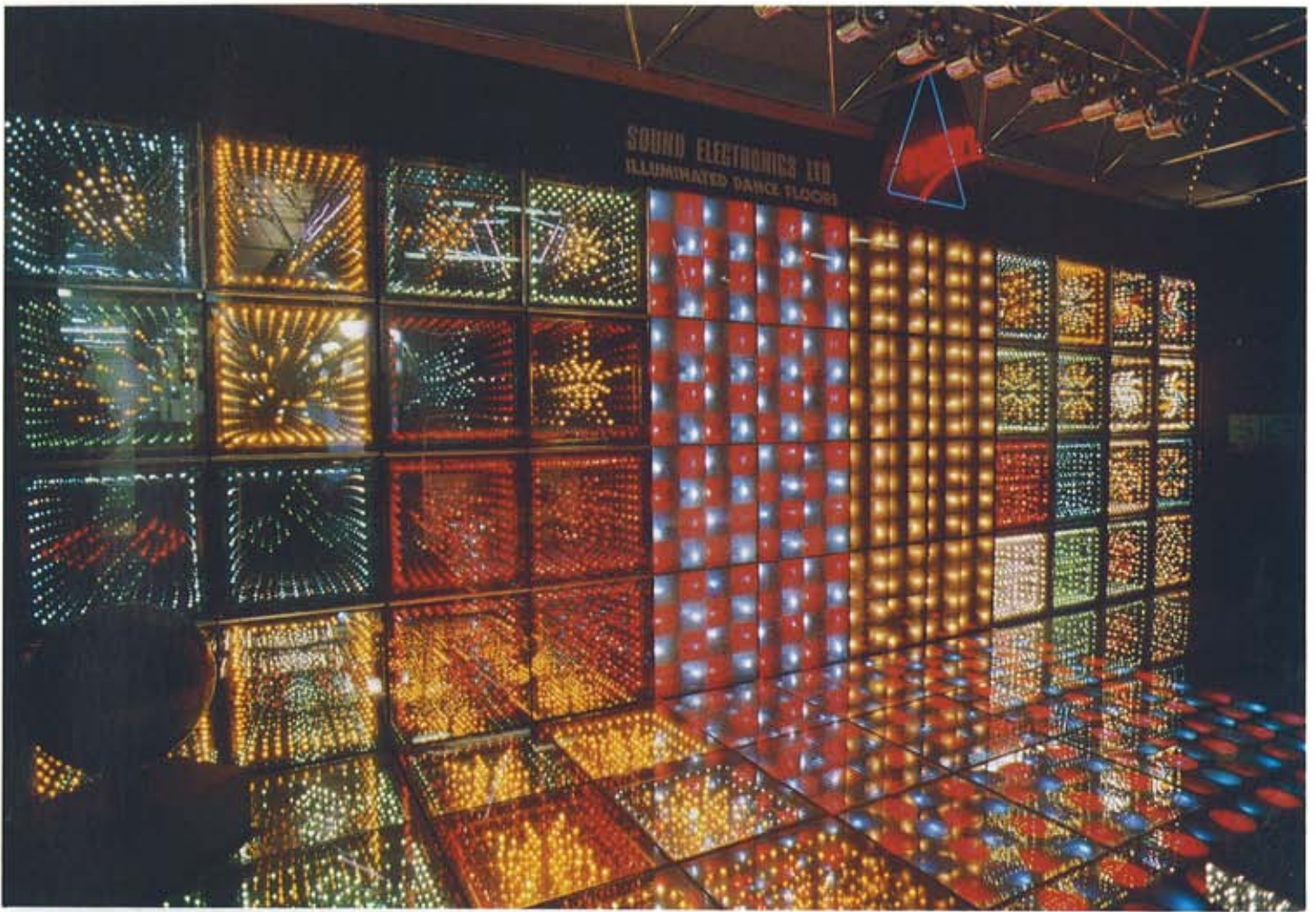


Part of the lighting display in the Salon Alsace - RED Professional Sound and Astralloy GB Limited provided an exciting combination of sound, light and movement.

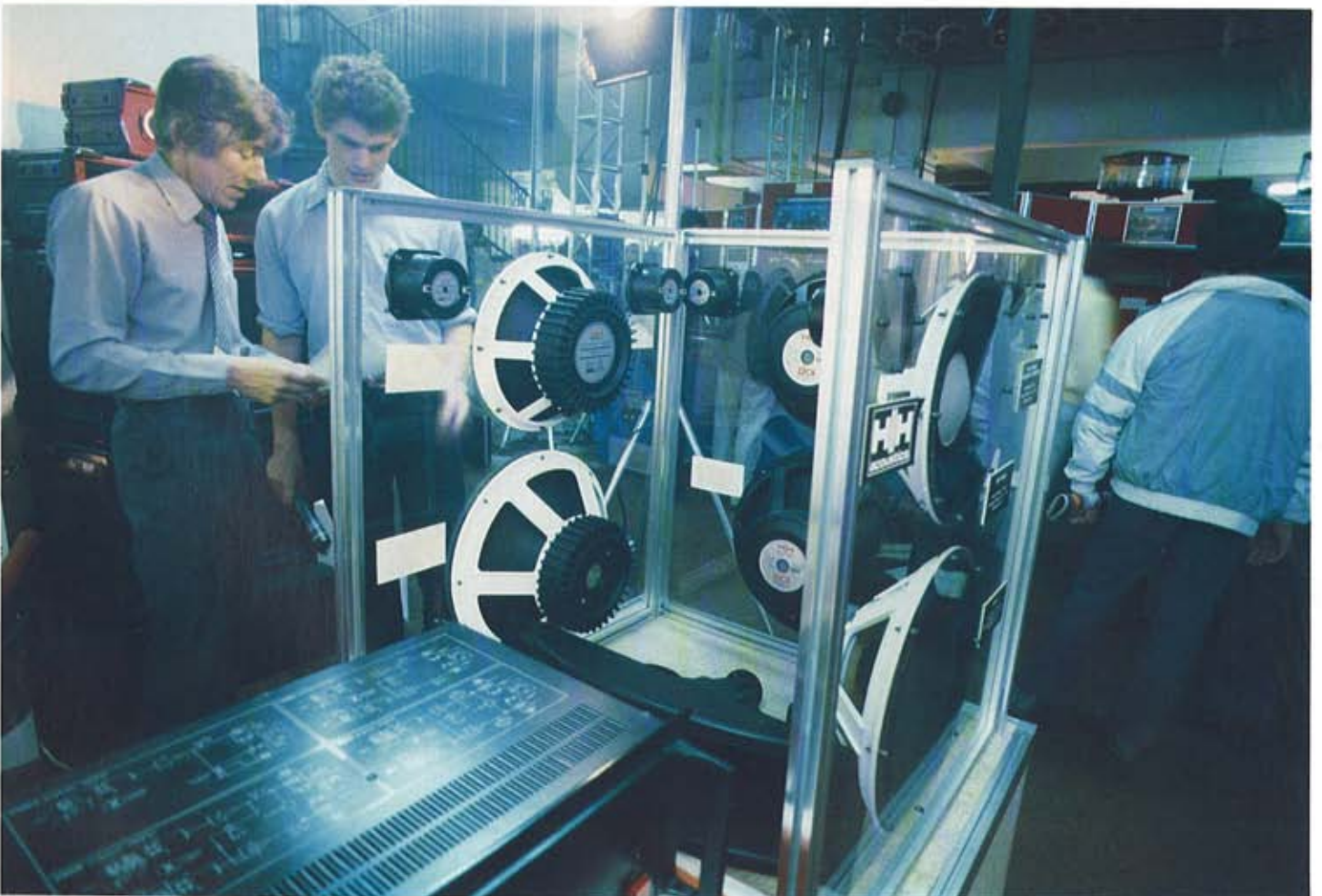


Lightfactor Sales display featured two geodesic domes containing a wealth of state-of-the-art products. Pictured above are items from the DiPS range of flexible signs, ideal for clubs and discotheques.



