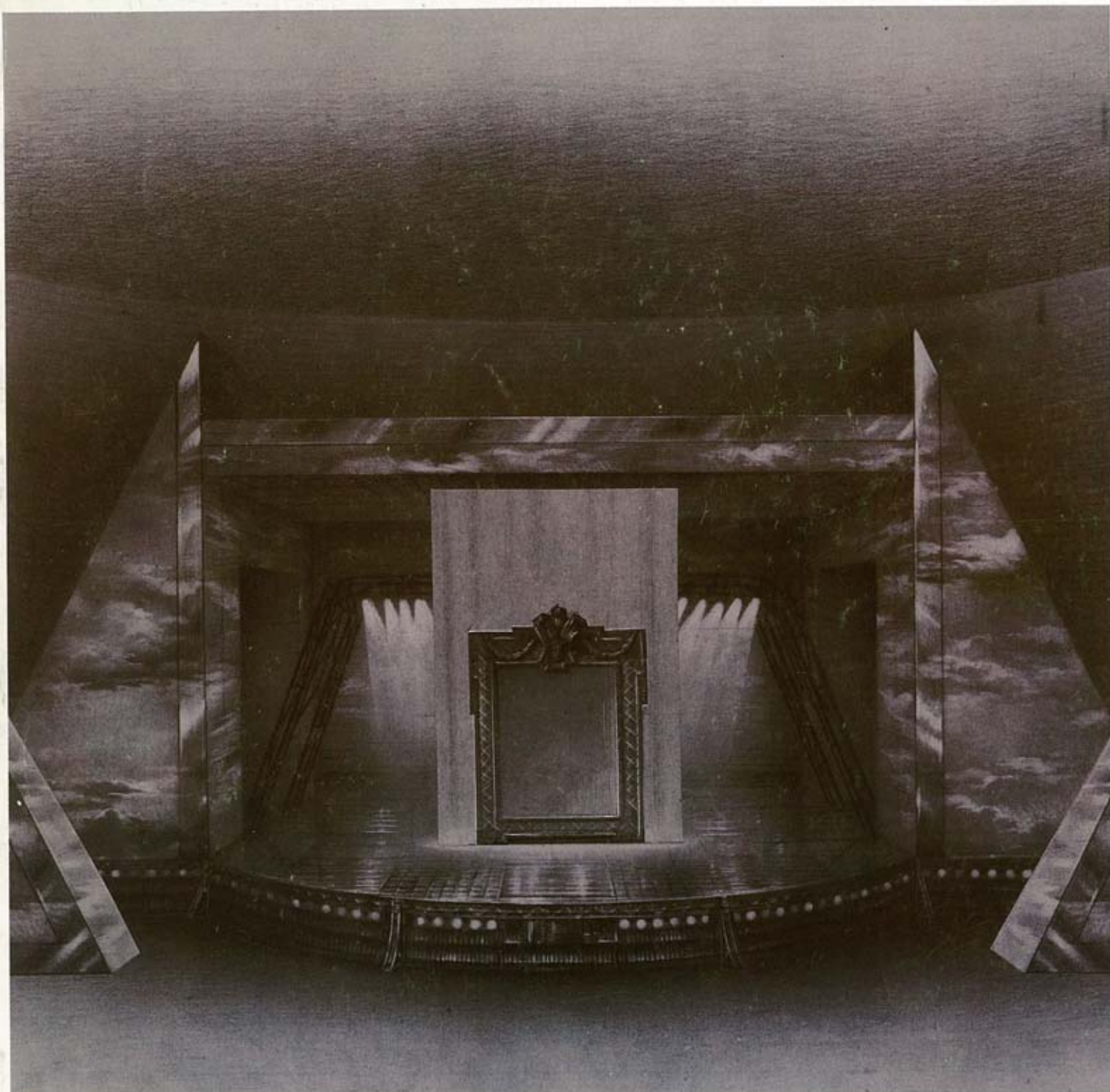


LIGHTING+SOUND

International



BENNY AND HIS SETS - VERSACHE'S VISUAL FOR ELTON JOHN'S STAGE SET EXECUTED BY BRILLIANT STAGES.

- Elton John: Tony Gottelier Sets the Scene
- Singapore: Pro Sound & Light Asia '92 Reviewed
- Moscow: Recolouring Red Square
- Seville: A Tale of Two Theatres
- Manufacturing in Australia - a Three Company Profile
- Graham Walne on Latest UK Theatre Buildings
- Shuttlesound and the Route to BS 5750

AUGUST 1992

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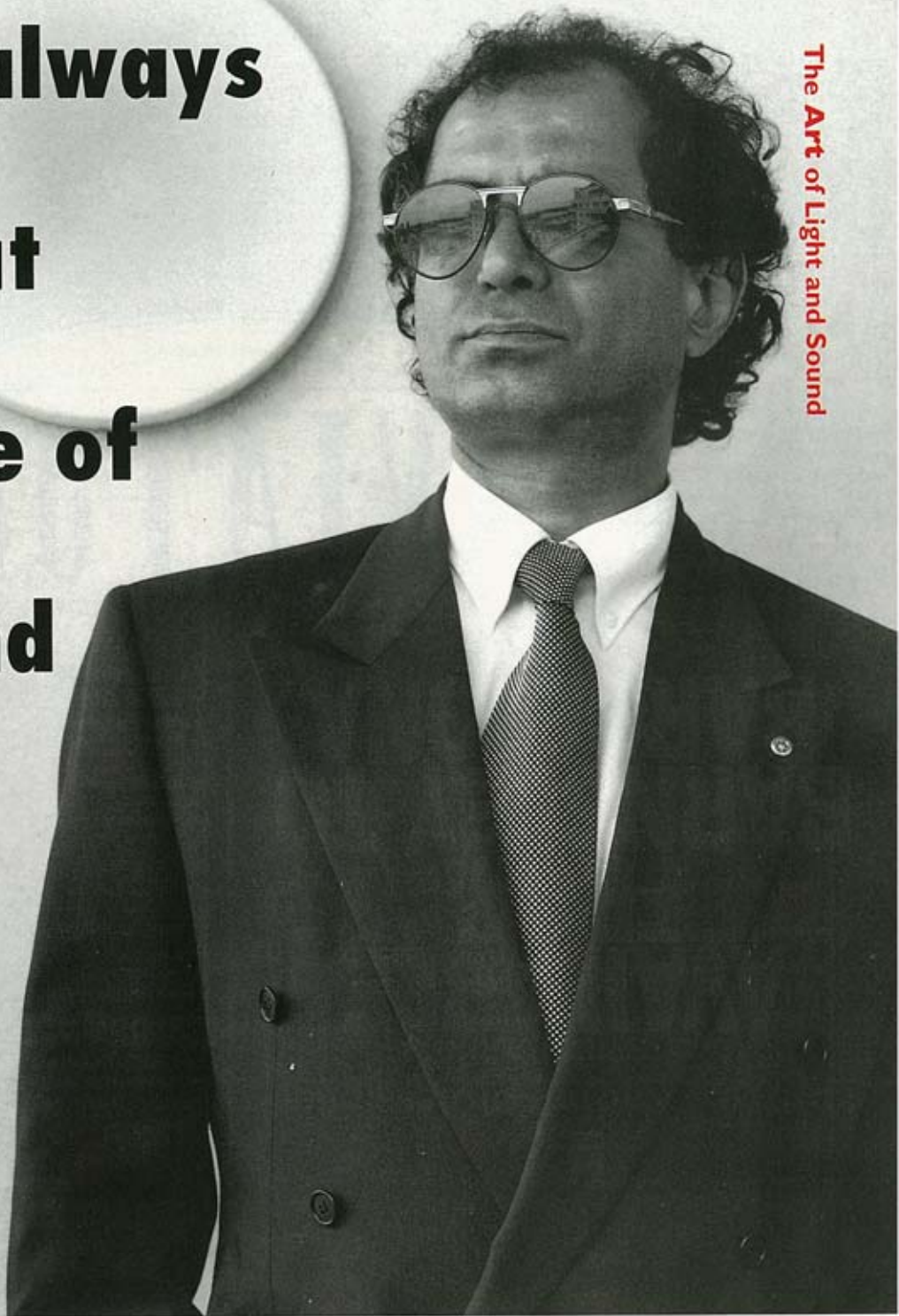
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Javed attends Plasa every year, constantly on the look out for the latest gizmo.

"...the advice I've got over the years with what to do and what not to do, has really been helpful."

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LIGHTING+ SOUND *International*

AUGUST 1992

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DIGITAL PROCESSING TECHNOLOGY

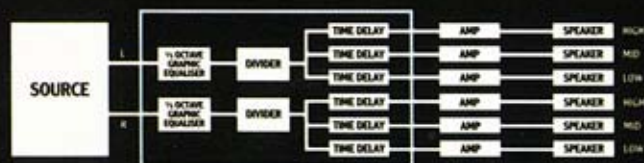


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LIGHTING|SOUND *News* International

First Showing of Innovative BBC Development

The BBC Design Group has chosen PLASA Light & Sound Show (Sept 6-9), as the first international viewing platform for the prototype of its new technology which gives voice control of broadcast systems. The product was announced at IBC in July but has never been publicly shown.

This new application for speech recognition systems has already been tested in 'live' broadcast studio environment and looks set to revolutionise lighting control. As well as being user friendly and easy to learn the technology gives hands and eyes free lighting operations over existing talkback channels.

You can see a live demonstration on PLASA's stand throughout the show. BBC representatives will be available and are keen to discuss this new technology and its application potential with systems manufacturers and suppliers.

Martin & Ohm Co-op

Cheshire-based loudspeaker company OHM Industries Ltd, have formalised an international co-operation agreement with Martin Professional A.S. of Denmark.



Peter Johansen of Martin Professional (left) with Darryl Thorpe, OHM's sales manager.

Initially it will mean that OHM will be providing the sound system on stand at all the exhibitions that Martin Professional attend. OHM will also be installing their equipment in the showroom at Martin Professional's new headquarters in Aarhus.

The 5,000 square metre showroom will be demonstrating state-of-the-art lighting and is the largest of its kind in the world. OHM products will now be distributed in Denmark by Martin, and it is expected that further joint ventures between the two companies will be announced shortly.



At the recent World Lighting Fair in Tokyo, one in three of the exhibition stands was constructed using the light alloy structural trussing developed and produced by Wakefield-based Litestructures. The company has just launched the Livelite and Megalite ranges of trussing and has expanded its production facilities at Rutland Mills. Pictured above is the stand of H. Ito, Litestructures' Japanese distributor who built 14 of the 43 stands at the show.

WB KO'd

WB Lighting, the erstwhile Coemar distributors headed by Roman Walenta, have called a creditors meeting for the 20th of August at the offices of Bulley Davey, in Lincoln Road, Peterborough. The meeting, to be held under the auspices of the Insolvency Act (1986), is for creditors to vote for the appointment of a liquidator for the company.

When asked about the future of the Boss agency, taken on in place of Coemar, Walenta told L+SI from his home this week: "That's me out of the lighting business, there's no future in it as far as I'm concerned. Especially with all the discounting which is currently going on, there is no way to make a living out of it. I am not going fishing, but whatever I decide to do in the future, I tell you something, it will have to have a cash till in it."

The Coemar agency in the UK went to Coe-tech, headed by WB Lighting's ex-sales manager Ian Brown, in March this year.

Full Steam Ahead for PLASA

The opening day of the PLASA Light & Sound Show (Sunday 6th) will be rounded off with a rather special event - the first ever paddle steaming Thames



cruise aboard the beautiful 'Elizabethan' steamer. Anybody is welcome to join the cruise which should provide a relaxing atmosphere in which to entertain clients, meet with friends or just enjoy the sights of London's famous riverside skyline.

Boarding from Westminster Pier, by the Houses of Parliament, at 8.00pm, departing at 8.30pm, the steamer will cruise down the Thames whilst entertainment and a hot buffet is provided, returning to the pier between 11.30 and midnight.

To reserve your tickets, please contact Anna Pillow at the PLASA office on (0323) 410335.