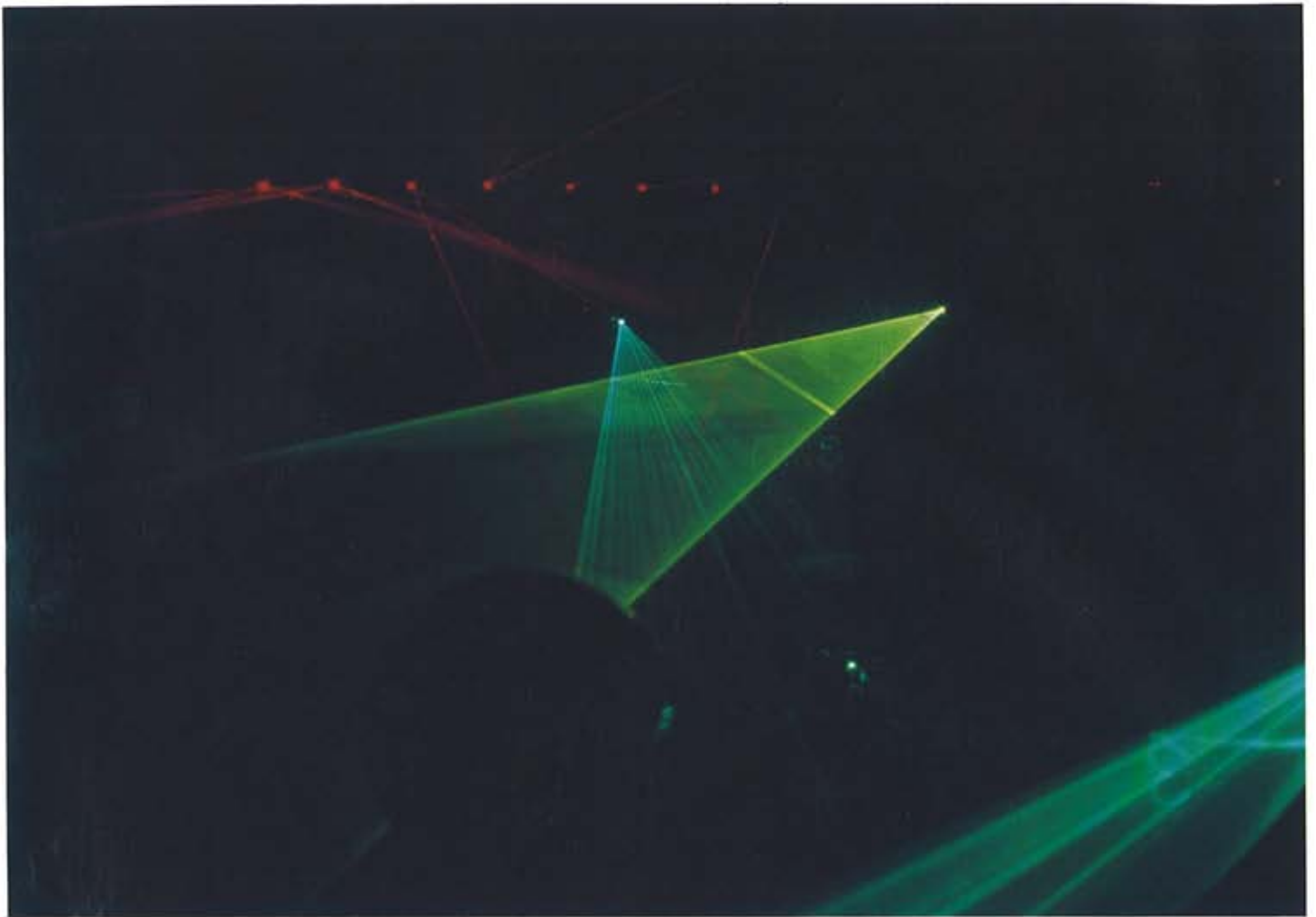


Infinite variety and vision infinity on the Sound Electronics stand.



The full range of HH acoustic products, including the 1501, 1201 and HF201 chassis loudspeakers provided the focal point of the HH display. Also featured were the company's new range of VX power amplifiers and the existing V range.





Part of Laser Systems' PLASA Show display. Highlights of interest were the company's new Line Scanning System and the 360° scanning system.



Pancan - the world's largest manufacturer of driven light equipment, with 78% of product exported from the UK.





Squire's 'Light and Sound Show Spectacular' - a regular showing "not to be missed".



SIS of Northampton - a huge range of products for the discotheque market, both with their own products and as main distributors for numerous leading names in the industry.





Part of the major Citronic line-up at the 1986 PLASA Show. Sales and marketing director Mike Gerrish told L+SI that the 1986 Show was "just what we've come to expect from PLASA - bigger and better, and roll on Light and Sound Show 87".



Strand Lighting, first time at the PLASA Show, and "well pleased" to have taken part, picked up significant enquiries from both home and overseas visitors.





Zero 88's centre of activity featured 'Randy' - random number generator - with the first person to come up with the magic '1000' winning the 1000th Mercury controller - specially finished for the occasion in black and gold.



The WB Lighting/Coemar stand was designed and built by Carlsboro Sound Services, who also provided the sound system and video bank.



Lighting designer and consultant Graham Walne (centre) gets the low-down on the Series 2 Gold memory lighting control from Celco's Matt Deakin (right) and Cerebrum Lighting's Mandy Gray.



The Active Diamond described by sales manager John Ogden on the Wharfedale stand.



Ray Wilkinson of Northern Lights with Liteworks designer Tim West. A major attraction was Tim in his fibre optic clothing, running from a 1000 watt xenon light source which has a battery life of 5 hours. Anyone for pantomime...?



CCT Theatre Lighting's UK sales manager Len Druce demonstrates the new easily adjustable gobo holder for the Project and Silhouette ranges of luminaires.



Zero 88's Freddie Lloyd shows off the company's star package at the PLASA Show, the new Superchaser 24, to a trio of international visitors.



Caught on the move - Dick Carrier of Light and Sound Distribution (left) with WB Lighting's Roman Walanta.



Publicity and PR consultant Roger St. Pierre (left) with Dennis Eynons of Malham Limited.



Iain Price-Smith of Multiform launched the Mk2 version of the Light-J programmable lighting control unit.





ICElectrics - strongest range ever in their 10th successive PLASA/Badem Show. On stand for the first time were the Super Starflash Strobe, the fully productionised version of the Mix 8080, and the Jaguar II and Interceptor II disco-theque consoles.



John Shiers, managing director of Mystical Lighting (centre), lines up with staff and visitors for a 'black and white' picture amongst the company's range of over 200 infinity screens. A selection on show converted the Salon Beaujolais into a colour sparkling paradise.



Number one on No.1 stand was Audilec's Phil Price (left). The company are sole distributors for Audio Technica in the UK, and also used the Show to promote Toa Electronics' new MS sub-woofer systems.



Paul Mardon (left) and Ken Sewell of Pulsar Light of Cambridge take a rare inter-company communication break.



The Association of British Theatre Technicians' top brass check out the PLASA Show. John Lethbridge of Cerebrum Lighting, and vice-chairman of PLASA, pictured with ABTT chairman Richard York (centre) and ABTT Trade Show organiser Roger Fox (right), both from the Barbican Centre for Arts and Conferences.



Light and Sound Show organiser David Street (left) with Luciano Aiolfi, editor of Techno Show (Italy) and PLASA chairman Peter Brooks.



Paul Butler of Mushroom Lighting Services outlines his company's range of equipment and services. A varied range of equipment was on show on a stand constructed from Slick Systems' Lite Beam structured frame.



Australian trio on Zero 88 - Richard Skarzynski (left) and Richard Bonysiewicz (right) of Total Concept Productions of Sydney, and Peter Kemp of Getlit Pty of Melbourne get the Freddie Lloyd treatment.



Satel (UK) Limited launched the 'Quantum' range of control equipment, 'Precise' lamp products for the fun pub market, and new syncro-scanning motorised effects.



Starlight Design - an extensive range of products housed in their versatile Isoframe space frame.



Luton Sound and Lighting Limited - moving ahead with a higher profile and new image.



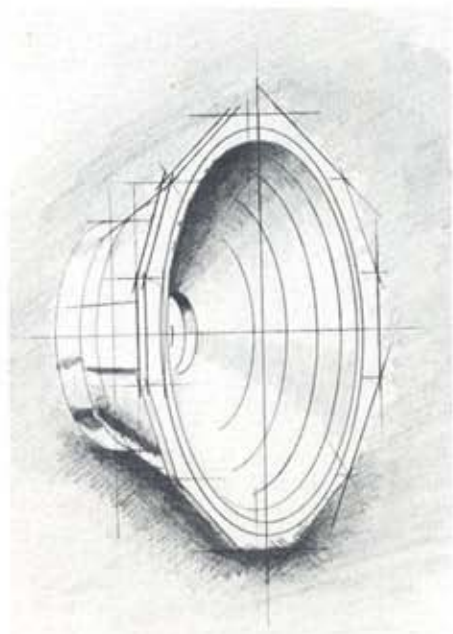
# Sounding Out . . .

## Ben Duncan listens in at the PLASA Show 86

The weakest part of any high power sound system are the speakers, particularly at the low and high ends of the spectrum. So any serious developments in this direction are especially welcome.

**Turbosound** were pushing big speaker technology to new limits, with two recently released products: The **LS-2403** is the world's most powerful subwoofer driver. Using a 6" voice coil and the largest available slab of ferrite magnet, it handles in excess of 1200 watts of low bass, down to 15Hz, no less! Available from October, it'll be fitted as standard to their established **TSW124** cabinet, and is available as a simple retrofit for existing TSW users. Meanwhile, the **V-2** is a state-of-the-art HF driver, extending their patented 'Turbo-device' principle into these frequencies for the first time. The benefits are smoother sound, with extra power-handling, and therefore even less compression when pushed hard. Again the **V-2** can be retrofitted to existing **TMS3** cabinets. Also on show, the compact **212** stage wedge, which could also prove handy for filling in odd corners in installations: With a 127dB SPL capability, it should overcome the compromises to sound quality or power handling normally engendered by small enclosures.

Associated with **Turbosound** were **BSS** (Brooke Siren Systems), their partners in the new **Edge Technology Group**. BSS's recently introduced **FDS 360** crossover was on show, busily helping to create the visceral throb going-on inside Turbo's acoustic 'igloo'. At £445, it combines and supercedes the earlier, 'Industry Standard' **FDS 320** and **340** crossovers, at a lower price. Amongst Turbosound's distributors, **Electromusic's Mike Novak** was on hand, enthusing about the **DVT 500s**. Used to power the igloo demo, it's the state-of-the-art in power amplifiers from **Rauch Precision**. It occupies the same 3U space as standard 250w/ch stereo amplifiers, each channel delivering over 1500 watts music into 8 ohms. Mike describes it as "The only amp capable of pushing (the latest) Turbo speakers anywhere close to their limits." But for those on tight budget, Electromusic can also offer



**Turbosound's LS-2403** - "the world's most powerful subwoofer driver".

industry-ruggedised amplifiers with conventional size/power ratios, from **C-Audio**.

On the **HH** stand, I was entertained by comic impresario and M.D. Clive Bradbury, who energetically gestured towards HH's new **VX** series amplifiers. Seven years after introducing the world's first MOS-FET amps, the **V** series, the **VX** builds on the **V**'s success with better cooling (the airflow travels front to rear) and two-speed fan on the bigger models, for better temperature regulation. There's also an output **crowbar** to protect speakers in the event of DC fault - in place of the usual relay, which can always weld-up when you need it most. HH's new **VX** amps also herald the re-introduction of Octal sockets (for balancing transformers or signal processors), plus provision for a **VCA** module; while racking sizes are smaller than the original **V** series for any given power. Another improvement of particular benefit

in big installations is a 'Fuse Check' LED, meaning you won't be in the dark if a fuse blows.

**Formula Sound** had a highly cost-effective graphic EQ on display. Instead of using expensive slide pots which beg additional and elaborate 'anti-tamper' hardware, the **SE210** and **SE219** provide 10 and 19 bands of stereo EQ, all **behind** a 1U panel. The secret behind it lies in massed ranks of rotary presets, set up with a screwdriver. Thus, quote "... the temptation of operators to tweek controls is eliminated". Sensible stuff... hmmm... until some joker sets up selling **counteractive** weapons to DJ's, namely screwdrivers. In the meantime, installers can afford to buy **more** graphics and/or pack more of them into a crowded space. The units also feature auto-bypass, so the music keeps going, even if someone **unplugs** the mains to the graphic. But judging by some clubs, who's betting this state of affairs might not go unheeded indefinitely? Formula Sound were also showing their new **VCA Control Module**, which add auto-ducking and crossfade facilities to their already versatile **PM80** modular mixers. Occupying 1U x 19", the **VCA** controller sits external to the **PM80**, and costs around £130, plus £30 per **VCA** card. These can also be factory retro-fitted to existing mixers.

At the **Cloud** stand, another hearty impresario AKA **Roy Millington** gave me his "don't talk t'me while I just tekka bite o'this sandwich" look. He could afford to be relaxed for 2½ minutes, since Cloud have just re-designed their range of consoles and amps. The upshot is that the new models are not only better, being a positive refinement of what's gone before, but are also cheaper, to the extent that their new stereo consoles cost **less** than the previous mono consoles. The **Windsor** model, for example, retails at £599, VAT inclusive. Along similar lines, Cloud's new budget series power amplifiers **DA125** and **DA250** are surely the 25th anniversary version of the classic 60's-style vynide box amp. But make no mistake: the contents are competing with Japanese product for attention to design detail, and bring



**Mike Denner** with his new 'Syncro Beat' on the Wilmex stand - "an invaluable pair of DJ mixing tools".



Amazing bass sounds emanating from OHM's Mr. Woofer.



the benefits of MOSFET amplification to street jocks for just 79p per stereo watt.

With the latest **Citronic** product having been recently reviewed in these pages, **Andy Briggs** contented himself with bemoaning the "... lack of discrimination between trade and non-trade visitors to the exhibition". He'd like to see one day allocated to the public, the others trade only. So let's hope the gods of PLASA are busy taking notes ... Round the corner, I found **Mike Denner** displaying a pair of invaluable DJ mixing tools on the **Wilmex** stand. To be distributed by Wilmex in mid-October, the **Synchro Beat** and **Synchro Beat Plus** provide a 4 digit readout of beat per minute, the Plus model having **twain** displays, one for each turntable. The single channel model simply plugs into the console's headphone socket, and both models feature a 'tapper-switch', to help with those erratic break dance records. What's more, a 1U rack-mount version is planned for release in December.

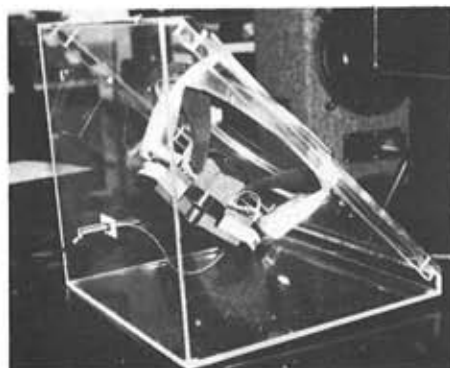


Citronic sound talk - sales and marketing director Mike Gerrish (centre) and managing director Tony Akers (right) with Bert Reedy of Village Roadshow Technology Pty of Victoria, Australia.



RED Professional Sound's Ken Reed shows the "width" of the revolutionary R500A, now in final production format.

**RED Acoustics'** president **Ken Reed** spoke passionately about active loudspeakers and the latest psycho-acoustic research at Michigan University, USA. I was impressed by the R150A and R300, and yes: the latest models are all-but-dammit **hissless** when standing by. Aside from internally EQ'ing speakers for (what's judged to be) correct response, building a 3 way active system within the speaker enclosure can also radically conserve cost and space; RED



ILP's 312B high power 12" drive unit.

Acoustics' technique is particularly on the ball for small installations, like pubs and wine bars.

**ILP Electronics** are best known for supplying toroidal transformers to the majority of UK amplifier manufacturers, but now they've taken on an ace drive-unit designer, namely **Mike Dodd** (ex-Vitavox), it's confidently expected that they'll make a fresh name for themselves. The **312B** is a high power 12" drive unit, conservatively rated at 350 watts according to the BS specification, wherein the drive unit is pummelled with full power for 24 hours. And its cost? Just £78 retail, including VAT. Another important discovery to OEM cabinet manufacturers is ILP's high-power 5" midrange driver, due for release circa December, and amply demonstrated aboard their 3 way full range cabinet. ILP's 2002 power amplifier (1000w/ch into 2 ohms) also drew the crowds.

**Squires'** lascivious dancers pulled an even bigger crowd, but I opted for their latest bumper catalogue, a guide to what's going to be big in the retail market. New lines

worth checking out include **Stephen Court's Signature Series** speakers, and **Mike Harrison's** innovative new mixers and 'digital' amplifiers.

Last but not least, **Ortofon's** Nigel Crump was all smiles over the recently introduced **Pro** cartridge, which comes in two formats: **Concorde** simply plugs into tonearms with the standard-socket (like the **SL1200**), whereas the **OM** model is screwed to the headshell in the normal manner. The OM is also IBA approved, and judging by the consoles around the show, Ortofon have taken 50% of the market in one fell swoop.

After the vast terrain of Frankfurt et al., the Novotel had a cosy, intimate atmosphere, heightened by the intermingling of kilowatts of coloured light'n'sounds. I just hope next year's lager improves in the general direction of Frankfurt's native Holstein brand. Certain exhibitors also felt that a designated 'Quiet' spot would make earnest communications easier. **Continuous** megawatts get a bit galling when ones' display is static, with no opportunity for sonic retaliation ...



Cloud's new and much talked about budget series power amplifiers, the DA125 and DA250.



# A Theatre Man at PLASA

Francis Reid

I expected the sound to be loud and dependent upon its bass-bin beat. I knew that the lights would tango and their beams chase. But I had not anticipated that smoke would be the all pervading environmental factor uniting all these competing manufacturers into the supportive harmony of what I shall now always think of as the Professional Lighting Sound and Smoke Association.

I went to **Lighting and Sound Show 86** as a theatre man looking for new ideas and new equipment. Those of us who are involved in theatre technology have to live increasingly off the more profitable areas of the entertainment industry. Once upon a time it was television that paid for product development, now it is the popular music business - first rock bands and now the discos. The result of this is that all areas of showbiz are growing closer together, exchanging equipment and, probably even more important, ideas. Like all businesses, ours depends on happy customers. And by customers I mean not so much the venues who buy the equipment but the punters who buy the tickets. Any astute managers, poised to write a cheque for the latest technologies, must ask themselves the old theatre impresario's stock question - 'Shall I see it from the Box Office?'

A strongly affirmative 'yes' seems to be the answer indicated by the growth rate of the industry and the appearance at the exhibition this year for the first time of several of the traditional stage lighting firms looking for a slice of the cake. But could the industry be close to a plateau? There is already evidence of an increasing desperation in the search for new effects. How can we ensure that tomorrow will top today? Is there a limit to brightness, loudness and complex movement patterns? After half an hour at the PLASA Show I found myself becoming almost blasé. **Surprise me**, I began to think, almost aggressively, as I approached another stand or performance tent. And as I went my rounds I began to speculate that, whereas the scope for technological growth might be lessening, there could possibly be some considerable way to go in drawing the maximum 'performance' impact from all this wonderful gear. Perhaps, indeed, this might be an area where cunning old man theatre with his centuries of showmanship might just be able to repay this new dynamic branch of entertainment for its initiative in opening up new technology.

But before returning to this point let me offer a personal response to the technology on display.

Let's start with the smoke. Very important stuff. Light does not mean much until it hits something. It can pass through clean air without making very much impression. While this might be actively welcomed by the theatre lighting designer with a full stage of scenery, it is not so good for the rock designer whose scenery is his lighting rig, a drum kit and the loudspeaker stacks; and it is positively bad news for the disco designer whose audience are not watching a performance, but are up there giving it. Fortunately



Francis Reid.

for us all, including those of us who fire smoke guns at neurotic opera stars, today's smoke vapour really seems to be non-toxic. If a walk through the PLASA Show proves anything, it proves that smoke does not harm, might even benefit, the eyes, ears, noses and throats. And there is none of that old oily drip that turned floors into rinks. But how does one identify a best buy amongst all these smoke guns? Everyone claims absolute precision in controlling the length and density of their bursts, so should we have a smoke gun Derby? And whose gun identifies and compensates for the atmosphere changes which can precipitate an unrehearsed fog during performance?