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Action News



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LEE FILTERS

No.	Product description	Clo	Sim	Com
602	Bastard Amber			
603	Warm Rose			
604	No Color Straw			
605	Pale Gold			
606	Warm Straw			
609	Straw			
610	Light Flame			
611	Rose Amber			
612	Golden Amber			
613	Light Amber			
614	Flame			
615	Deep Straw			
618	Orange			
619	Fire			
620	Deep Salmon			
621	Light Red			
624	Pink			
625	Pale Rose Pink			
627	Rose Pink			
632	Salmon			
638	Light Rose Purple			
641	Lavender			
644	Deep Lilac			
645	Indigo			
647	Pale Blue			
648	No Color Blue			
649	Booster Blue			
650	Light Blue			
651	Light Steel Blue			
652	Azure Blue			
653	Zephyr Blue			
654	Daylight Blue			
655	Steel Blue			
656	Steel Blue			
657	Primary Blue			
658	Medium Green Blue			
659	Green Blue			
661	Medium Blue			
669	Pale Yellow Green			
671	Light Green			
672	Moss Green			
676	Blue Green			
680	Light Grey			
682	Chocolate			



No.	Product description	Clo	Sim	Com
63	Sky Blue			
64	Med. Red			
66	Pale Red			
67	Steel Tint			
68	Giselle Blue			
73	Straw Tint			
75	Pale Golden Rose			
77	Green Tint			
78	Salmon Pink			



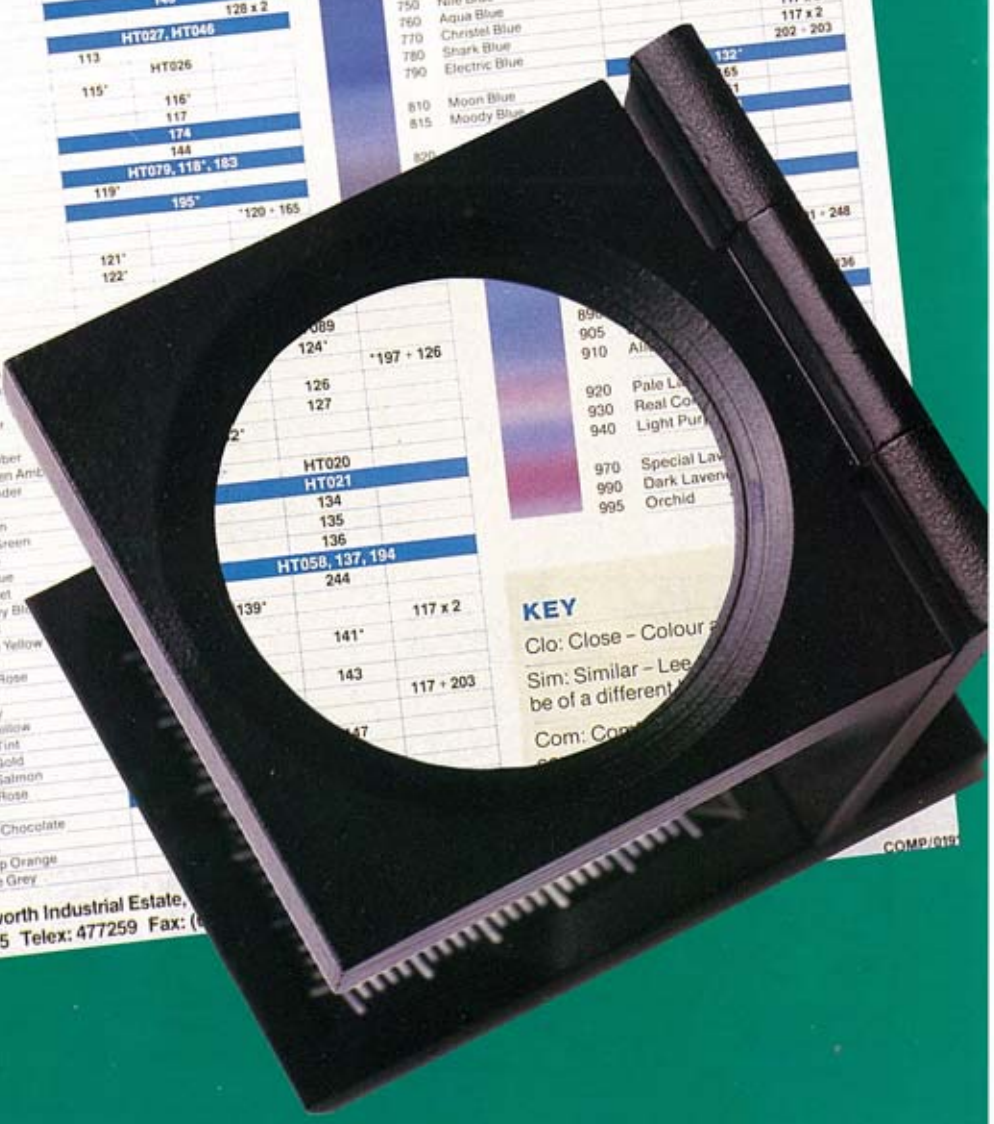
No.	Product description	Clo	Sim	Com
110	Dark Rose			
120	Bright Pink			
140	Dark Magenta			
155	Light Pink			
160	Chorus Pink			
170	Dark Flesh Pink			
180	Cherry			
190	Cold Pink			
195	Nymph Pink			
220	Pink Magenta			
235	Pink Red			
245	Light Red			
250	Medium Red XT			
260	Rosy Amber			
270	Red Orange			
280	Fire Red			
290	Fire Orange			
340	Light Bastard Amber			
345	Deep Amber			
350	Dark Amber			
365	Warm Straw			
375	Flame			
385	Light Amber			
420	Medium Amber			
440	Very Light Straw			
460	Mellow Yellow			
480	Medium Yellow			
510	No Color Straw			
520	Now Straw			
540	Pale Green			
570	Light Green Yellow			
650	Grass Green			
655	Rich Green			
660	Med. Green			
720	Light Steel Blue			
730	Azure Blue			
740	Off Blue			
750	Nile Blue			
760	Aqua Blue			
770	Christel Blue			
780	Shark Blue			
790	Electric Blue			
810	Moon Blue			
815	Moody Blue			

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 Sim: Similar - Lee
 Com: Com
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Brickman Lights Olympic Flame Ceremony, Brit Row Sounds It

The much acclaimed lighting for the opening ceremony of the 25th Olympiad in Barcelona was conceived and implemented by lighting designer Marc Brickman.

Brickman's extensive contacts in the UK, which result from his long experience with lighting touring bands, most recently Genesis, ensured that several British companies were involved in the equipment line-up. Meteorites Productions supplied and installed much of the generic show lighting equipment and support trussing, Vari-Lite Europe provided their automated luminaires and Arnold and Richter some HMI's which, L+SI understand, emanated from Arri UK. HMI's are in use to assist TV in large numbers at the several stadia which make up the Olympic venue, and there is some concern in the industry that this, together with the closure of Expo later in the year, will create a glut of secondhand equipment in the marketplace. Lighting project managers were Propaganda Live, Morris Lyda, Bill Martin and Mike Ahern.

The followspots were supplied by Vanco, while Cameleon of France shipped Telescans for the extravaganza. Local Spanish companies involved were Arco Iris, who were also behind the lake show and various pavilions at Expo, Amalgama and Pirotecnica Igual who provided the firework display.

As far as audio is concerned, Brit Row project-managed, designed and equipped the sound rig for the ceremony using Turbosound Flashlight arrays and TFM250 wedge monitors, MSI and some Community speakers. Amplifiers were largely SAE P50, Crest 3501 and Carver PM1.5. The stadium PA was designed and supplied by Bose, with 220 SC also providing equipment.

On the broadcast front, the 12 screen videowall seen as the backdrop in the BBC studio was supplied through Electrosonic with C-Through software, through their recently appointed rental dealer Morgan Laboratories. NBC's 40,000 square feet studio facility in Barcelona incorporates 14 Tannoy 15 DMT reference monitors and 021 TV of Birmingham have added four Meridien RTS 802 intercom systems and a Telos Link digital telephone and interface, to their OB operation to provide the essential link between the production centre and the operating team. For presenter cueing, they also acquired a Meridien 8-channel Interruptible Feedback unit.

EAW for Harman

Harman Audio have taken over the distribution of the EAW range of professional loudspeakers. The hand-over between former EAW distributors, LMC, and Harman Audio, has been an amicable one, and both companies are looking to maintain their working relationship. LMC's Paul Ward told L+SI: "The profile of EAW has significantly increased over the last two years in the UK, during which time LMC have played a major role in the marketing of the product. It is our intention to work closely with Harman, as our specialist knowledge will complement Harman's strengths as a distributor."

Much of EAW's visibility has been gained through touring systems owned by Concertsound, Canegreen, MMS and others. However, the brand also has potential in the field of sound contracting. EAW will run as an autonomous division within the Harman enclave. No-one that is currently associated with JBL, the brand for which Harman is perhaps best known, will be handling EAW, and recruitment is currently under way to complete the full staff requirements of the new division.

On the Right Track

Triple E is celebrating its most recent successes with contracts to supply tracks and specialist curtain hardware to several rock groups, exhibitions and theatre productions. The company has already supplied equipment for the U2, Erasure and Elton John UK tours. Simply Red has purchased a considerable amount of Triple E Unitrack for which Tom Lambert, the head of Triple E's hire department, also devised a unique cording system for the crew to operate travelling and revolving stage screens.

The company has also supplied tracks for the recent Childrens Royal Variety Performance at the Dominion Theatre and to keep its hand in has won more business from the Chippendales, supplying five tracks for the all male group's shows. Conferences have been another area of success for Triple E with tracks supplied to Arrow Rigging for the recent British Gas conference and to Upstage for its recent Kwik Fit company presentation at the Birmingham NEC.

Le Maitre Re-Group

The sales division of the Le Maitre Group, has recently been re-organised. Dave Winfield, formerly of Jivelight, has been appointed UK sales manager, responsible for the sales of all Le Maitre products including smoke machines, pyro and pyro firing systems, to the theatre, club, discotheque and general leisure industry. He will also be responsible for the distribution of leading proprietary brands of sound and lighting products to Le Maitre's comprehensive dealer network. Anna Sassi, long serving sales manager of Le Maitre products primarily in theatre related business, is departing for other challenges with Roscolab, whilst joining the Le Maitre sales team is newcomer Clare Wincza. Clare was previously in the sales department of Donmar, stage lighting distributors, and will now work together with Le Maitre stalwart Shereena Fisher, in telephone sales administration. More names are expected to be added to the sales force in the near future.

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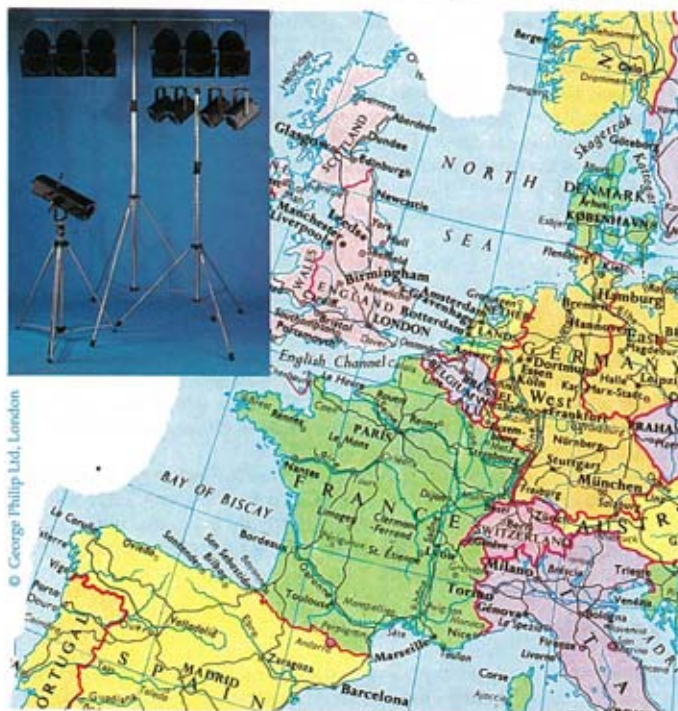
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Eurolight in Liquidation

A meeting of the creditors of Eurolight took place on the 20th of July. According to a report from Radford, Sons & Co, the liquidators, a great deal of questioning took place at the meeting, as the company had been suffering from severe liquidity problems for many months prior to its collapse. It continued: 'Nonetheless, the directors had remained optimistic that with additional funding that had been promised and other negotiations that were in hand, the company could survive. Regrettably, however, as a result of the action of the landlord in taking possession of the premises, such actions could not be pursued and, furthermore, the actions of his agents caused a serious loss of orders and goodwill. As a result the company had no alternative but to cease trading and take steps for liquidation.'

Take Off for PLASA Seminars

The PLASA Show Seminars announced last month are already attracting a great deal of attention, and bookings for the tickets which are available from the PLASA office - telephone (0323) 410335 - are running at an unprecedented level.

One session which is attracting considerable interest is the Automated Luminaires discussion where waggly mirror devices and driven systems are in conflict. "Actually, these days it seems more a matter as to how best both can be incorporated in a show, rather than one versus the other," says chairperson Tony Gottelier. "Designers now see the benefits of combining robotic hard and soft-edged beams on the same rig, but, of course, this has control implications also." Gottelier cites several recent tours as evidence - Dire Straits, Def Leppard and Elton John. He also points to David Hersey's recent re-design for Starlight Express. The panel for this hot debate now includes Brian Croft from Vari-Lite Europe, Jean-Yves Morvan for Telescan, Pio Nahum of Clay Paky and Bob Schacherl president of High End Systems. Durham Marengi will provide the lighting designer's angle.

Other panels include a broad range of subjects such as training for theatre technicians; the role of the theatre consultant; the use of radio mics; show lighting for TV; the impact on disco of compact discs; and the value of multi-channel sound systems in such venues.

Mark Burgin, joint managing director of sound distribution company Shuttlesound, and an excellent speaker, will give a paper on 'The Future of Computers in Audio'. Mike Lowe from Teatro, who will chair the highly topical discussion on 'Distribution and the New Europe', has advised the addition of Hermann Sorger of Ludwig Pani and Uli Petzold of LMP to his panel. The session on MIDI show control, invigilated by Canadian expert Charlie Richmond, will include Mr Protocol himself, Steve Terry of Production Arts and Richard Bleasdale, a freelance control software writer who has worked for Vari-Lite Europe.

John Lethbridge, whose company Cerebrum Lighting is in the vanguard of distribution of new technology lighting boards, will join the other luminaries already announced for the session on 'Latest Tools for the Lighting Designer'. In addition, Richard Gray, whose company based in San Diego California has a pedigree so long that you could, literally, paper your walls with it, is to join the Show Controllers and Multi-Media panel alongside Bob Simpson, chairman of Electrosonic, who says their credits from the past 25 years would go twice round the world, with creative geniuses Malcolm Clarke from Imagination and Malcolm Lewis of Media Projects.

Followspot Survey Update

In the June edition of L+SI we published a survey on followspots. We have since heard from Robert Juliat in France who were not included on our list. This company celebrated 70 years of manufacturing luminaires in 1992 and has an impressive client list across France, Monaco, Algeria, Belgium, Holland, Switzerland, Taiwan and Canada. The company has offices in the USA and Canada in addition to France and the product range is wide and comprehensive. Their new catalogue is printed in three languages and is comprehensively and clearly illustrated.

manufacturer or agent	spot name	light source T = time counter	current	beam angle	variable zoom	colour mag and size
question no		1	2	3	4	5
Robert Juliat	PE11-400	400w 36v, G6.35		7 - 15	no	in-built /6
"	PE11-1200	1k2w, GX9.5		"	"	"
"	Pixie 1010R	575 GS HMI		8 - 13	"	"
"	* US (110v)	"		"	"	"
"	Korngan 1011	1k2 HMI		7 - 12	"	"
"	* US (110v)	"		"	"	"
"	Puck 1012	"		15 - 30	"	"
"	* US (110v)	"		"	"	"
"	Aramis 1013B	2k5 HMI		4, 5 - 8	"	"
"	* US (110v)	"		"	"	"

dimming	iris to Blout	inbuilt shutters	shutter type	inbuilt fan	hold balance	L&R ops	special stand	truss mounted	list price in FF	notes re price
6	7	8	9	10	11	12	13	14	15	
no	yes	no	4/gobo	no	no	R	optn	yes	6530	ex lamp, stand
"	"	"	"	"	"	"	"	"	5100	"
"	"	"	gobo	yes	yes	"	yes	poss	17000	"
"	"	"	"	"	"	"	"	"	21700	"
"	"	"	"/chger	"	"	"	yes	"	32000	"
"	"	"	"	"	"	"	"	"	35500	"
"	"	"	"	"	"	"	"	"	34300	"/elec dim optn
"	"	"	"	"	"	"	"	"	37800	"/ "
"	"	"	gobo	"	"	"	no	"	60615	ex lamp, stand
"	"	"	"	<40dB	"	"	"	"	"	"



Avolites in Asia

Avolites have appointed Audio-Visual Land PTE Ltd as their official distributors for South East Asia. Audio-Visual Land PTE Ltd, formally known as Music Plaza, was formed to undertake the sales and marketing of professional stage and lighting products and will now carry the comprehensive Avolites lighting control equipment range.

Audio-Visual Land PTE Ltd, are already distributors for leading stage and lighting manufacturers, including Rainbow colour changers, Thomas trussing and Intellabeams and have now taken delivery of their first Avolites QM Diamond and 72 way dimmer rack.

Avolites are now actively expanding their world-wide distributor network. New distributors are now supplied with a comprehensive dealer support pack, giving information on competitive products and marketing information.

Pictured left is Steve Warren of Avolites shaking on the deal with Winston Goh and Jesmond Tham of Audio-Visual Land PTE.

Hi-Definition Flower Power

The Floriade flower festival, which is running for the next six months in Zoetermeer, near the Hague in Holland, boasts the first use of High Definition TV in Europe. In a pavilion devoted to the 'Future and Science', the Dutch Ministry of Agriculture, presumably attempting to prove that it isn't hostage to the agri-chemical industry, is promoting an ecologically sound, mixed media show promulgating old fashioned soil management techniques.



State-of-the-art tools are used to deliver this message - three Sony HDVS projectors with high definition videodisc players, seven standard laserdisc players and monitors, programmed lighting and an animatronic earthworm five metres long! The show was produced by Carillion with technicals from Electrosonic who engineered the control equipment. Over 200 cues are handled by a PC running Electrosonic BSC software, which controls 64 lighting channels, the Bose audio system of nine 802s and Acoustic Wave Cannons through AVCs and most of the special effects. All video sources are under Electrosonic VCU show control, the animatronics under ANCOR and the whole kept in sync by an Electrosonic presentation room controller.

Electrosonic spokesperson, Yvonne Hegarty, told L+SI: "The standard of production and presentation is world class. Comparable to anything seen at Expo '92, it is one of the finest AV presentations to be seen in Europe this year. Well worth the visit."

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JBL at Panama Joe's

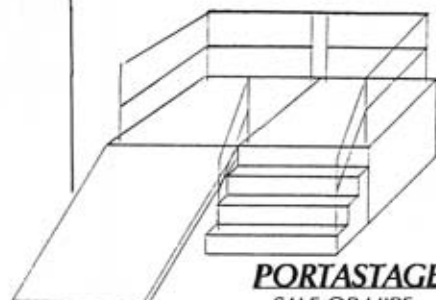
It is claimed that £500,000 has been spent on refurbishing Wales' newest nightclub, Panama Joe's, in the heart of Cardiff. In an ex-Rank venue that had been shut for two years, new owner David Blake has created a dance factory of massive proportions.

Operating on two levels, the upper level comprises a large balcony area with bars and restaurants that stay open all day. A glass wall overlooks the dancefloor on the lower level. Downstairs a large, open dance area is surrounded by three separate bars on different levels, and an eating area. The rectangular dancefloor is dominated by four JBL speaker towers each standing 12 feet high. The option of flying the cabinets was considered, but in view of the fact that the bass bins have to stand on the floor, and that they are difficult to disguise, it was a far more effective solution to make a feature of the sound which pumps out a hefty 20kW of power to cater for the 2,000 capacity club.

Tarsin Entertainments, who supplied and installed both the sound and lighting equipment, specified for each column two 4788A TCB sub woofers, two 4755A cabinets to provide mid-range frequencies, and two JBL-loaded top range boxes which are inclined down to direct the sound more accurately into the dance area. The entire system is driven by a total of 20 C-Audio SR 707 power amplifiers, whilst the DJ booth is provided with a pair of Control 12 monitors.

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BKSTS Autumn Programme

The BKSTS recently unveiled its Autumn programme of events which will include seminars and courses on widescreen production for television, interface between electronic and film special effects and archiving of video and film.

Building on the successful New Technology Showcase format seen earlier in the year on non-linear editing systems and audio digital post production systems, this Autumn BKSTS will consider the move towards widescreen production and look at the implications for producers and technicians alike. As well as an account of production experiences from companies such as Yorkshire, Thames and the BBC Drama Department, there will be an informed panel discussion chaired by Chris Hinstead of TV Buyer. An exhibition of facilities and equipment in this field will be held alongside the event.

Another Showcase will look at Technology for the future. 'Blue Skies Technology - Towards TV 2000' is being held, appropriately, at the Science Museum, London. This will provide a glimpse into the research and development of the Industry's leading manufacturers featuring updates on virtual reality, CD-I, Holography and 3D Television.

The most action-packed programme will be seen at the 5th BKSTS Special Effects Seminar, being held from October 23-25 at Pinewood Studios and sponsored by QUANTEL. This year's programme will feature the latest in Electronic Digital Manipulation as well as the more traditional special effects. A pervading theme of the seminar will be the interface and interdependence between the two with top practitioners in the field participating.

For further details contact Anne Fenton or Isobel Dye on 071-242 8400.

Celestion

Tony Gottelier writes: Following my article about Wharfedale speakers, which appeared in the June issue of L+S, it has been suggested that I was less than generous in my reference to the financial condition of Celestion prior to their takeover by Kinergetics, announced in the same issue.

Gary Provan, chairman and managing director of Celestion International, told L+S: "Irrespective of the change in ownership, our company has had no problems whatsoever for the past six years and has been, and still is, in good financial shape." I welcome this opportunity to set the record straight.

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Numark Number Up?

The owners of Numark Electronics, the American manufacturer of twin deck 'scratching' CD players and disco mixers, have ceded control to their bankers who have been trying to sell the company. The bank were apparently dissatisfied with delays in loan repayments, following the move from manufacturing in Japan to a new production facility in California. There are also reports of problems with their CD6020 dual drive player.

A sale seems less than likely in view of the fact that the designs for the products remained vested in a company owned by the original Japanese partner, which has already completed a new licensing deal with MTX Soundcraftsmen in the USA. MTX intend to market the same mixers originally sold by Numark under their own label.

Numark's distributors in the UK are KAM Electronics, an associate company of Lamba PLC who also distribute Stanton in the UK and were also at one time the Martin Professional distributor. Stanton, best known for their professional cartridges, also sell Vestax-made mixers under their brand in the States.

Vestax, whose distribution in the UK is run by ex-PLASA chairman Rob Peck, have recently introduced their own twin CD players.

Turbine at Club Zei

Club Zei, an 800 capacity nightclub in Washington DC has installed a Xylo Turbine to drive an array of TV screens and video effects designed by installers Focus Lighting of New York.

The Turbine, programmed by Xylo's Hugh Roberts, is driving 24 screens of different sizes arranged in a vertical pattern through the three storey void over the dancefloor. Also in the system is Xylo's ColourBox and a Laserdisc interface through which the Turbine 'scratches' video images to music. Pictured above is the video screen array, together with Martin Roboscans.

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Power Light's Midsummer Party

Power Light of Basle in Switzerland held their annual party recently when their premises became 'open house' for clients and friends, including major names from Swiss Television. On show were a range of products: In the picture above left MA lighting desks are in the foreground (Power Light were recently appointed Swiss distributors for MA) with Thomas trussing and fixtures, Genie lifts and Verlinde hoists in the background. Pictured above right is a Zero 88 Lightmaster board and Betapack dimmer unit. Power Light also reported considerable interest in Rosco's gobo and animation effects. The company will have a stand at the PLASA Light & Sound Show at Earls Court 2, London in September - their first appearance at a PLASA event.

Theatre at 'Mill

A massive three week scheme to convert a giant wool mill into a 750-seat theatre was underway recently, with Robin Mills in Bradford being converted into a huge theatre complex for the staging of Les Atrides, the flagship event of the European Arts Festival. The two tier warehouse was transformed with the top floor housing a stage and auditorium and the ground floor accommodating front of house facilities. The production, performed by French company Theatre du Soleil, went on stage with the assistance of two AC 1001s, two RS2s, 10 RS4s, 46 1k Sil 30s, 40 243s, two Blondes, two Redheads, four 500W R&Vs, six Svobodas, three 5K Bambinos - all of which were controlled by an Avab desk.

PLASA Show Stops . . .

Earls Court 2 will see the unveiling of Celco's new Aviator range of consoles which the company claim will revolutionise the standard in console design . . . Wharfedale will have their largest stand ever to show off latest additions to the Force range of loudspeakers . . . Lighting designer Francis Reid, meanwhile, will miss the Show for the first time since discovering PLASA way back when. Instead, he flies off to sunny Hong Kong, but signed copies of his latest book 'The ABC of Stage Lighting' will be available on the Book Bazaar stand.

Lighting News

Abstract are organising a Disc Jockey of the Year competition in association with Big Bang Management, the organisers of the UK Disc Jockey of the Year contest. The competition is aimed at the mobile DJ, but is open to any talking DJ, male or female, from beginner to professional. All the DJ has to do is send a demo tape direct to Abstract at 3-5 Narborough Wood Park, Desford Road, Enderby, Leicester LE9 5XT.

The first prize is a complete Abstract Spectra Scan System including controller and direct entry into Big Bang's UK Disc Jockey of the Year competition later in the year. The second prize is an Abstract Rave Light Unit, and the third prize is an Abstract Eclipse Light Unit.

Abstract have recruited some well known judges from the business, in the form of Steve McBride from Big Bang Management, Paul Fowler from Disco Club International, Paul Day from Disco Mirror and Roz Bea from The Video Pool.

In a combined theatrical and architectural lighting installation, Strand Lighting dealer **Luff Light and Sound** installed Lightboard M and Action 24 control desks into the Rank Leisure Group's Royal Lancaster Hotel in London. In addition the company also supplied an M24 effects board, 144 way Permus dimmers, a special Control Patch system, with two programmable Environ systems and 96 ways of Permus house light dimmers. A follow-on phase in the hotel's

Westbourne Suite saw installation of an EC90 digital dimming system with a small MX control desk. A Premiere control system was also installed for the house lights.

Syncrolite Systems Inc., headquartered in Dallas, has opened a new west coast sales and rental facility, located in North Hollywood, CA., the new operation is headed by Charlie Malings, former sales manager for PanCommand Systems. Syncrolite/West as the operation will be called, will carry the full line of Syncrolite products.

Austin-based lighting company **Lightwave Research** supplied the lighting for the nomination of the Democratic presidential candidate. 96 Lightwave Research Intellabeam 700HX fixtures were implemented during campaign speeches, introductions, and delegate revelry. Emmy award winning lighting designer Jim Tetlow designed the convention's lighting system. Tetlow and his team of lighting technicians worked in conjunction with New York-based design consultants Imero Fiorentino Associates.

Vari-Lite Europe has a new sub-distributor: Vari-Lite Benelux. Under the helmship of Jan van Malder of EML Sound and Light Productions, VLB will be maintaining a series 200 system and will provide installation and operation for clients in Belgium, The Netherlands and Luxembourg.

Pulsar have recently appointed **Celco Inc** as their sole distributor in the USA. The decision followed a two day seminar at Celco's premises in Farmingdale, New York, which was attended by Celco Inc agents and their dealers.

Fos units are now available in the UK through **Nu-Light Systems Ltd** of Runcorn who are now out and about actively demonstrating these units to interested parties.

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Sunny Side Out East

Taken from L+SI's photographic selection on Pro Audio and Light Asia '92 (see feature), six notable names in the pro audio industry set themselves up for John Offord's camera. In the picture left, Shuttlesound's ShuttleCAD system suddenly brought up some unreadable Chinese characters, much to the amazement of Shuttlesound's Mark Burgin, David Bearman (Martin) and Paul McCallum (Wembley).

Pictured right are C-Audio's Hans Freytag, Philip Hart of Soundcraft and Phil Hildrow of C-Audio caught holding a contentious debate in the SCIF lounge area.