Lights for theatres are just required to give light: they do not need to look particularly good. Indeed architects prefer them to look as neutral and inconspicuous as possible. The individual lights in the average rock rig can be as rough as you like: their good looks come from the way they are trussed in interesting, often elegant, mass patterns. But a light in a disco is a key element in the decor. By and large I found myself rather impressed by the general level of design I was seeing in



Le Maitre's custom-built 30-way firing system.

this area. Admittedly the optical requirements in terms of shuttering and focusing are much simpler than in a stage lamp, but then I would not be surprised to see us stage wallahs move towards more lights with simpler optics. Just look at how we have embraced the parcan over the past decade. And the current crop of musical hits in London's West End theatres owe much of their dynamic visual impact to the input of rock and disco techniques.

I personally believe that the development of theatre lighting with mains voltage halogen lamps has nearly reached the end of the line. We shall continue to do a lot of our lighting this way because it is conveniently flexible for getting a bit of light to an actor's eyes and teeth. But for a dramatic dynamic quality we will increasingly turn to low voltage halogen and to discharge lamps. Low voltage is only held back by the slow development of an electronic transformer that can operate at tricky ambient temperatures; and digital processing has opened up remote mechanised dimming of discharge lamped units. The PLASA Show encouraged me in this belief and in my love of the incisive clarity of the parallel beam. I do not intend to go into product comparisons on these pages. I have been around too long to dare judge the relative performance of a light by looking at it in an exhibition; it needs hands-on in a real situation to get to know a product. But there was a lot that I'd like to get my hands on!

How about the leading firms from the more conventional areas of entertainment lighting who were dipping their toes into the market? The latest addition to Strand's product range is a remotely controlled Par 64 with motorised scroll filter change which selects any one of its ten colours within 2.5 seconds or provides slowly changing colour washes over 20 seconds while indulging in a fully programmable pan and tilt routine. They also offer a new low voltage light curtain, while CCT have modified their classic Silhouette profiles to fit within standard trussing by simplifying the optics to concentrate on a good clean light with enhanced standards of gobo pattern projection. Both firms seemed enthusiastic that they were meeting new people and that there was business to be done.

But that business is unlikely to be done in control desks. Britain is the international leader in making theatre lighting controls, but they are geared to the pre-plotted show. They offer a basically digital access whereas the music industry needs the geographic layout that is essential for instant playability when the lighting designer's picture has to flow from his mind through his fingers to the dimmer channels, almost subconsciously. As a sometime operator, particularly of one night stands, I found a lot of personal empathy towards the Avolites desks. However it has to be said that some of the smaller stuff elsewhere seemed to be groping around for an operational philosophy.

Of course **effect** is what it is all about, and this has been given a big boost by the

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possibility of passing all manner of complex data up a single wire to tell a spotlight what to do with its electricity. Every single possibility seems to have been exploited by the members of PLASA so that 'Any lamp that stands still is a sissy' could well be the theme of the Show. Whether the lights themselves move, or deflect their beams through programmed mirrors, or even where the whole truss goes for motorised walkies, the ability of a light to be instructed to do anything was clearly demonstrated.

The search for new effects goes on. If the light is not enough by itself, Le Maitre will sell you a confetti canon and if things get really desperate you could enlist the help of their machine gun stimulator. Le Maitre are certainly good news in the theatre world were the pyroflash system has made all our lives much safer, although my mind does boggle a little at a 30 channel programmable pyrotechnic control system - it seems only a few years since 30 ways was a sizeable lighting control system!

Forgive me if I don't discuss the sound systems. It's just that I gave up trying to keep abreast of sound technology years ago. But I did waggle my ears around a bit and was impressed by the general quality. But then we were listening to tapes and discs rather than microphones. And that's the area where show sound hits problems. However at the Show, the hi-ness of the fi made the loudness acceptable except when one was trying to have a conversation.

So. All these wonderful lights and effects. What did they all add up to? Mostly anticlimax, I'm afraid. So many of the demonstrations started with a climax they could not top. The visual effects were rarely

related to the music except in the crudest way. One exhibitor proved this by thumping out Handel's Fireworks music to a demo that could equally have fitted Star Wars or Baa Baa Blacksheep arranged for a pair of synthesisers and a corps of kettledrums. A lot of Light and Sound Show 86 was like a typical 'Top of the Pops' where the lights flash so continuously that you don't notice them until they stop.

And my overall conclusion from visiting the Show is that PLASA is producing some terrific product but members need to explore the two key factors that sell dramatic effect to an audience: **Timing and Pacing**. The venues will buy more product if they can be shown how to use it more effectively. Just as sound can become so loud that you don't listen to it, lights can become so bright and continuously flashy that you don't notice them.

**PLASA**

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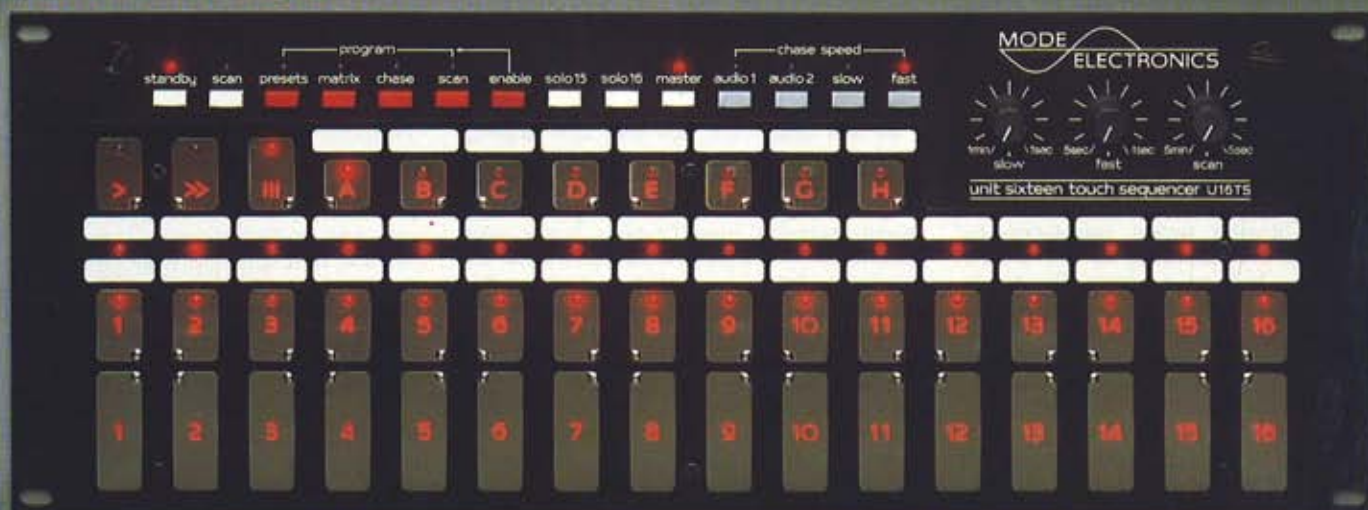


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Anyone with real commitment could have arrived at Cologne's Photokina within about 2½ hours of leaving London's Lighting and Sound Show 86. However I decided against such indigestion, taking time out not only to write my thoughts on the PLASA Show but to stopover at Amsterdam's Theatre Museum. I needed an interlude to freshen my visual perception of the entertainment process, reminding myself that lighting and effects technology have been contributing images to centuries of performances. I find that museums provide strong stimulation for focusing an understanding of the present and future - and Amsterdam's Theatre Institute museum has splendid changing exhibitions drawn from its collection of images and sounds from every area of popular entertainment from mediaeval street fairs through to television soap. And they are increasingly developing audio visual techniques, simple but effective ones, to present history as something very alive.

Thus refreshed, I went on to Cologne. Very little smoke, and the sound mostly a subdued background to soothe the buyers - at least in the halls devoted to the film and TV/video aspects of Professional Media which occupied less than 20% of the 136,000 square metres of Photokina exhibition space. And that excludes the loudhailer hard sell for Polaroid outside the cathedral or the two balloons floating overhead. I think one was for Fuji, and I cannot remember the other one - which has to be bad news for their advertising agents.

**Photokina Weltmesse des Bildes** considers itself to be (and I would not disagree) the international fair for any product even peripherally concerned with the generation of images by technological means. If it has

anything to do with film or video, you will find it at Cologne. To get images with any kind of camera you need light, and a stroll up and down the long wide boulevards of the exhibition revealed lighting manufacturers popping up everywhere among the cameras and their editorial back-up technology.

By and large there was not much flashing and chasing about the lights at Photokina. Nor was there much contribution on lighting effects equipment. Some of the stuff was there, notably from Coemar, but it was swamped by straightforward illumination including a lot of jumbo luminaires for the largest studios and for operatic sized stages.

Nor was their much effort to demonstrate the product by light shows. **Strand Lighting** made a gallant attempt by importing Ross McKim's 'Moving Visions' dance company in some entertaining choreography to various musical idioms. Alas the high level of ambient light spilling on to the stand's unenclosed dancing area diluted the dramatic impact of the lighting design. And this was further eroded by the use of so many big studio fresnels which had to be in the rig for the main commercial purpose of Strand's appearance in Cologne. Add a creased cyclorama and some crudely focused gobos and you have a demo which did nothing to prove to me that I need either the remote positioning or colour scrolling of their **Showchangers** - which is a great pity because this is a product with a strong market potential if the price (when announced) is right. The potential for scroll changers in cyclorama floods is particularly promising since it reduces the minimum circuitry for a reasonable installation from four to two channels.

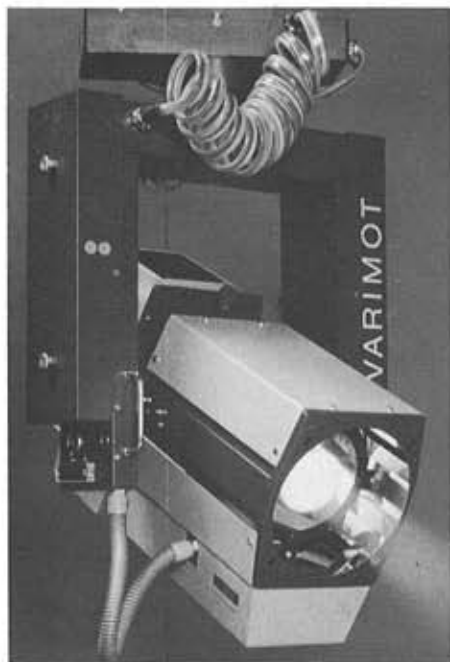
Strand's control systems for theatre and studios are the jewels in their crown: their range is complete in these fields and tough to compete against. The main challenge remains **AVAB**, but no one selling or buying control can afford to ignore the Imagination Technology series devised by Tim Burnham and launched under the **Arri** banner at Photokina. There is a basic **Image** (but, wow, what facilities you get in a basically priced model these days!) and a top range **Imagination** with a mid-facility system to follow.

First impressions of **Imagination** are good. Its twin VDUs present a friendly face to the operator. The knobs are strongly endowed with an anticipatory logic that reduces the number of finger jabs (or key strokes, according to personal temperament) to achieve each function. For editing complex sequences, precise instructions or options are presented clearly on the screens. And if you succumb to button confusion (and who does not in their early days on a new control desk), ask a button what it does, and the answer will flash on to the screen in an English that is reasonably plain rather than mere computaspeak. I have a hunch that Imagination might just possibly have succeeded in producing an operational philosophy that is acceptable to both European and North American thinking.

Another Burnham product for Arri that has the potential to be a bread and butter winner is the modular **Connexion** system which patches dimmers to desks by the internationally accepted DMX 512 standard. User settings for analogue inputs and outputs from zero to plus or minus 12 volts DC give the capability of matching virtually anybody's controls to anyone else's dimmers. Very important in these days when dimmers can outlast several control desks. All this increases Arri's capability to supply complete studio packages. Their 65 series of 500/600 watt spotlights with condenser optics should get them better known in the theatre market; and some courageous investment in developing Burnham's pioneering work with low voltage could see them a major force in the theatre lighting industry.

Unless they decide to leave that to **Lee International**, who have considerable low voltage experience in other areas (although, not, I think, in electronic transformers). Indeed are there many areas that Lee are not active in? They seemed to be on every corner at Photokina. It made me feel that I had done the right thing in acquiring a tiny share of their action when they went public earlier this year! I have a lot of confidence in firms with a strong rental activity; there is no test-bed of customer feed-back quite like rental.

Some new diffusers in the **Lee Filter** range include a 'Hampshire Frost' which I thought might be the beginning of a colour war until I did a direct comparison with Rosco's 'Hamburg Frost' and found that they are complementary rather than competitive. However, we can look forward to a more competitive atmosphere in the filter market place. Strand are waving goodbye to Cinemoid (both masterline and professional)



Second-generation remote-control pan/tilt/focus spotlight by Neithammer. There are profile, zoom-profile and simple focus models, with 4-colour semaphore as an add-on option.



'Showchanger' - the Strand Parscan Par 64 unit with variable speed pan and tilt movement and integral scrolling colour change unit.



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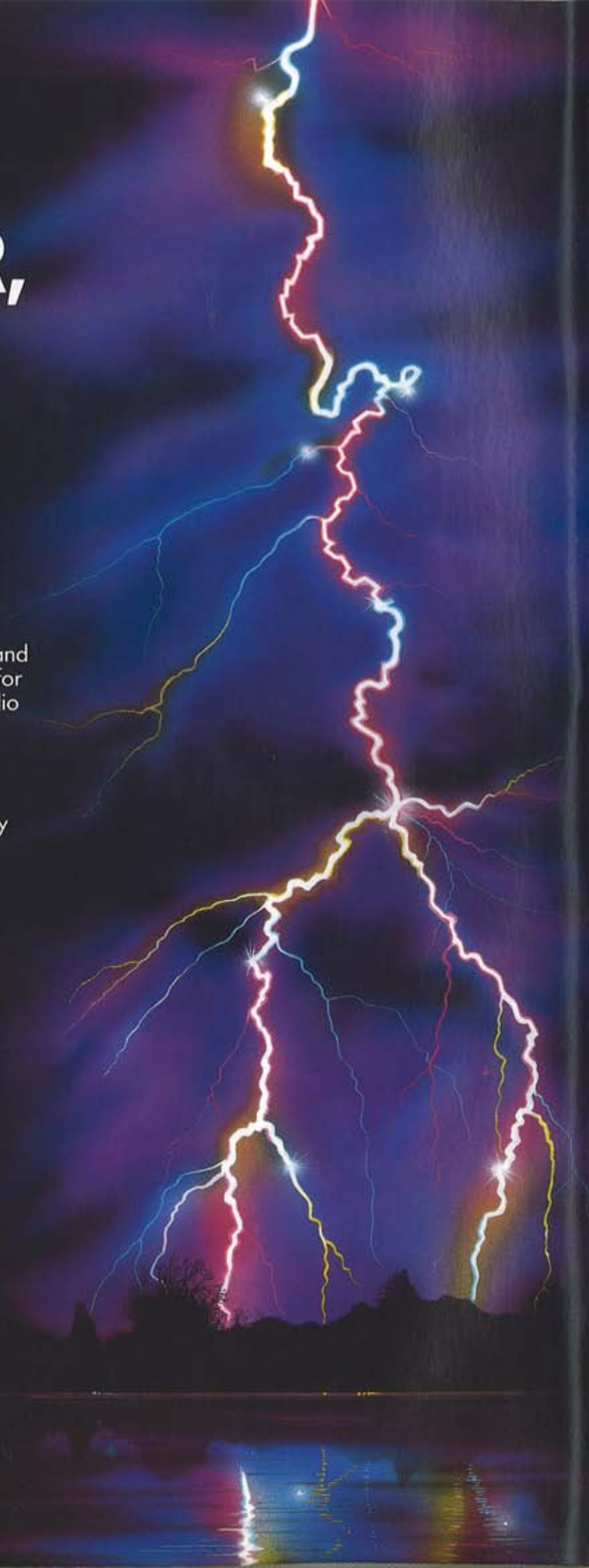
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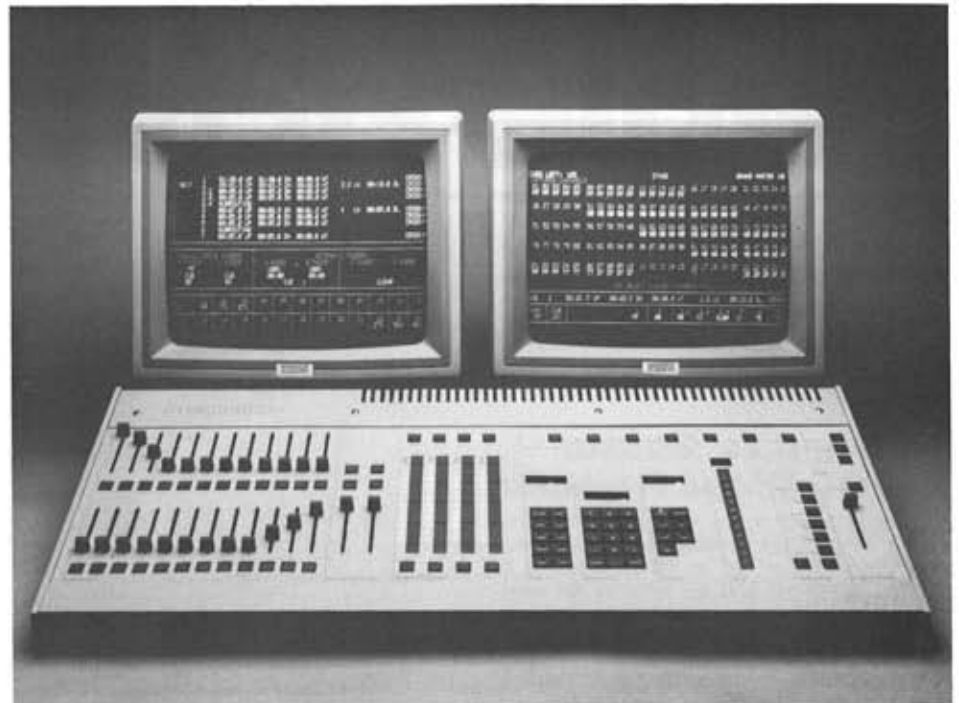




Moving Visions Dance Theatre - a Photokina performance on Strand Lighting's stand.

and Chromoid. Now it's **Strand GL** and **Strand GLX** (to be pronounced Gel and Gelex). Sheet size is standardised on 20" x 24" with GLX also available in 50ft rolls of 24" width. GLX is a new name for Chromoid but, while GL retains cinemoid numbers although reducing them to 29 varieties, the material is new and cheaper yet still intrinsically coloured rather than just surface coated. There is a new leaflet listing these ranges plus a selection of correction filters and diffusers; but **Rosco** are the only filter merchants to produce serious helpful literature on solving colour choice problems. (Although Lee are trying hard here, and may catch up.) Will Strand now face up to market realities and show the same liberality as Rosco and Lee in distributing free colour swatches?