Goin' gardening while others go fishing, Mick McManus (left), never one of the common herd, is leaving Le Maitre to go into landscape gardening. Incredulous, Dick Carrier (centre) and Rick Wilson celebrate at Capability McManus's leaving bash.

People News

Audio-Technica have set up a UK Retail Music Division and appointed **Brian Dunn** as national sales manager.

Dave Webster has re-joined Klark Teknik PLC as divisional sales director - Klark Teknik. **Bob Doyle** becomes divisional sales director - Midas and **Nik Tembe** is established as technical sales support.

Keith Hardy, who for the past two years has headed up Le Maitre's installation service, LSD Contracts, has left the company. His services will be retained as a consultant on a freelance basis.

Xylo has appointed **Colin Mitchell** as regional sales manager for South East Asia.

In a major expansion and re-organisation of the sales and marketing team, Rosco have appointed two new sales staff, including a new international sales manager. **Peter Richards** takes up this role whilst **Anna Sassi**, formerly of Le Maitre, joins the team as international sales executive.

Joanna Shapley, who has been with Rosco for nine years - four of those as sales manager - will shortly be taking maternity leave, but returns to Rosco in the new year on a part-time basis as marketing manager. Systems technology forms an ever-growing part of the Rosco product range and **Robert Achlimbari** assumes international responsibility for this area as project manager, while **Kate Burgoyne** continues in her role of client liaison and sales administration.

Industry figure, **Glyn Baxter** is once more active in the professional sound markets working for Sheffield-based SoundMaster on international distribution. He has also launched a range of enclosures to be sold under the Q-Max brand.

Apogee Sound, has appointed **Nick McGeachin** as director of export and sales.

Peter Tongue has been appointed sales and marketing manager for Allen & Heath.

Martin Hayes, former head of the Really Useful Group is to join Imagination as managing director of its new company, Imagination Entertainments.

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BENNY AND THE SETS

There were Vari*Lites in operation alongside Telescans and Starlaser and a Clair Bros sound rig, but it was the Versache inspired sets which really impressed Tony Gottelier, reporting on the Elton John 'One' world tour



The distressed pewter finish of the 'Gothic' stage apron with back-lit fish eyes.

It struck me as I watched Elton John strut his stuff at the NIA under, what for him, was quite a restrained lighting rig, that in recent years stage sets have taken a bit of a back seat in favour of the lighting. Of course, this doesn't apply to monumental tours such as The Stones, or mega concerts such as The Wall (or in fact anything which Fisher Park may be involved in), but otherwise the art of set design seems not to have commended itself to the concert scene in a big way recently.

Part of this may, of course, be due to the transport and logistical problems that extravagant scenery may create, with resultant on-costs and the possibility of avoidable delays. Someone who has been giving detailed thought to such problems and who provided the solutions for the Elton John tour is Charlie Kail of Brilliant Stages, part of the Samuelson campus at Greenford. Now, Charlie is a most unassuming yet affable fellow; you not only have to look under the bushel to find his light, but you have to beg for the chance to chat, which may go some way to explaining why his work has gone largely unrecognized up to now. Though he is proud of what he has achieved, he doesn't enjoy blowing his own trumpet.

Kail's mission in life, and the world of concert touring in particular, is to 'practicalise' (his word) the construction of the stage and its

attendant sets so that the get-ins and get-outs are made as simple as possible. This was particularly apparent in Birmingham, where the stage and its cladding was stacked and packed away in flight cases almost before the audience had cleared the arena. Bearing in mind that the artics were facing an overnight cross channel trip, leaving the crew only a few hours to re-erect the entire set-up in Brussels for the concert the following night, the ergonomics of the structure were a vital ingredient indeed. Multiply this by the fact that we are talking 100 gigs, across five continents, to total audiences exceeding three million over the next few months and you get the point in spades.

The fact that Kail was able to bring some special expertise to the problem of converting Italian fashion designer Gianni Versache's concept for the sets, mechanicals and backdrops to fruition in a pragmatic way wasn't lost on Keith Bradley, the tour production manager, however. They had previously worked together on Clapton, Sting and Billy Idol, so when Keith showed him the moody Versache visuals at the beginning of March there was an immediate symbiosis and Charlie was itching to get to grips with the problems. "To me the designs looked like a cross between Alien and Captain Nemo, great visuals but quite a challenge!" Charlie revealed.

Since all his stages are modular anyway, and he has devised a system using tapered hooks and 'cotton reels' so that the elements snap together without the use of tools, he quickly identified the two areas of real difficulty as the mechanical design for the piano riser lift and thrust, and the material construction of the cladding for the stage apron to be sure of getting the 'Gothic' look right.

"As soon as we discovered that it was possible to make the apron panels out of fibreglass, while still maintaining the overall distressed pewter feel and achieve translucent fisheyes for the lights, I knew we were home. The eyes were cast separately and polished before adding a thin finish to keep the lights hidden." To my mind this was one of the great successes of the show. A row of Parcans is mounted to the structure behind the apron, remaining secret until lit. When they came on, the rather waxy, dirty beams which emanated were exactly right for the look, like sunlight through a neglected, cobwebbed cellar window. Or the lights from a bathysphere 20,000 leagues under. The resultant 2m x 0.5m clip-on panels stack neatly into transit carts.

The same technique is used for the piano riser, which really is bathysphere-like, and also for the face of the band platform. The



The visual in reality, with the speakers hanging in a bat-like colony.

mechanical design for the riser was achieved with a combination of hydraulics for the cantilever lift, and electro-mechanics for the track and turntable, which gives a full 360 degrees of rotation, lights and all. So, presumably, a commutator lurks beneath somewhere.

Brilliant also supplied four powered drops for the load of Versache emblematic drapes and soft drops used during the performance, and much more so for the outdoor gigs. These designs, a cross between Hermes and a Victorian Christmas decoration, ran as a thematic throughout all the visuals for the tour

including the print and the 'been there, done that' tee shirts.

Charlie Kail had told me that he had no need to compromise the overall design in order to 'practicalise' it on this occasion. But I noted, when looking at the visuals, that two giant pyramid-shaped structures, indicated at either side of the stage, were no more, so I suspect that he was being kind to the Italian designers when he said that. Indeed, Versache's design-by-committee system which had 'house' designers Christini Giorgio, Jimmy Pallas and Morgia Gianluigi sitting in trio throughout rehearsals, alongside lighting



Steve Yarborough, lighting director, with the Avolites QM500.

designer Steve Cohen, received not a word of criticism from the good natured Kail though it caused some cynicism elsewhere.

If American lighting designer, Steve Cohen, and lighting director Steve Yarborough were having problems with the politics I don't know. So it is a moot point as to whether the choice, if you include the standard laser in this category, of five different types of automated luminaires was influenced by this committee: Vari*Lite VL4s, Telescans, Starlites and Starlasers. Steve Yarborough justifies the choices solely on the basis of the different qualities of each of the devices, the soft beam as against the hard edged, the big gobo projection capability of the Telescan which was used down the entire room onto the far wall at the NIA on occasions, and the intriguing combination of both the coherent and generic



Elton John, stage right, in performance.

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Screenco's Starvision video screens at the Wembley Eric Clapton/Elton John concert prior to being shipped to Moscow - (see 'Red Square Invites' feature, pages 29 and 30).

light of the Starlaser. The Grafix argon laser also impressed, especially the animated starfield which appeared on a backdrop during Rocket Man and which my wife says was definitely the best effect of the evening. And she should know! However, Elton's well known paranoia regarding the use of smoke, provided no assistance whatsoever to any of these luminaires.

Certainly it all seemed to 'gel' very well and some of the looks were delightful. The four crane-like trusses which stood at each corner of the stage carrying both Vari*Lites and Telescans with Molefays and ColorMags, provided yet another dimension of movement with lateral tracking overhead - though whether this would function in Birmingham was in some doubt until the last minute due to on-going software changes. Control of all of this was by a combination of the Avolites QM500, under Steve Yarborough's personal direction, Telescan and Artisan desks, and a Strand MX board controlling the mechanicals. In addition, Brett Salmon and Martin Lubach were on hand from Laser Grafix and Starlaser Technology respectively to manage their

control systems. Lighting equipment and the truss system were supplied by Light and Sound Design for Europe, to be replaced by Obie's Lighting Productions on the United States leg of the tour.

The massive Clair Bros S-4 II sound rig hung menacingly in two great bat colonies from the main suspension rig over the front of the stage promising awesome power from 150,000 watts of amplification. In the event, sadly, it was unable to compete with the truly appalling acoustics of the Indoor Arena, which must make Sheffield warm inside for their acoustical investment, as reported previously in L&S. Indoors, 52 flown S-4 cabinets were used whereas outside, for example at Wembley, 128 were stacked on scaffold towers. The system uses a combination of long and short throw cabinets for open air purposes.

The audio processing equipment was being personally stroked by Gene Clair, one of the founding 'bruvvers', with assistance from Mike Wolf and Dave Kob, and mixed FOH by Elton's personal sound slave Clive Franks. Clive chose a Yamaha PM3000 mixing desk to handle vocals, guitars and keyboards with a Clair Bros

custom desk for drums and percussion. Equalizers were TC Electronics 1128 programmable EQs and crossovers were Clair's own coherent transfer system. Four of each were used, split equally between the short and long throw cabs. Amps were Carver 2.0, of which 78 were used inside the arena. For outside gigs, you can almost double that number, yielding a monstrous 288,000 watts.

Effects Rack Contained:
Dbx 900 limiter and gates
Drawer ds 201 noise gates
Dbx 160X compressor/limiters
AMS reverb
Lexicon 480 digital effects processor
Lexicon PCM-70
Eventide H 3000 harmonizer
Nachimichi MR-1 cassette deck
Carver DTI-50 CD player
Panasonic 3500 DAT

Monitoring was supervised by Clair Bros' Keith Carroll from a stageside Harrison 32/16 mixing desk and 16 TC 1128 EQs, a Yamaha SPX-90 digi effects processor, DBX gates and limiters. Own brand 12-AM monitors were used for vocal mixes on-stage with ML-18 sub bass for the drum mix, and LP-115 and 1215 for infill. Again, Carver amps featured. Stage mics were a mixture of Sennheiser 421 and 431s, Shure SM-57 and Beta 58s with AKG 460B and 535 ABs all set up by Tom Foehlinger.

At the end of the day, it was still the set which impressed. Perhaps Charlie Kail should take horn blowing lessons from his client, after all he is the expert at it! But then, that wouldn't be Charlie would it?



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ACTS OF FAITH

Graham Walne looks at Recent Theatre Building

One of the UK's most exciting theatre companies has a new home, or two new homes to be precise. For three decades the Traverse Theatre in the heart of Edinburgh has set the standard by which other similar companies are measured, producing over 400 new plays and providing a valuable platform for new writers and directors. Now the Traverse has a new base, twice the size of its old one, next to the Usher Hall and the Lyceum Theatre on a site once destined for Edinburgh's Opera House.

The building was designed by Nick Groves-Raines and resulted from a deal with the developers of an adjoining financial centre, and fitted out by Edinburgh District Council at a cost of £3.5m. Most of the construction is below ground with the deepest part actually below the water table and deep into Edinburgh's volcanic rock. Both the 100 seat and 250 seat auditoria are flexible and designed with comfort in mind; regulars will be pleased to hear about the addition of heating and air-conditioning! They will also recall the special atmosphere of the Traverse bar, and the designer has noted this in his new work. It is larger with a 40ft long counter and can accommodate small music groups, readings or discussions; similar activities can also take place in the financial centre's atrium next door. A new computerised box office system has also been installed.

The flexible seating in the larger auditorium is licensed for eight different layouts from proscenium to theatre-in-the-round and is easy to move on its air castors. Special signage has been designed by Pointsize Associates to direct the audience around the most appropriate route which could vary by door and level with each configuration of the auditorium. The smaller auditorium is the same size as the Traverse's old space and is said to be ideal for rehearsals, workshops and dance performances. Improved dressing rooms and production spaces are also provided. Artistic director Ian Brown has been quoted as saying of the new Traverse: "It's a magic box in which anything could happen."

Further south, Woking in Surrey had occasionally reached the status of a music hall joke, not perhaps quite on a par with Accrington, Oswaldtwistle or Scunthorpe but nevertheless supposedly one of the country's most boring towns. Woking just might have had the last laugh because in the middle of this recession, in the middle of the south's growing



The Traverse Theatre, Edinburgh.

unemployment belt, Woking has opened a £20m arts and entertainment complex in the heart of the town's new £120m Peacock's Shopping Centre. The complex contains the 1300 seat New Victoria Theatre, the 230 seat Rhoda McGraw Theatre, a three screen 1000 seat cinema complex, Fantails - a new performance-led nightclub - and still more restaurants, bars, function and meeting rooms together with a 2500 place car park.

The arts and entertainment complex is the product of a joint venture between the Peacock's developers, The London and Edinburgh Trust Plc and entertainment specialists The Turnstile Group. Turnstile own London's Duke of York's Theatre and have produced such hits as 'The Rocky Horror Show' (tour), 'Carmen Jones' and 'Single Spies'. Howard Panter, the first chairman of the English Shakespeare Company and director of London's Maybox theatre chain, has been appointed managing director of the management company, Woking Turnstile Limited. Wisely, Robert Cogo-Fawcett, manager of the highly successful Theatre Royal in Bath, has been retained as artistic consultant. Some critics have suggested that the 1300 seat New Victoria will draw audiences away from nearby Leatherhead, Farnham and Guildford, but with a catchment area of 2.5m people within half-an-hour's drive there should be plenty to go round. Moreover the New Victoria is bringing larger productions to the region for

the first time, including the Northern Ballet, the Royal Shakespeare Company and Glyndebourne Opera.

The planning process has been the result of a collection of notable architects, designers and consultants, with the Renton Howard Wood Levin Partnership being responsible for the theatre planning, within a shell designed by the main complex's architects Chapman Taylor, who were awarded the contract after winning a design competition. In fact, RHWL were responsible for suggesting that the New Victoria's capacity be increased to its current 1300 capacity from its original 1000, making it the largest theatre to be constructed in the UK for many years. RHWL worked closely with technical consultants Carr and Angier but handed over to Robert Hewison for the detailed interior design. Sadly the interior colour scheme consists mostly of pale shades and is perhaps rather too gentle on the eye to be theatrically exciting, indeed it has been described as 'civic bland'.

The new main theatre, the New Victoria, is traditionally proscenium with extensive open side boxes and some orchestra pit lift/thrust stage possibilities. The degree of comfort is high and the sight lines are excellent. The technical aspects bear the usual solidly professional and proven hallmarks of Carr and Angier's other theatres with a good deep stage, excellent flying and good lighting positions, including some on the circle and upper circle fronts, not a position favoured by modern theatre architects. The staff told me the positions and circuit distribution (FOH 240 sockets patchable to 60 channels) were 'extremely well designed'. The control rooms are well situated and spacious and the sound room is provided with a good sized open window and sensibly delayed monitors. The sound and video system can be patched all around the building. In addition to the main sound system there is also an ACS acoustic system which produces a variety of pre-determined acoustics (symphony, quartet, etc) at the touch of a button.

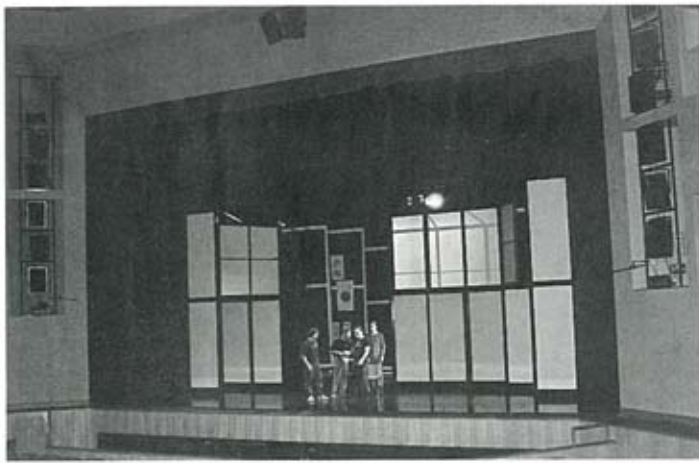
Next door the 230 seat Rhoda McGraw Theatre, named after a local mayor, has been refurbished with new seats and new carpet. This theatre is essentially for local community and amateur use and it must rank as one of the few of this type to have FOH lighting catwalks and a control room with 35mm projection! The Rhoda McGraw shares scene dock and access



An artist's impression of the interior of the Traverse.



Exterior of Woking's New Victoria Theatre.



Preparing for the lighting session of the D'Oyly Carte Company's *Mikado*.

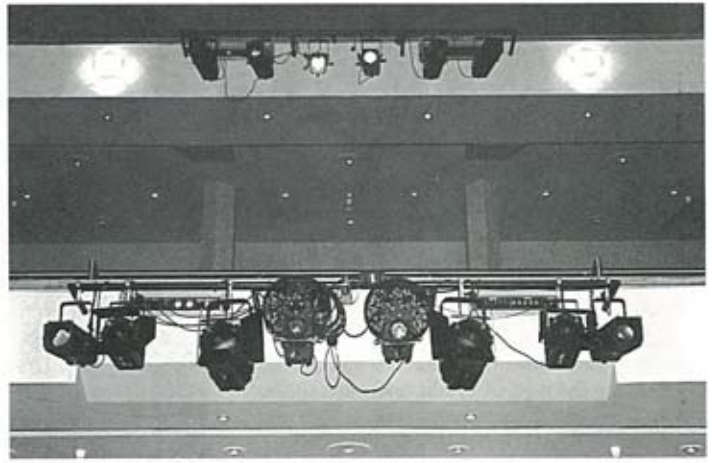
with the New Victoria. Also adjacent the luxurious Fantails Night Club caters for the over 21s and was opened by Ruby Wax and Adrian Edmunson. Other artistes have included The Ronnie Scott Sextet, The Jools Holland Band and Jimmy Ruffin. I'm not an expert in disco lighting but I found it interesting that the system was designed by theatre-man Rory Dempster and seemed to offer clearer and more versatile effects than I have seen come from far larger rigs. All technical plans have been drawn by ModelBox. The complex's suite of function rooms includes the Shaw, which can house 670 people on bleacher seating in a variety of formats including theatre-in-the-round. A small proscenium stage is provided at one end although for a recent community play three stages were built in the hall itself. The room also provides a dance floor and its own bar. I especially liked the code switching system for sound control to prevent unauthorised adjustments!

The staffing of the complex also follows an increasing trend in that under technical director Richard Bullimore, the two heads of department (Kevin Field who is the chief electrician and Kevin Shelfer who is the resident stage manager) have each recruited staff for their versatility so that they can move to flies, sound, lighting, or stage as the productions permit. What is different here is that each of the department's three staff all have deputy status; there are no other staff except casuals. The two Kevins display all the relaxed good humour of professionals backed up by a good staff and there is a good atmosphere backstage. It seems to me that one can instantly feel whether a theatre is good to work in or not, and this theatre instantly feels right.

Of course we ought to get it right these days, after all we have been building theatres for a long time. But for how much longer? It has been

said quite often recently that the new 750 seat West Yorkshire Playhouse is the last major theatre that will be built this century. I don't know if this claim emanates from the theatre itself or not, although it has been suggested that this claim could be true if the qualification of 'major producing theatre' is substituted. Nevertheless this statement does ignore a great deal of other activity around the country. At RHWL alone current projects include the reconstruction of the Donmar Theatre, a refurbishment of the Prince Edward and work is about to start on the reconstruction of the Haymarket, Basingstoke, and on a new concert hall for Basingstoke. RHWL are also involved in a great many studies nationwide including work at the Kings Theatre, Southsea and the Crucible Studio, Sheffield. Even this writer's tiny consultancy was involved in three studies for refurbishment last year alone, the most recent for the Cricklade Theatre in Andover and elsewhere the Stag Theatre, Leatherhead has announced a £2.5m refurbishment. But probably the biggest project awaited this decade is the opening of the new Glyndebourne Opera House in 1994.

No doubt L+S will report on that occasion and I wonder if the reviewer will then be as optimistic as I about the new building. But it seems to me that the Traverse and the New Victoria are acts of faith in the future of the theatre and each in its own way is a significant contribution to our theatrical infrastructure. They aren't empty passive boxes eating subsidy and moving closer to white elephant status. The Traverse is the country's first purpose-built venue for new writing, and its new home should ensure that its unique contribution can be maintained for the next three decades. By contrast the New Victoria is a positive demonstration of what commercial collaborations can achieve in the right hands.



The New Victoria's circle front lighting position.

Theatre in the UK is not automatically the world's best despite our rich heritage. We have some of the worst theatre in the world too, but certainly the UK houses offer more diverse theatre than anywhere else. At this point in the century, and at this point in our recession, I find it strangely comforting that two such widely different buildings are opening.

Technical Information - New Victoria Theatre

Dimensions

proscenium: 12.7m x 7.48m
height to grid: 19.84m
depth back of iron to back wall: 17.45m
distance between fly floors: 18.27m

Stage machinery

Installation by Telestage Associates
60 single purchase 500kg capacity sets (inc. 2 up/down sets)
2 motorised 500kg capacity up/down sets
3 motorised 500kg capacity sets over forestage/orchestra
4 hand-winch operated 250kg capacity bars in rear stage
screw jack operated forestage lift

Stage lighting

240 channel Eurolight 'Ovation' with full back-up and radio riggers control
wallrack dimmers 202 @ 2.5kW, 36 @ 5kW and 2 @ 10kW
20 switched non-dimmed circuits
FOH circuits 100% patched, 64 @ 2.5kW, 6 @ 5kW, 174 load circuits
Teatro luminaires

Sound and communications

Installation by Shuttlesound
Soundtracs Mega mixer 32-8-2 with 8 matrix located either control room/centre stalls
ElectroVoice PA, with centre, left and right clusters
136 audio tie lines throughout stage and auditorium
38 effects speaker sockets throughout stage and auditorium
3 Revox PR99 tape decks
Denon DCD 860 CD player



Kevin Field, Kevin Shelfer and Stuart Pratley (seated) in the New Victoria's lighting room.



Paul Howling at the theatre's 32-8-2 Soundtracs Mega mixer.



The Strand Gemini in the control room of the Rhoda McGaw Theatre.



The Shaw function room.

Denon DRM800A cassette deck
twin ring Tecpro intercom
40 video lines
stage manager's desk can be plugged in
stage left, stage right or stalls
infra-red system for hard of hearing
spare power: general 400 amp
TPN, sound 100 amp SPN, outside
broadcast 200 amp TPN
There are large diameter cable ducts linking
control rooms, stalls and downstage left/right

The Shaw Function Room

Stage machinery
8 250kg capacity hand operated winches
hand winched operated draw curtains
stage lighting
Sirius 48 channels with 2.5kW dimmers,
can be located on stage or auditorium
100% patch to 100 load circuits
Teatro luminaires

Sound and communications
Soundtracs Mega mixer 12-4-2
ElectroVoice PA with separate disco system
21 mic lines located throughout stage

and auditorium
Denon DRM800A cassette deck
Denon DCD 860 CD player
Single ring Tecpro intercom
Infra-red for the hard of hearing

Rhoda McGaw Theatre

Existing equipment retained and rewired
Gemini lighting control, Permus dimmers
48 @ 2.5kW, 6 @ 5kW

General

Full calls and show relay to all dressing rooms;
individual speakers may be selected to the New
Victoria, the Rhoda McGaw or the Shaw Function
room. All public areas have paging and all areas have
CATV. Audio and video tie lines are installed between
all performance venues and public areas.

Traverse Theatre

Northern Light provided socket boxes, lighting, light
circuit dimmers and sound and communications systems

Sound system both spaces

Allen & Heath SR+ mixers 24-4-2 and 16-4-2
Bose 802 loudspeakers and HH MX amplifiers
Revox B77 deck

Denon cassette and CD
sound box wiring to jackfields and
loudspeaker patch
mixer positions in control room and auditorium
Northern Light 'REP' style stage management desks
Backstage and FOH paging system using
matrix control with additional inputs from
Box Office, Control Room and Stage Door
Tecpro ring intercom
Ametronic induction loops for hard of hearing

Lighting control

Traverse 1
Lightboard M72, 24 subs, 144 dimmer drive
EC90 dimmers fitted 5 x 24 way 10 amp crates,
2 x 12 way 25 amp
3 patch panels, 1 per phase
Traverse 2
Lightboard M48, 24 subs
EC90 dimmers, 48 x 10 amp, 2 x 32 amp
3 patch panels, 1 per phase

both spaces

Northern Light System 2000 working light
control which includes houselights
135 Strand luminaires

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Although these posts are based in the International Convention Centre and Symphony Hall, staff also work as required in the National Indoor Arena and occasionally at the NEC.

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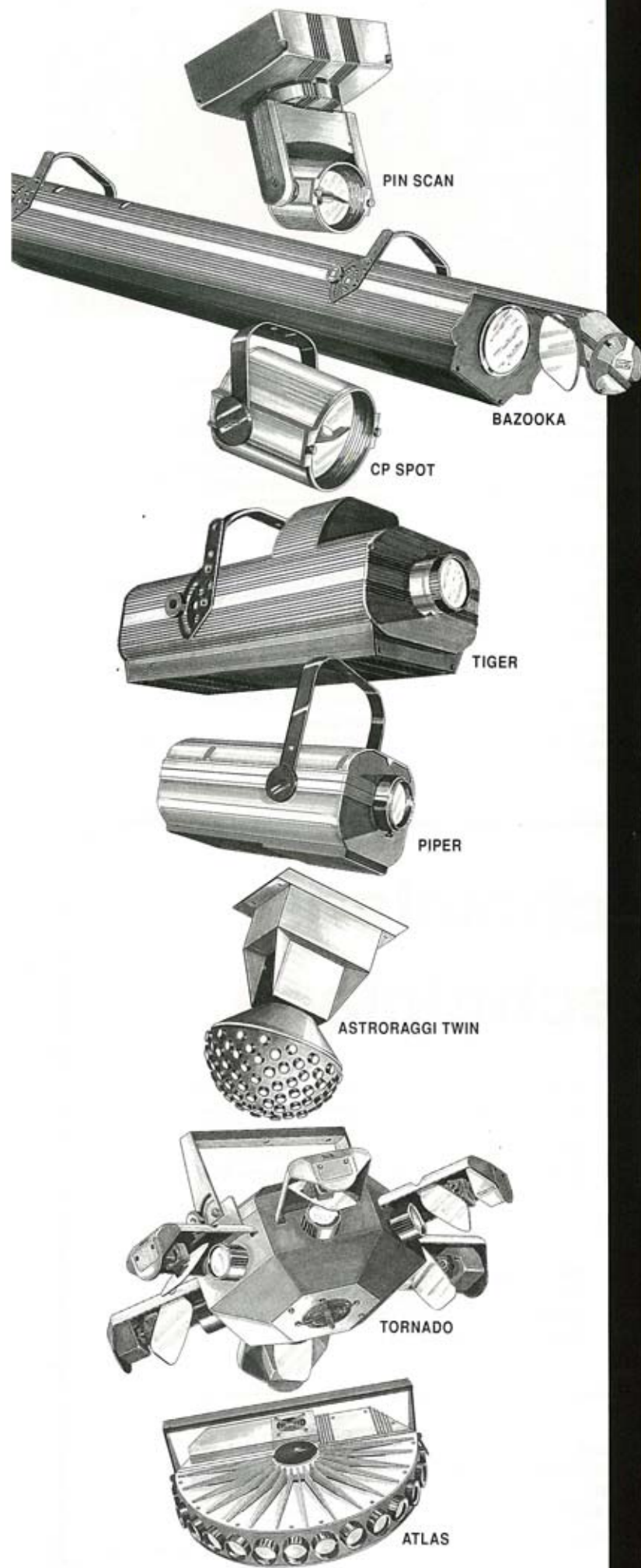
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Fax 49-5251 409931

Italy

Clay Paky srl
Via Pascoli 1
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Tel 39-(0)35 663965
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TRIALS AND TRIBULATIONS OF BS 5750

Tim Frost goes in search of Quality Assurance

Those who have considered changing their modus operandi to set up 'quality assurance' standards to BS 5750 can have quite different views on the value of the process: 'Another of those bloody paperwork systems . . . It has a huge material effect (to the good) on operational costs . . . Its advantages outweigh the disadvantages' - and that's just from one company.