**Coemar** have introduced a range of halogen spotlights which look uncannily like Strand's Prelude and Harmony series. Is this a



Arri's 'Imagination' Control.

compliment to Strand, or is it just that extrusion construction techniques impose a common shape on lights? Anyone done a performance comparison yet?

**CCT** were showing pole operated variants of their classic Silhouette range using prototypes to gauge possible response by entering into a dialogue with potential users. Condenser optics are beginning to look a trend with CCT leading the way. And there was a motorised moving gobo that we are sure going to want.

Perhaps the most significant change in German stage lighting equipment is the virtual eclipse of Reiche and Vogel who not so long ago totally dominated the Central European opera house market. Strand now have a useful slice of that cake and Neithammer make the big stuff for lighting bridges where precise mechanical provision for continual easy refocusing is more important than compact size. The rise of this firm is linked to the

swing from simple focus spots to profile optics, a fashion which reached Germany much later than parts of the world more influenced by Anglo-American lighting design practice.

I have always been an admirer of **Pani**. This is the luxury end of the market with an optical and mechanical quality that is beyond the financial aspirations of all but the most generously endowed repertoire theatres in countries where cultural standards are a national priority. Remotely operated motorised venetian blind dimmers for discharge lamps, 4kW HMI Scenic projector with remotely controlled zoom lenses, a follow spot range for all situations including downlighting from bridges: these are just some of the quality goods from Vienna.

All in all an interesting show, and comforting to have so much confirmation that Britain's entertainment lighting technology is riding so high in world markets.

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# EQUIPMENT *News*

Readers are advised to consult the PLASA Show Catalogue mailed with our last issue for details of the full range of new products launched at 'Light and Sound 86'.

## Optikinetics' Quasar Xe900 Strobe Projector

Mentioned briefly in our July issue, the new Quasar Xe900 Strobe Projector from Optikinetics was originally launched at SIB in Rimini. It is another 'world first' and the latest of the company's new products to go into production.

Opti have combined their considerable experience of both strobe and projection technology to produce a totally new concept in effects lighting. The Quasar Xe900 utilises the company's existing comprehensive range of beam and screen software to produce exciting new effects. It can be used on its own, triggered by a Single Channel Strobe Control Unit for smaller venues and low budget installations, but is at its best when used in multiples and sequenced by either the Optikinetics' Four, or the recently introduced Eight Channel Strobe Control Units. Alternatively, the Quasar Xe900 may be utilised with a continuously pulsed trigger feed from one of the Control Units, and switched by the mains supply from a suitable touch sensor or other automatic mains controller.

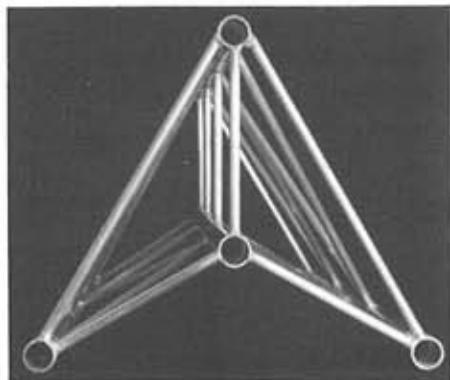
The long life Xenon Flash tube within the Xe900 has been specifically developed for Optikinetics, and is guaranteed for 15 million flashes. It gives a very short pulsed light with a high colour temperature, giving good colour rendition of effects.

For further details contact Optikinetics Limited, 38 Cromwell Road, Luton LU3 1DN telephone (0582) 411413.

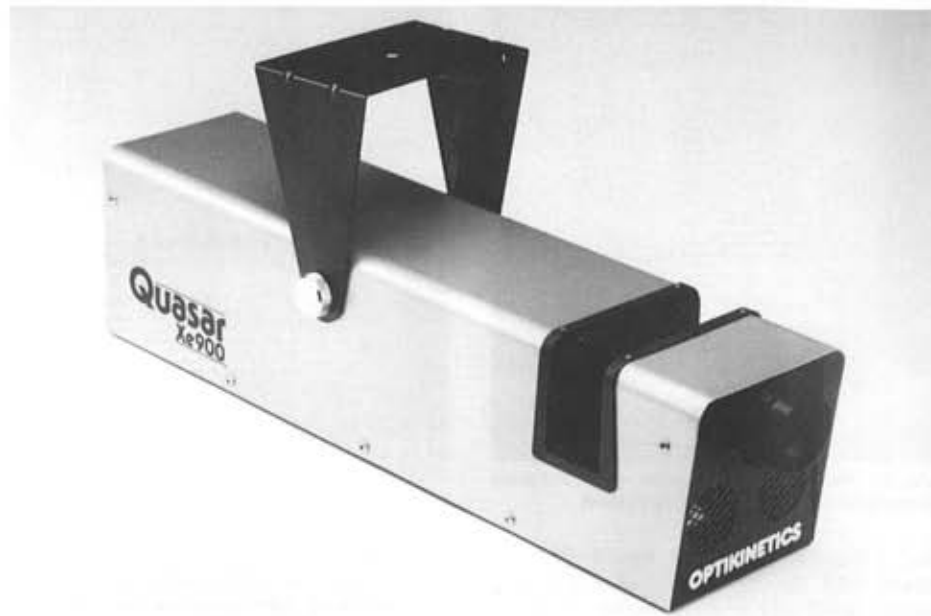
## Designer Truss Systems

Moving quietly but effectively into the British market-place is a new aluminium structure company building standard ladders and triangular and box section trusses with ground support systems if required. But more interesting is their move to change truss design away from the traditional with their 'Designer Structures' range.

Five new designs are available. The 'Cross' is an interlinking double ladder truss; the 'Dart', which besides being visually interesting and very practical, is stated to be "possibly the strongest triangulated type truss in the world"; the 'Star', based on a five pointed star shape with the supporting diagonal tubes following the shape of the star in a helical pattern, is visually very exciting and interesting; the 'Lighting Designer' truss is



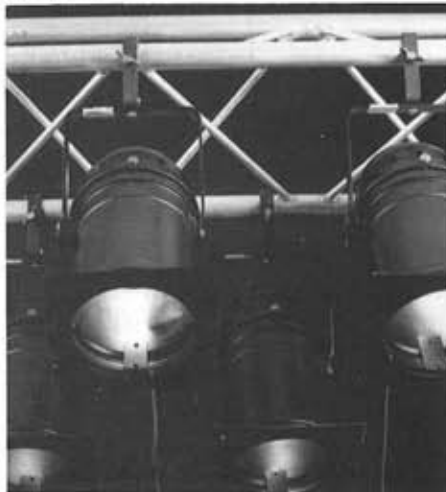
'Dart' - an immensely strong triangulated truss in the 'Designer Structure' range from the Upstart Company of Plymouth.



The new Quasar Xe900 Strobe Projector.



A sectional view of the 'Lighting Designer' truss arrangement.



'Lighting Designer' - one of the new trusses in the 'Designer Structure' range from the new Upstart Company.

designed to mount double spotbars in theatre or in television production for arena surrounds on any sporting event or where venue and television lighting rigs need to be mixed. The 'Lighting Designer' structure is also a very useful tool for concert and disco rigging where compaction of light sources is needed. All trusses can be built with aluminium trunking running through the middle of the structure for wiring, etc.

Standard types of truss connections are available if existing structures are being extended or adapted with the new ranges. One-off structure arrangements are especially cost effective as the company specialises in building the more unusual truss arrangements.

The ground support system has proved particularly effective and has been used for 'The Muppet Show' - lifting the whole show, lighting, sound and scenery via chain hoists on four towers with only two other pick-ups.

For further details contact the Upstart Company, 11 Barn Park Road, Plymouth PL3 4LP telephone (0752) 663777.

## Two new Passive Crossovers from Fane

Fane Acoustics have recently announced new models to their expanding range of passive crossover units. The new models are denoted HPX7 and HPX8, and although both are designed primarily to be used in conjunction with the new Fane MD2050 1" compression driver, they are also suitable for many alternative applications.

The HPX7 is a dual section 2-way crossover operating at 2.2KHz, with 12dB hf roll-off and 18dB hf roll-off. Insertion loss is less than 1dB. The unit is supplied with a set of six separate resistors which can be optionally connected in circuit, in accordance with directions supplied, to provide a range of H.F. sensitivities and thus enable the optimum HF/LF balance to be obtained in any situation. Power rating is in the range 250-400 watts, depending upon the degree of attenuation selected. The HPX8 is a 5KHz high pass filter optimised for use with the MD2050 driver when used as a tweeter. Roll-off is 18dB per octave and power rating 250 watts.

Fane also recently announced the introduction of 12" and 15" professional full-range co-axial loudspeakers, the CX12 and CX15. Both are built on rigid, cast alloy chassis and incorporate fixing



holes to both European and US standards. Bass diaphragms employ wide, single roll, high compliance PVC edge termination, and the constant coverage 60° - 40° horn is driven by the new MD2050 compression driver mounted on the magnet system of the bass unit.

This employs a low mass, 45mm diaphragm with edgewound aluminium coil, with frequency response to 22 KHz. The Studio CX models are designed for use in tuned or infinite baffle enclosures, with bass coverage down to 32Hz for the CX15 and 40Hz for the CX12. Power rating of both models is 150 watts.

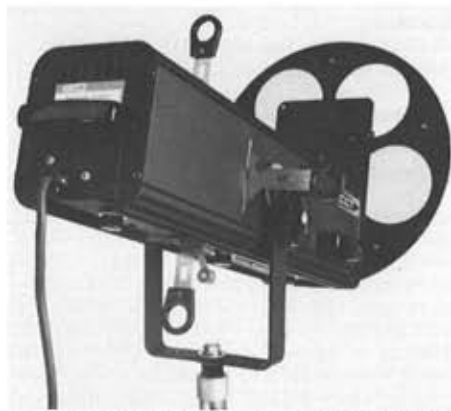
These co-axial models are ideal for studio and stage monitors, keyboard systems, compact club and discotheque systems, and for high quality domestic audio range.