George Thompson, PLASA's standards officer, is finding it a slow process in getting members to embrace the ideals of quality assurance.

"There is a lot of resistance, with people saying 'it's going to cost us all this money and what do we get out of it apart from this magic number?' The cost is certainly not chicken feed; it could be a company's yearly profit and with the competition in our industry so intense, I agree it is rather hard to justify."

With the average size of PLASA member companies being 10 to 12 people, certainly the outlay in time and cash relative to turnover can be difficult to afford, let alone justify. This is especially true if the reasons for looking at BS 5750 tend to be the negative ones presented by members and passed on by George.

"Local authorities are beginning to want to deal with BS certified suppliers and in that situation our members will not even get on the tender lists. Insurance companies will also be interested in it so that they won't insure unless it has been built to an acceptable standard. It is a way of keeping your behind clear.

"If you have a company working to high quality then it probably makes no difference, except between getting a contract and not getting it, and what will happen is that once a few get it, those who don't lose out."

However, quality assurance is a lot more important and relevant to providing a good customer service and expanding the market, than it is to protecting one's backside from litigation or protecting your position in the market against others who may have this magic BS 5750. There are a couple of PLASA members amongst the 13,000 UK BS 5750 certified companies although these tend to be larger manufacturers. One smaller organisation that is currently working towards it is Shuttlesound. With under 50 staff, they are working on getting the systems engineering department of just a dozen staff certified, in a process that reveals what quality assurance and BS 5750 is about, and the trials and tribulations involved in going for it.

First, back to basics, BS 5750 - identical to its international counterpart ISO9000 - is "an



Formal systems are absolutely essential to manage large projects like Wembley.

international standard . . . of functional or organisational capability suitable for two party contractual purposes."

In other words, a client can ensure that his BS 5750 supplier has the capability to supply exactly what he has asked for, first time round and with no further messing about. In this sense it protects the customer, not by legislation after things have gone wrong, but by ensuring that the supplier is organised in such a way that he can guarantee to produce work to a consistent and acceptable standard.

This is done by formalising all the processes, creating a consistent approach all the way down the line in manufacturing an item or supplying a service. With these systems in place and continually monitored each process produces a predictable result; faults and problems are trapped when they occur, and the end result becomes naturally satisfactory.

The standard sets out general principles that need to be applied. A company looking for certification needs to translate these general principles into the minutiae of its own

operation, usually with the help of a specialist consultant. When the systems are up and running, an independent accredited organisation comes in to check that they meet the general requirements of the standard and certifies the company accordingly. Then twice a year, they'll descend, unannounced, on the company to check the systems are still running aight.

The standard itself is in three independent but consecutive parts.

Part One is for design work, Part Two for production and installation, and Part Three for final testing. You can be certified for final testing only (Part 3), or Part 2 (which includes all of the final testing processes) or go for the lot which is all included in Part 1. Since 90% of Shuttlesound's system engineering work is to given specifications in consultation with director Mark Burgin, quality assurance (QA) manager, Rob Robinson opted to go for Part 2 and limit work to the systems engineering division.

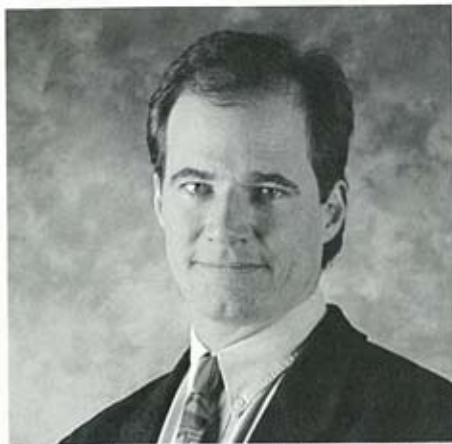
"We opted for this route to reduce costs and



Ensuring equipment works before going on-site is an integral element of quality assurance.



Will these new paperwork systems really make things easier.



Mark Burgin - aiming at quality assurance on a consultancy basis.

see if it was worthwhile to do. Only the system engineering department will be certified for the standard, rather than the whole company. So all the systems we are putting in place relate purely to the engineering and the relevant elements of the general and accounts functions."

Costs can be reduced this way since the consultant has to work out systems for just one section rather than looking at the separate and disparate activities of all sections of the company. Added to this, final certification costs are calculated on a per-head of staff basis.

Having decided how far they would go with BS 5750, Shuttlesound contacted BSI, one of the accredited organisations who inspect companies and grant certificates. They supplied a list of consultants who could help them through the process. Half the cost of the consultancy (from £300 to £600 a day) is paid by the DTI up to a limit set individually for each company. Shuttlesound chose a consultant with experience in service rather than manufacturing.

"He came round with an audit sheet, and looked at each of the elements in the company," explained Rob. "He talked to the people on the shop floor and the management and assessed where we stood; what bits already are up to standard, what bits are sadly deficient and where there were minor shortfalls. He then came up with a time scale for completing the key functions, first of which is writing up the manual."

The manual sets out the areas of activity to be addressed (see panel, right) which took a couple of weeks to prepare.

The next stage of drafting and implementing the procedures was the largest element, requiring the accurate documentation of how every function should be executed. These procedures then have to be put into action 'according to the book'.

The company had already put a lot of effort into formalising its work habits over the years, so Rob was gratified to find that most of the framework was already in place before the consultant arrived. "We found that the systems that we already used to construct and install audio systems met the requirement of the standards, except for the fact that they weren't documented. We were doing it, but just not writing it down."

After this stage comes the final report and selecting an accredited organisation to come and, hopefully, give the certification. Shuttlesound were initially given 16 weeks from start to finish for the project. When, after these four months of putting systems in place, they decide to apply for certification is entirely up to Shuttlesound. Despite initial thoughts of already being certified by now, Rob is in no hurry.

"Initially we were rather hoping to go for it

last year. We first thought that as long as we had the paperwork together that would be it. But as we became aware of the requirements of building up records, we wanted to have enough time to apply all the systems to a job. There is no point in having all the in-house manufacturing quality assured, if all the on-site systems haven't been tried and tested, and that is why we are now talking realistically about certification towards the end of this year.

"You can't rush it, you have to be sensible and decide the right time to do it - set deadlines but realistic ones."

Having discussed the wherefores of BS 5750, what about the whys?

There are obvious marketing advantages to being BS 5750 certified when bidding against other non-certified companies, but they are much more interested in the overall value of quality assurance, warts and all. It does mean more paperwork, which drew initial dissent from some quarters. Now Rob says everyone from the shopfloor upwards is much happier with the new work systems.

"You are working to strict documentation procedures, everything is centralised. You don't have a draftsman doing his drawings his own way, hidden in files where no-one can find them. You always know where everything is. Doing the right paperwork takes some time, but you can then easily find information. I've never



Rob Robinson pushing through the mechanics of BS 5750.

yet had anyone say: I'd much rather do this quicker as long as I can lose some of the efficiency out of the operation."

Taken to extreme, the additional paperwork involved can be a terminal disadvantage. It is quite possible, in working towards BS 5750, to introduce systems so complex and convoluted that it makes the whole operation unworkable. Applying systems without a lot of common-sense can, and has, destroyed companies.

The other downside that Shuttlesound readily state is the cost (well into five figures) in cash and time to re-organise for QA certification and then the on-going costs in yearly fees and in staff time to maintain the procedures.

"The cost of the QA manager is a cost you should be incurring anyway," says Mark Burgin. "You find the remuneration back into the company outweighs this cost by a factor of three or four. If you do get it right, there are huge benefits."

Apart from being able to sell themselves as working towards BS certification, QA is giving the company several quantifiable benefits and cost savings. By thoroughly controlling the quality of equipment and work, problems are sorted out in-house rather than on-site where costs multiply ten fold. With good work practices, construction examples and training installed, manual labour can take over from highly paid specialists on the more mundane work such as plug wiring. When this work runs into many man years each calendar year, this can represent considerable cost savings.

The system also more readily controls the quality of products being offered to Shuttlesound since problem supplies are identified and the supplier made very aware that it shouldn't happen again. In this way Burgin sees BS 5750 being self-seeding. Certified project management organisations encourage contractors to go for it, and in turn contractors encourage sub-contractors and suppliers to look at QA. Each is being pushed by the stick of commercial pressure and the carrot of better and more effective working practices.

To this end Mark is considering offering QA consultancy to other installers. This though, is not inspired by a spirit of altruism.

"We have the belief that what limits the size of the system engineering market is not the lack of demand from the market place, but the lack of delivery of quality. If there are more people in the market place delivering quality, the general market will grow and we won't be competing so much with each other."

"We are much more interested in letting other people help us increase the market than competing with them."

BS 5750 required Shuttlesound to define specific areas of control:

FIELD OF OPERATION - Sound reinforcement, public address, voice evacuation and communications systems.

MANAGEMENT RESPONSIBILITY - Setting up chains of responsibility for the quality assurance system, a formal structure of reporting with a management representative and ensuring QA is on the agenda for each board meeting.

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THE RECOLOURING OF RED SQUARE

Tony Gottelier and Ruth Rossington report on a remarkable event in Red Square which ended in disappointment for those involved

Apparently in an attempt to soften the previous image of Red Square, the newly liberal Russian authorities were enthusiastic supporters of a planned week of concerts headlined by Jose Carreras and held in the shadow of the Kremlin wall during July. This, the biggest international cultural festival ever to have taken place in what remains of the old Soviet Union, was branded 'Red Square Invites'. Unfortunately, the producers had not allowed for the lack of commercial ticketing structures in the new Republic and whatever promotion there was seems to have fallen on deaf ears. In the event, only a few thousand of the anticipated million-strong audience showed up and, though millions watched on Russian TV, the world's television has so far ignored the performances. Sadly, the lack of response resulted in the last concert, involving The London Chamber Orchestra with Dave Stewart and The Hothouse Flowers plus Le Maitre's closing pyrotechnical, being cancelled. Perhaps... if it had been better promoted in the West as a package trip...?

Anyway, it was all left rather late in the organisation, which may have had something to do with it, when Russian producers the Intertheatre Company under Omari Sokhadze who originated the idea, first contracted AVL Broadcast's Andrew Sompá to produce and market the TV coverage. Sompá called in co-producer Andy Ward and contacted technical production company Birchwatt. From there it was a short route to the assembly of the same team who were responsible for the World Student Games, featured in L+SI last year, of lighting designer Durham Marengi, Derrick Zieber of Dimension Audio to engineer and provide the sound and Paul Staples to create the set.

So, out of the window go all the pre-planned clichés 'Red Square at night, Marengi's delight', to be replaced by 'red ink spilt in Red Square' and 'red faces in Red Square'. Nevertheless, as a 'first' and a technical achievement for both the lighting and sound designers the project is well worth the look.

In fact the 'red sky at night' epithet would have been

singularly inappropriate, since one of the problems Marengi faced from the kick off was the very short night in Moscow at this time of year. "It doesn't get dark until around midnight, which somewhat mitigated against the spectacle of highlighting the Kremlin wall and the eastern baroque of St. Basil's Cathedral," Durham told us. "However, the well directed, British CCD cameras enabled effective broadcast lighting to be used from sunset at around 22.30."

Durham, who is famous for in-jokes on his plots - eagle-eyed readers will have spotted the 'Big Mac' and 'Fries' templates on his legend panel, while colours such as 'Pavlova Pink', 'Leningrad Lavender', 'Andropov Amber', 'Barishnikov Blue' and 'Wodka White' commend themselves to Rosco, Strand, Lee and others - unusually plotted 52 Molefay 8-lights to illuminate the massive architecture, using the aforementioned colours which were changed nightly. And, emphasizing his close collaboration with Samuelsons, three 4-head Sky Trackers and six 4k Sky-Arts on top of speaker towers for spectacle (the Sky-Arts, as in Sheffield, doubled as humungous automated luminaires and with colour scrollers were used on the architecture during performance).

These, however, did not dilute the use of Vari*Lite of which 54 assorted VL2s, 2Bs and VL4s were much in evidence in the concert rig,

alongside 342 Par cans, 42 floor cans, 10 sunfloods and 12 1.5k cyc. floods. 4 and 2.4k HMIs with remote shutters, 14 6-light Maxi Brutes plus 5k fresnels were provided for the TV cover. All of this was supposed to hang from a steel pyramid structure, 50m high and 40m across the base. This concept was shelved only one week prior to shipment of the equipment, while Marengi himself was up to his eyes in Andrew Lloyd-Webber at Expo '92. Nevertheless, somehow a redesign was accomplished and the equipment hung from seven, more conventional, over-stage trusses and two front of house cantilevered from Stacco's stage roof, with side lighting for the ballet bolted to the support-steel in the wings. Followspots were four Xenon Supertroupers out front and four Pani short-throws on stage.

To add insult to injury, on arrival in Red Square it was apparent that the stage was not in the planned position, facing diagonally, but instead faced down one side of the Square as subsequently proscribed by the Kremlin. More Russian inspired chaos was to follow when the show went live.

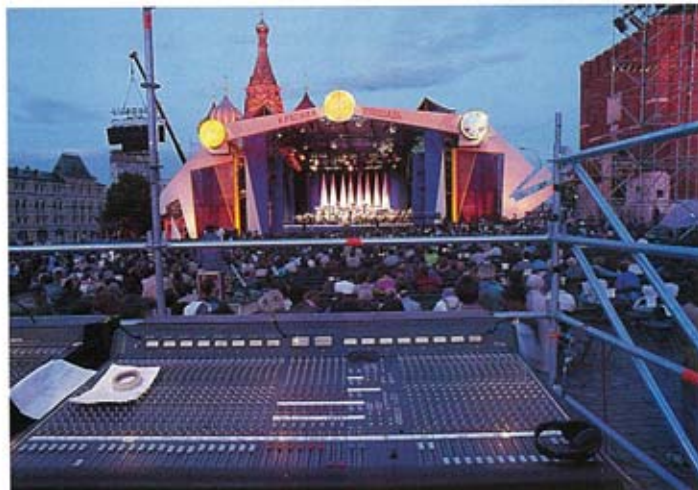
Durham likes to have hands-on control. He operates and cues all his own shows, so it was no surprise to find a Celco Gold, 90 channel desk plus a 30 way extension board, and an Arri Reflexion back-up in use alongside the Sky and Artisan desks (operated by Richard Knight).

Dimmer racks were Avolites and Celco, with Arri Connexion modules. SFX were provided by four cracked oil machines, 27 Rainbow and eight Molemag scrollers.

Commenting on the lighting looks, Marengi told us: "It was disappointing when talking to Russian directors, to find that they had no idea what was available to them. Language was another barrier, as were overnight sessions with tired translators, who could not understand the basics such as followspots, backlight and blackout, nor why they would not be too effective on TV. My favourite quote was, 'And now we have the two babies wrestling, (actually a one man act brilliantly executed), for which we want a warm, sunny



The stage set up for Jose Carreras' solo concert.



View from the sound desk to the main stage, not in the planned position.



The giant Starvision screens positioned half way down Red Square also had to be moved.



Clinton Cast and Derrick Zieber mixing for Jose Carreras.

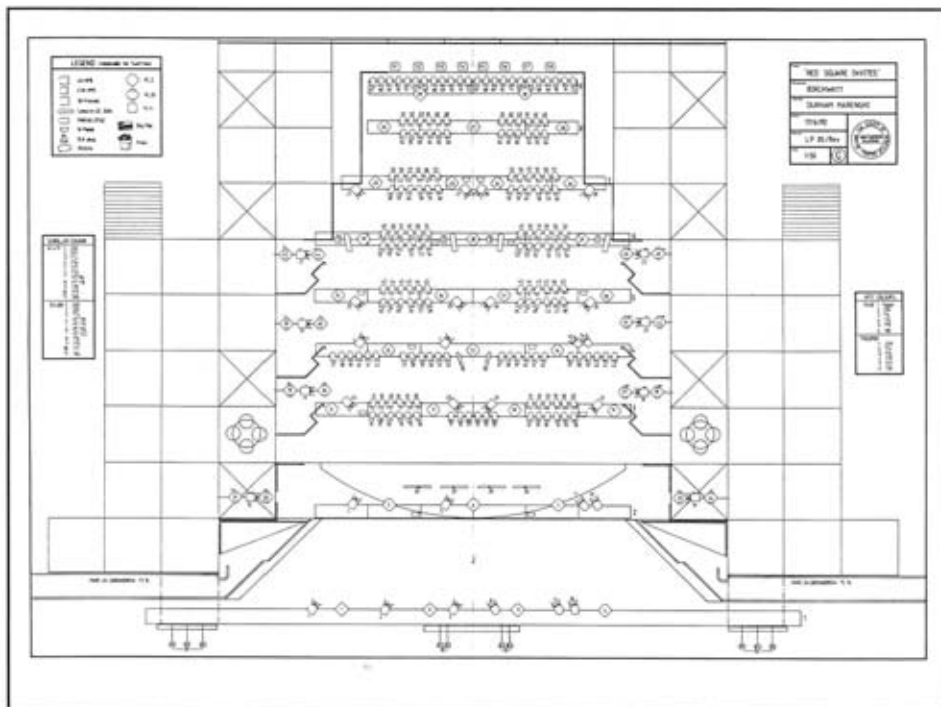
light and no following beams'. When we saw how good these performers actually were, it was tempting to go for soft spots and gobo stage washes. But, in my opinion, our responsibility lies with the artistes, and if the Pas de Deux calls for no 'following beams', then so be it. But it was very frustrating."

Screenco, in association with sister company Creative Technology, were contracted to provide two giant Starvision, all-in-one, 48m square, mobile video screens to provide live TV relay to the audience during the festival. Outside show times these screens were utilised to play pre-recorded programmes depicting the cultural and historical importance of Moscow. Two additional GE Talaria projectors and 20' by 15' screens were also provided as a backdrop for the ill-fated collaboration of the LCO and Dave Stewart. The business of shipping the trailer-mounted Starvision screens is a story in itself, since the same pair were in use at Wembley for the Elton John and Eric Clapton gig on June 28th, but required in Moscow by July 3rd, only 120 hours after the Wembley get-out. "Fortunately, the journey was completed without loss of life or limb," a slightly shaken, but unstirred Chris Saunders imparted, "but with the reduction, by one, of the CIS Lada fleet and a severely bent Starvision trailer."

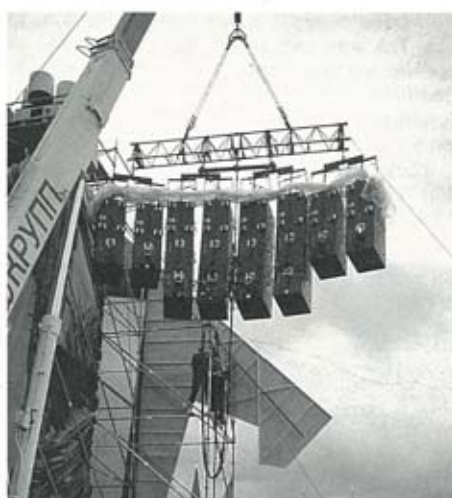
Naturally, the re-configured stage forced a reposition of these screens and, in turn, the sound towers together with their Sky-Arts. Furthermore, Derrick Zieber of Dimension Audio also had a logistical problem as far as equipment was concerned, so he turned to Chris Hey of Brit Row to source the gear. Pulling a rabbit out of his hat, Chris managed to find the preferred Turbosound Flashlight system at Russian company Orion.

The re-design had PA bays stage left and right stacked with PMS3s, and for front-fill a flown cluster of the same boxes, with long throws provided by Flashlights. This was to be supplemented by two towers adjacent to the seating area with a cluster of Flashlight for delayed in-fill and two more towers associated with the Starvision screens carrying a flown MSI (Maryland Sound Inc.) system for primary delays and additional coverage. A further two flown clusters of TMS3s, referenced to the MSIs, would provide coverage at the end of the Square and a crane with 20 Flashlight cabinets would hover over the stage in order to provide front reference and complete coverage.

At least that was the theory but, as we've heard, the Kremlin had other ideas and everything had to be re-thought on arrival. "One tower, complete with lighting and sound, was actually dismantled and reassembled four times," an exasperated Derrick Zieber told us. "When it came to the fifth attempt, they simply craned the lot!" Add to this the fact that the central cluster was now located stage right, the stereo balance was out, the mixing console had to be re-positioned to the side of the Square instead of FOH, that there was serious interference from the communications facility below Red Square (who says the KGB are no more?), no line-up was given to the crew until



Durham Marengi's lighting plan for 'Red Square Invites', note the in-jokes.



The craned Flashlight cluster from behind.

rehearsals, the planned church bells for the opening concert failed to materialize and were replaced by handbells, and the Russian choir to precede Jose Carreras failed to appear at all. Enough? Well there's worse!

The festival was supposed to be opened with a live speech from Boris Yeltsin, but when he saw the poor attendance from his window in the Kremlin, the old trooper reached for another glass of Wodka and said "Niet me pal" to an aide. A substitute was hastily drummed up to satisfy the TV audience in the shape of a local presenter, but she, having reached the microphones, was struck by a star-fit, complaining that she hadn't the right frock on, and walked straight to the wings from where

she duly made her speech incognito. "You can add to this list of frustrations that the promised hot weather was actually daily rain and that a hurricane knocked over all the seating and half the stage masking. Being chased up Red Square by a lone chair added to the surreal experience," Durham Marengi told us, hanging on to the vestiges of his sense of humour, "as did the best bar in town, our dimmer cabin, frequented by all departments, including the Russian security men who huddled round a red-gelled Molefay for warmth! The joint was rocking until the wee small hours, as evidenced by Richard Knight and myself when finishing plotting the next day's shows at 04.00."

Now is the chance to wheel back the cliches, for by now everybody is beginning to see red, as Zeiber has reluctantly to rein in 70% of his sound system, which the lack of punters has rendered obsolete. However, the rest of the performances go smoothly enough, until the final one goes up in smoke (or rather doesn't) due to lack of funds.

A final quote from lighting designer Marengi: "Any performance is technically only as effective as the equipment and crew which realise it. Peter Marshall (Samuelsons) and Nick Jones (electrician) were brilliant - may their potatoes never rot! The constant jokes about the aforementioned vegetable could always be relied on as the daily constant and, yes, they did play cricket in Red Square. When the going gets tough, the tough get weird."

Red eyes in Red Square? Well, perhaps not, for a repeat is threatened in St. Petersburg next year. Marengi: "We must remember the diesel next time."



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STANDING UP TO SCRUTINY

Jands, LSC and Showcraft interviewed by Catriona Forcer

JANDS

Last year Jands of Australia celebrated 21 years in the lighting and sound business, during which time they have built up a multi-million dollar business with both manufacturing and rental divisions. Well established in the Australian entertainment industry, they have recently been concentrating on exporting their products. I spoke to Paul Mullholland, co-founder of the company, at their new premises in Sydney.

"What Jands lacks at the moment is recognition, and what I think is different about us is that we are a full range manufacturer, starting with the raw steel. We even used to build our own circuit boards although more recently, as technology has developed, we've had to get them manufactured by specialists.

"During the seventies we were building over 20 different products including audio control equipment, dimmers and lighting desks. However, towards the end of the eighties we realised we couldn't keep making so many products just concentrating on Australia. To do that, with technology getting better and people more efficient, we were going to be pushed out of the market if we tried to be all things to all people. So we decided to take our products and build them to a standard where they could achieve sales internationally. It started around 1986 when we decided the area we had most chance of succeeding in was lighting consoles. Of all the products we made, the lighting console seemed closest to world class; We had less distance to travel to get that up to speed than with anything else. Through exposure with the rental company people saw a lot of our products and the one thing that was continually discussed was our lighting console - we sold quite a few that way.

"The decision was further supported by the fact that when you looked around the world, there weren't a lot of lighting console manufacturers in the field - there was Celco and Avo with Zero 88 starting to emerge. We then designed the ESP board to be internationally marketable and I think we achieved that goal. It sold reasonably well and that encouraged us to take it a step further. We didn't want to emulate what other people were thinking and doing - we wanted to take a totally new look at what people really wanted in small consoles. The result was the 'Event' and now with the new product we're about to announce (a replacement for the ESP), we've really got a



Paul Mullholland with the new ESP IIs - they will be on the AC Lighting stand at the PLASA Light and Sound Show.

couple of consoles that are world class.

"In my opinion these consoles are innovative; they do things differently. Unfortunately, a lot of people are starting to see that market and catch up. Obviously, Celco have had a pretty hard look at that market, and to some degree at what we've been doing, because a lot of features we introduced in Event are included in their Navigator and Pathfinder consoles. A lot of the concepts, terminologies and approaches are similar.

"I think we did achieve what we set out to, but it's hard from Australia, and it's difficult to get good recognition. What Australia has always had is great artistic ability and we've capitalised on that. I think to design products for the entertainment industry you've got to have artistic ability - and the English clearly leave the Americans for dead in that regard. So much of the innovation in terms of equipment has come out of England with Celco and Avo dominating the world. Why hasn't an American console manufacturer done that? The English are born to be rock'n'roll entertainers and that comes out in their products. Unfortunately, the English leave themselves wide open to do all the innovating and then be copied. Australians have definitely inherited an artistic ability from the English and that puts a lot of our companies in a good position to achieve success

internationally. Our products have always had that inherent potential. What we have lacked in our industry, and as a complete nation, is the ability to take the potential and ideas and transport them into a reliable, well engineered and cost-effective product. We could design it but we couldn't build it to the standard of the Japanese. To succeed internationally, and now locally, every company has got to build to the standard of the Japanese.

"My friends at Soundcraft once said to me that their long term goal was to have a product that when you unpack it from the box it works the way you'd expect a Japanese product to work. When you unpack any Japanese electronic product and you know it's going to work, and for ten years. That can't be said about a lot of products built elsewhere; I think many of us suffer from that mediocrity in our approach to manufacturing.