The bass unit employed for the CX15 is also available without the HF driver, as the Studio 15 Monitor Bass, in which form it is an ideal bass driver in a wide variety of 2-way and 3-way system designs.

For full details of all the above products contact Fane Acoustics Limited, 286 Bradford Road, Batley, West Yorkshire WF17 5PW.

## CCT at PLASA

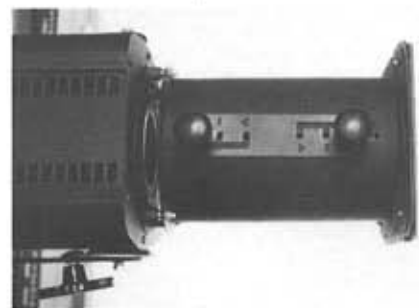
CCT Theatre Lighting introduced several new products to coincide with the PLASA Light and Sound Show. Of particular interest was a compact 650W follow spot based on their successful Minuette Zoom Profile. The new spotlight has twin zoom lenses and a built-in Iris/Blackout, and four independently operated framing shutters are provided although their use is optional as they can be easily removed and re-inserted.



Minuette 650W Follow Spot and Colour Wheel.

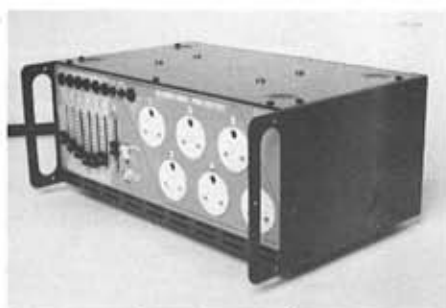
Operator handles are fitted front and back and in addition to colour runners, a five colour wheel accessory is available which can be indexed or spun. A line switch is fitted readily accessible to the operator. This compact and efficient spotlight has been designed with cabaret, club and discotheque applications very much in mind.

Since being shown at the ABTT Trade Show in March, CCT's 'Pro-Ject' spotlight has been eagerly taken up by several major group tours. Some small mechanical improvements have now been



Pro-Ject - pre-setting zoom lenses.

incorporated at the suggestion of early users, for example, pre-setting of the zoom lenses is now entirely external. Optional cut shutter accessories are now available for single or multiple control and a new simple but original Gobo holder can be readily trimmed for angularity. Similar holders are now available for all CCT profile spots.



The 'Command 6' Dimmer Pack.

Another new product from CCT is 'Command 6' - a flexible dimmer pack with 6 x 10 amp modules each having local control with an overriding master. A single switch acts as blackout control or selector for remote control. Any external +10v analogue system is compatible. 15amp 3-pin outlets are fitted and in its standard format 'Command 6' is wired single phase. A three-phase option is available.

'Command 6' can be used entirely as a portable pack, stacked or rack mounted. By reversing the standard end plates it can also be permanently wall mounted.

Full details on all latest products from CCT Theatre Lighting Limited, Windsor House, 26 Willow Lane, Mitcham, Surrey CR4 4NA telephone 01-640 3366.

## Latest from Soundtracs

Announced at the June APRS Show, the CP6800 is the latest in the expanding range of Soundtracs products. Designed for commercial recording and post production studios, it features advanced analogue circuitry with programmable digital routing which may be interfaced with Video Synchronizers.



The new Soundtracs CP6800 Mixing Console.

Available in a number of configurations with or without patch bay, the CP6800 is fitted with an internal computer and monitor, with disc storage, SMPTE reader, and an 8-way events controller housed in a remote 6U rack. Two versions of meterbridge are available either with moving coil VU metres or high resolution bar graphs, and the console is supplied complete with stand.

For full details contact Soundtracs PLC, 91 Ewell Road, Surbiton, Surrey KT6 6AH telephone 01-399 3392.

## NJD Expand Range

Shown at the recent PLASA Light and Sound Show, the PRO 220 stereo mixer amplifier is designed to provide the control and amplification needed in modern public address situations, with the emphasis on high quality stereo sound, with 110 watts per channel output power, in a 19" rack format for ease of installation. Features include high or low impedance (switchable) with volume control and automatic voice-over compression, with the microphone automatically cutting any music input to a background level whilst an announcement is made. It is equalised for magnetic cartridge as fitted to modern Hi-Fi turntables, and is suitable for cassette or reel-to-reel machines, with record playback facility and mono/stereo selection.



The new PRO220 Stereo Mixer Amplifier.



The SA400 Mosfet Stereo Slave Amplifier.



The PRO707 Stereo 'Background Music' Mixer.

The SA400 Mosfet stereo slave amplifier is designed to operate at very high frequencies with exceptionally low levels of distortion, previously unobtainable with conventional transistor amplifiers. Mosfet transistors exhibit an exceptionally rugged characteristic in that they are not subject to secondary breakdown failures common to normal bi-polar transistors. These characteristics, coupled with the fact that Mosfet transistors produce virtually no cross-over distortion and require only very low levels of drive current, make the SA400 superior to conventional transistor amplifiers, say NJD.

Individual left and right controls enable the SA400 to balance with any system, and by linking the inputs the mono/stereo switch allows it to be used as a 400 watt mono amplifier. The level controls can then be used to control two separate zones.

The PRO707 stereo background music mixer is designed to provide the control needed in modern public address situations where multiple slave amplifiers are used to provide individual level control for different zones.

For full information on the above contact NJD Electronics Limited, 10 Ascot Industrial Estate, Lenton Street, Sandiacre, Nottingham telephone (0602) 394122.

## UK Debut for RAMSA Professional Amplifiers

In November RAMSA will be launching two new professional amplifiers sharing similar features and circuitry. The WP-9110 and the WP-9220 have a total power output of 100W and 200W RMS per channel into 8 ohms, although when used in a bridged mono mode, via the rear panel switch, both amplifiers are capable of trebling their power output to 300W and 600W respectively.

The new amplifiers are highly refined and capable of withstanding excessively high input levels outside the audio spectrum without loss of sound quality and transistor damage, the latter usually caused by howling, feedback and input overloads at frequencies varying from 50 to 80kHz, say RAMSA. They claim operational reliability of the WP-9110 and WP-9220 is assured thanks to their unique two-stage, temperature cooling fan system in which fan speed is automatically selected. The low gain and low feedback design give excellent sound across an extremely wide frequency spectrum.

Stable and "built to last", the new amplifiers incorporate a power supply with a wide safe operating area, which avoids distorted output even under adverse performance conditions such as a live rock concert, whilst their design and durable construction offers resistance to damage

caused by output shorts. The result is very wide frequency response in combination with high durability, say RAMSA.

For full information contact RAMSA at Electronic Musical Instrument Division, Panasonic UK Limited, 300 Bath Road, Slough, Berks SL1 6JB telephone (0753) 34522.

## Jivelight Talking Italian

Jivelight have announced a number of additions to their ever expanding range. The 'Flashmoon Strobe Ball' 40cm Strobe Ball has a 500 watt strobe tube which is controllable. Included in the £650 package is a Controller.



The Flashmoon Strobe Ball and controller.



The new 'Super Twister' from Jivelight.

The new 'Super Twister' G360x2 incorporates a 60 r.p.m. motor twisting 2 x Par 56 100W x 12 volt lamps with adjustable heads, and retails at £169.50. Also available is the 'Super Twister', a 100W x 24 volt version which retails at £230.00.

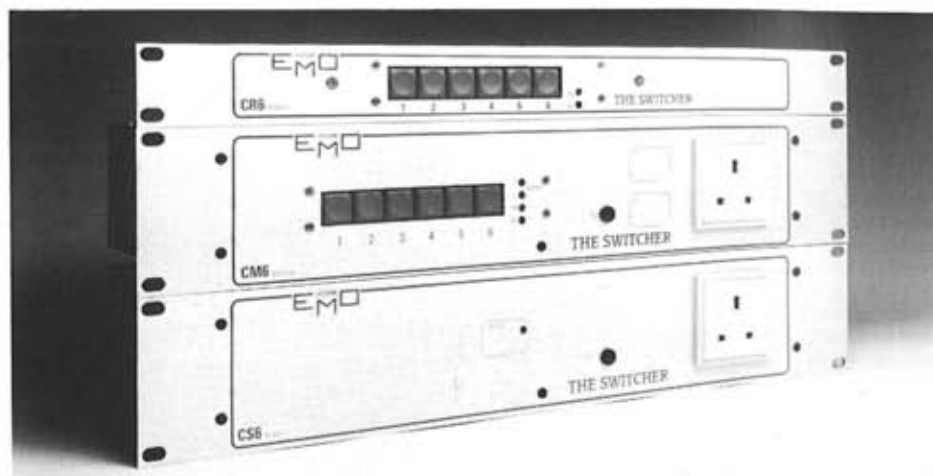
Full details of these new products and other items in the range from Jivelight Limited, 16-18 Greyhound Road, London W6 8NX telephone 01-381 0868.

## EMO Systems launch 'The Switcher'

EMO Systems of Durham unveiled 'The Switcher' for the first time at the APRS Show in June. The response, say the company, was very encouraging, with visitors suggesting applications for the product not previously envisaged.

The product was developed primarily to enable non-technical personnel to switch audio systems on and off, and to prevent unauthorised use. An individually coded keypad is used to start the on or off sequence which also provides the simple answer to the lost key for the key-switch.

In a night club, for example, by using 'The Switcher', a DJ could be left in control of the sound system and be able to operate the system from a panel in his console without the fear of turning things on or off in the wrong order, with possible dire consequences. It would also effectively prevent the cleaners from switching the system back



'The Switcher' from EMO of Durham.

on for after-hours' entertainment!

According to EMO there has never previously been any real alternative to walking round an auditorium turning on amp racks in sequence, and repeating the process in reverse order at the end of a show. Similarly, the beginning and end of each working day in the recording studio is often marked by several minutes on hands and knees fumbling for plugs and sockets.

The company has in the past been called upon to build one-off units for customers to tackle specific switching problems, but prompted by a request from Shuttlesound, they decided to add this new product to their standard range.

Full details are available from EMO Systems Limited at Durham Road, Ushaw Moor, Durham City DH7 7LF telephone (0385) 730787.

## Soundtracs new 'Midi'

The Soundtracs Midi Series is an "in-line" format, with either 16 or 24 input/output module main-frame with 16-track monitoring and 16 sub groups. Designed primarily for keyboard workshops, the Midi Series has 32 or 48 Midi controlled inputs with additional Midi control on four auxiliaries, plus eight optional Midi controlled effects returns.

Considered to be the first of its kind, the new Midi is unique in so much as it is 'Midi intelligent'. It does not require an external computer to function, and is designed to be 'user friendly', say Soundtracs.

Full details from Soundtracs PLC, 91 Ewell Road, Surbiton, Surrey KT6 6AH telephone 01-399 3392.

## More Memory Lighting Controls

Most surveys miss out something, or somebody. Our MEMORY LIGHTING CONTROLS FEATURE in L+SI May/June issue failed to include three major controls from Dynamic Technology Limited.

### Multiset

In this unique system, DTL combine the features of a traditional 3 preset control unit with advanced automatic facilities from an optional electronic memory. The Multiset is particularly useful for theatres and clubs, where shows are frequently changed without sufficient time to construct lighting plots via small memory systems with keypad circuit selection, and to adjust levels through a single channel controller. The conventional manual three-channel preset facilities of Multiset, providing one fader per circuit, are attractive in their reliability and easy maintenance.

A system can comprise up to 10 presets and each preset module gives control of 12 channels. Each channel may be controlled in Normal, Independent of Front-of-House mode; FOH is mastered by the master module, either manual or automatic.

Capacity of the module is 200 plots (up to 120 channels) and 20 sequences, each up to 99 cues. Other features include Plot Playback, Sequence Setting, Sequence Feedback, Fade Cues, Easy Modification by Keypad, Data Security, and VDU Mimic Display (option).

### Chameleon

Powerful and cost-effective, the Chameleon is a positive extension of the Datalite Modular System that capitalises fully on its well-proven, reliable design and existing sub-assemblies. The Chameleon uses the same CPU and associated plug-in cards as the Datalite, and its control panel provides identical facilities but in a compact package making it ideal for portable use as well as fixed installation.

Individual Channel Control, Through, At Except, Last, Return, Full, On and Off can be addressed by keypad. Autolite wheel controls each circuit or group of circuits. Direct playback facilities with Memory Selector, Automatic Up, Down or Master

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2-Group Playback with Autolite wheels and Cut, Sequential, Plus and Minus selectors for master and preset groups. Dipped or Dipless Crossfades, Automatic Up, Down and Crossfades with memorised durations variable from 1 second to 60 minutes with Fade Freeze, Fade Restart and Fade Reverse. Moving columns of light show the progress of the fade next to the wheels, also repeated on the VDU mimic display. Rolling Fades simultaneous in manual or automatic modes and continuous sequence Autoplay.

The memory control keypad can address up to 999 memories. Other facilities: Plot decimal Insertion, random sequential Link Memory in open or continuous closed loop, Playback in manual or automatic modes, two memorised and independent Flasher Plots.

### Datalite

Specified by console operators, this is the only system which can be individually tailored to match the demanding requirements of a 500-circuit light entertainment complex or the simple needs of a 64-circuit news studio.

Datalite's switched previewing feature provides clear and precise display without tedious sorting of characters not required. Options include lamp mimic displays, using red and green LED indicators. With Datalite, the operator can choose his own format for the mimic display. The number of modular controller panels in a system varies as required, and more modules can be added at any time.

The facilities are extremely versatile, allowing the most flexible combination of manual and automatic operation. Controls and other features include: Channel Control, via keypad and wheel controller; Block Address (option) via keypad, with Sequence Memory and Link Memory; Playback Control via wheel controls or flat faders; Group Master Control (option) via wheel controls or flat faders; Floppy Disc Dump Store supplements main system memory.

A brochure describing the full range of lighting control and dimmer equipment is available from: Dynamic Technology Limited, DTL House, Alliance Road, Acton, London W3 0BA telephone 01-993 2401.



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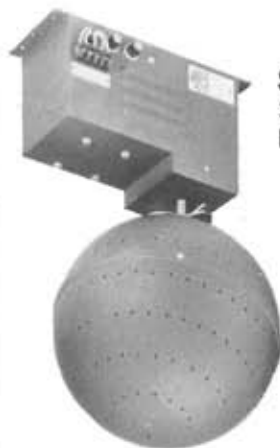
**FLASHMOON STROBE**  
40cm with separate controller



**STARBALL**  
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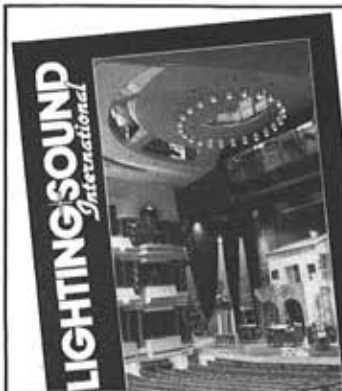
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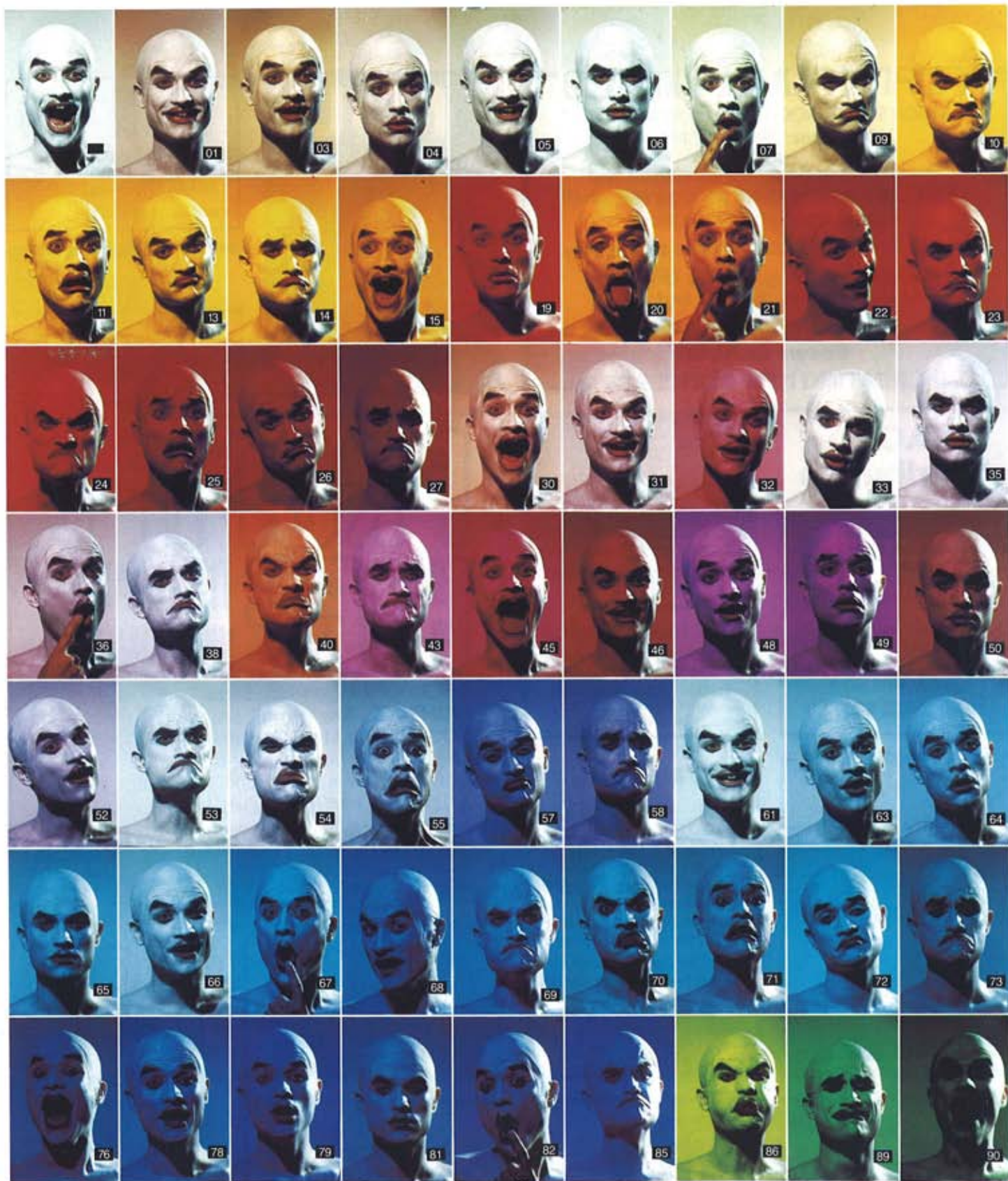
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