"For us to succeed, we've got to deliver the goods and it's got to be cost-effective and reliable. I think that's our big objective at Jands and I think a lot of other Australian manufacturers such as Lee Conlon with his scrollers and LSC with their products, are all coming to understand the necessity for perfection in quality control. When we achieve that, we then have a product that can be marketed. We've always had the ability to



The electronics workshop at Jands' Sydney premises.



Monica Bojarski working on research and development.

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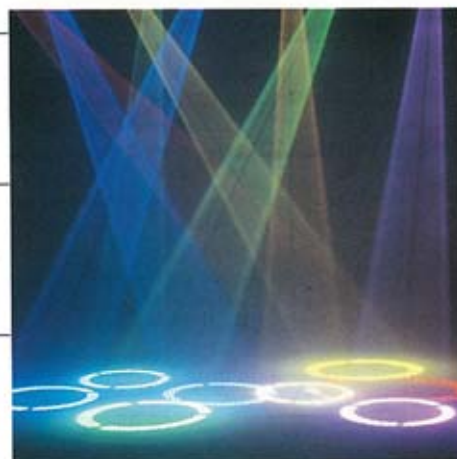
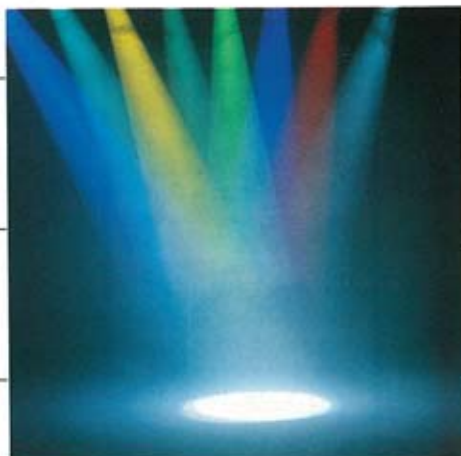
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design well, we're learning how to build reliably and once we understand marketing, I think we will really be noticed as a country capable of supplying good quality products.

"There's a lot of animosity, a lot of aggression and ill feeling between the Australian manufacturers which is unfortunate and it's holding us back. Jands' biggest problem now is getting the world at large to recognise that we have a very good product at a very good price. Where the message is getting through, business is growing.

"The way the message can be accelerated is by other Australian manufacturers getting recognition as well, so there becomes this inherent faith in Australian products. If you think about it, that's how the Japanese did it. We buy a Japanese television and it's good so we buy a Japanese video recorder then a Japanese car. As a nation, they work together. We can all help each other to increase the general sales of Australian products which we're all going to benefit from rather than try to knock each other all the time. I believe that Australia will, over a period of time, really emerge. The government appears to be getting things right for us in terms of wages, overheads and cost structures, and Australian innovators will start etching out more of a presence overseas.

"It's true that Australia has traditionally been a market heavily protected for the manufacturer which has caused concern with the British. The Australian manufacturer had always enjoyed a great deal of protection from imports. That is changing and both the Conservative and Labour parties are committed to having zero tariff protection by the end of this decade. It's being done now. When I started importing, tariffs were typically 35%, now they are down to 15% and are still dropping by a couple of per cent every year.

"So, if I buy a British console I pay 15% import duty, whereas if I sell to the British I pay 5% import duty. By the end of the decade we'll pay nothing here but the rest of the world is looking towards increasing their protection. I think the tariffs can be justified if you look at the total trade picture. Australia has always been very good at supplying primary produce

such as wool and rice, but we've been selectively closed out of the British market over the last ten years. Now we're good at electronics and we do really poorly when it comes to selling our primary produce. The UK was traditionally a very open market for us, but it's closed down over the years. I'm a great believer in free trade because I think invariably countries are good at some things and bad at others.

"Our latest console, the ESP II was shown at Frankfurt this year. It's fairly similar to the Celco Pathfinder. In my opinion Celco are clearly the world's leading manufacturers of rock'n'roll lighting consoles and you've only got to go to an international show for that to become blatantly obvious.

"What Jands did was target the smaller person and say we could give them Celco-style facilities at a more affordable price. Our first console, the ESP, was released in 1988 at the same time that Celco released their Baby and the two consoles were almost identical. We designed a console in Australia, in total isolation, and came up with an almost identical small console. We then developed that small console and the Event just took control into a whole new arena. It's innovative and does a lot more in a lot of areas, but is designed for the small operator - it's not intended to take on Celco in their traditional market.

"What we did was work out what was available in terms of cheap microprocessors and then spent 18 months writing software to really give that console power. We've specialised in the traditional live concert market. We didn't realise at the time that we'd inadvertently designed a console that seemed to be very applicable to moving lights.

"Celco seem to me to have gone in a different direction; certainly Navigator was clearly targeted to moving lights. The Pathfinder I know very little about but if you read the specification of it and the specification for our ESP II, they're almost identical, although in terms of operation I'm not sure. Perhaps it's arrogance but I firmly believe that the ESP is the most powerful, creative console in the small market that exists today. I don't say it lightly and I certainly think the majority of console

manufacturers would acknowledge it in private - in fact a lot of them have said as much to me.

"Customers like security and no one could ever be accused of making a wrong decision by choosing a Celco. It's up there and perceived as the Rolls Royce of lighting consoles. The Celco image is very strong and people are proud to sit behind a Celco board. There's a status in owning a Celco and they will always enjoy that position. The problem we face with our consoles is the fact that we need to educate people in how to use them because they are so powerful. That's our single biggest job at the moment because when someone buys an Event and understands its use, we have nothing but compliments!

"Our target customer likes to produce a creative show, probably an owner/operator, but is conscious of how much it's all going to cost. The newest console, the ESP II takes all the power of the Event and packages it in an easier to use format. It says 'these are the sorts of things people want to do on a daily basis; let's restrict the console to those facilities but keep all the power the Event has'. All our testing so far says it's the best console we've ever made. It's really creative, has got some unique features and is simple to use. I think it's going to be the console that really establishes Jands in the international marketplace.

"We're at a crossroads now. We've done about as much as we need to in terms of our traditional lighting consoles. We've got a product now that's going to see us through the next few years.

"There are several alternatives for the future. Do we design a dedicated moving light console? Should we do a serious high profile console? Should we look at dimmers? I reckon dimmers are going to have to change and I wonder if it's appropriate for Jands to put resources there. Fortunately, we've been audio manufacturers for 20 years and we've got a great knowledge of transistor technology. Marry the transistor technology to microprocessing technology and you've got something interesting. What I do know is that whatever we do, it's got to stand world scrutiny."

L.S.C.

Since its inception in 1979, L.S.C. Electronics Pty. Ltd. of Melbourne have designed and manufactured products for the entertainment industry. In 1984 L.S.C. launched the Precept control desk which was the first microprocessor-based lighting desk designed in Australia as well as the first of its kind in the world.

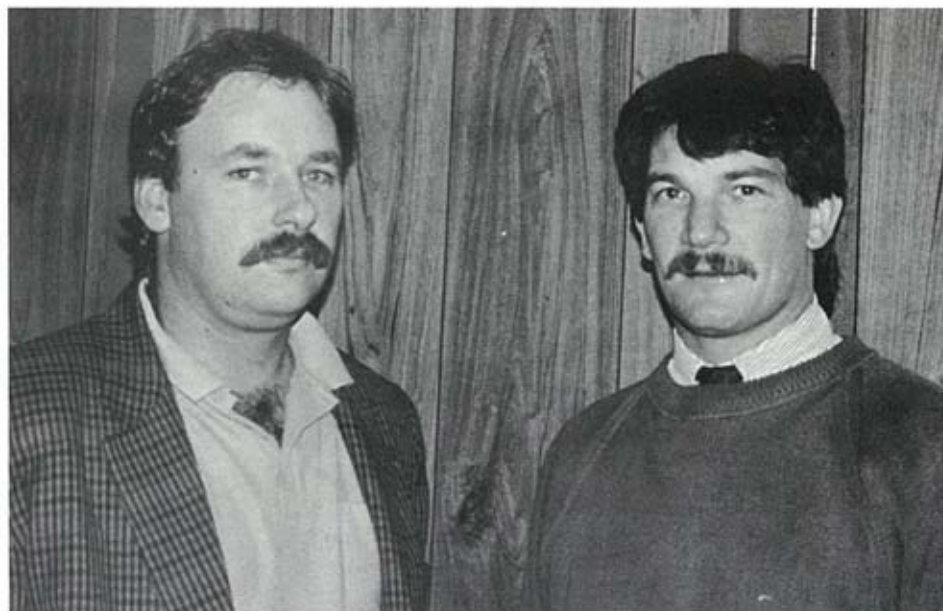
By 1986 L.S.C. introduced the Digital Control System utilising DMX512. The company's commitment to digital systems and DMX512 products was forged at this time and further strengthened by their active involvement with the USITT DMX512 committee in setting the standard. The company had by now become a market leader in Australia and was also beginning to attract attention internationally. Exports of L.S.C. products commenced in 1987 and have continued to the point where products are now available in all major countries throughout the world. I spoke with Gary Pritchard, founder and now managing director and Alan Graham, general manager.

AG: "After our first board, the Precept 12, we designed the Precept 24 but I don't think those two products ever managed to reach their full potential. We continued manufacturing new products and in 1987 we started exporting through Avolites. This came about through Ian

Whalley touring Australia and meeting us through Concert Light Systems. We struck up an agreement, with Avolites marketing the L.S.C. products under their own logo throughout Europe and the USA. At the same time we looked at exporting into other markets

such as Japan and Asia. The arrangement with Avolites lasted about two years during which time Avolites went through a period of change, and since 1989 we've been doing our own deals throughout the world."

GP: "Last year was a particularly bad year for



Alan Graham (left) and Gary Pritchard.

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everybody in the lighting market in Australia. Surprisingly, we've found it a bit more active in 1992 than we expected."

AG: "We're actually exceeding what we originally planned. Just before Christmas 1991 we were booked solid in production until March this year. I think it was down to a combination of reasons including the availability of our product in relation to other companies' products. There's also a resurgence of confidence in local products again."

"We believe that we design and market our products across a broad range. Certainly we have quite a good share of the rock market, but we also concentrate a fair amount on stage theatre, which has been the backbone of our industry, and we are now moving into TV and film. Both of those markets demand quality products at an affordable price. To combine these requirements is not easy and we believe we can do it successfully because of our engineering ability."

GP: "The Focal board caters for both. Initially it was aimed at the theatre but over the years certain features have been expanded - for instance the addition of the Scene Master module which makes it equally applicable as a rock'n'roll desk. We've got a lot of ideas and direction but I don't know how much we're prepared to reveal!"

AG: "We have both an outward goal and an inward goal. The inward goal we want to keep under wraps at the moment, but our outward goal is to develop our Focal range for a world-wide market. We want to consolidate market pushes that we've been undertaking for the past two years. For an Australian company to delve into an overseas market it takes at least three years to secure a good foothold."



Circuit board technology at L.S.C.

GP: "I think the next step for the company is to develop and build on current strengths. A lot of products are still being designed for Australia and, although the rest of the world does things similarly, it's not necessarily the same. We have to adapt our products to meet what the rest of the world is doing."

"Take dimmers for instance. We have a dimmer rated at 240, the same as in the UK but in Europe it's 220v - which is no problem. Go to the USA and it's 110v and in Japan 100v, so it becomes a more complex problem. We're modifying existing products to cater for the market as well as working these requirements into new product development."

"You have to deal with the market for what it is - you can't change it. I use the term 'educating the market' to persuade people of the benefits of using our products rather than somebody else's."

AG: "It is an education process. If we're not going to enter a market, we've got to sell ourselves and convince people why they should purchase our product. To do that we've got to have certain advantages working in our favour and not try to tackle the major markets in the world with just another average product."

It's got to be something - whether it's price, quality or features - built into the product that's going to offer more to convince that market to come to us."

"We released our first control desk incorporating DMX512 in 1986. We were the first Australian manufacturer to do so and one of the first in the world. We introduced DMX512 to dimmers in 1987 - again one of the first. Multiplexing equipment came along with it, so much so that the Linkline product is still with us today as it's a unique product in what it can do."

"We spend an enormous amount on international marketing for a company of our size. We try to be fairly selective in what we do market and how we market it."

GP: "You can't just go to one trade show and think everyone's going to go for your product from there. Customers are very discerning, they come in and see a nice product but they want to know what the service back up is like from Australia and who's already using the product. If they come back to the same trade show the following year and you're still there the first bell goes off. It's an on-going process that takes several years. Constant reinforcement is required and, of course, good product."

AG: "The selling point of the Focal is its features. We believe we're in the same category as Celco and Avolites in terms of design and liability. The only differences then are things like operator preference, which is where the education process comes in, and the features or what you can actually do with the control desk. For instance, our Focal board has 255 channels whilst neither Celco nor Avo make one of this size."

"Having more channels to play with gives you greater flexibility. The Focal has more playback submasters, can run multiple time fades (whereas most other boards are restricted to running maybe one or two, we can run 11 in one go), and can be automated so that by hitting one 'go' button you get several things to happen at once. With the Focal you can have three or four cross fades all starting together, and have a lighting effect or something, going off as well through using a chaser. I think it really just boils down to power and facilities."

"There's pretty aggressive competition within the Australian market between manufacturers - which is healthy. On an international level we've gone our separate ways, although there's certainly no iron curtain between the larger companies here."

GP: "There are a couple of companies here that don't speak to each other. We don't have anything like PLASA in Australia although I think Paul Chappell, who organises our Pro Light & Sound Show, is trying to set up something. He has sent me a proposal to establish the entertainment industry technical association."

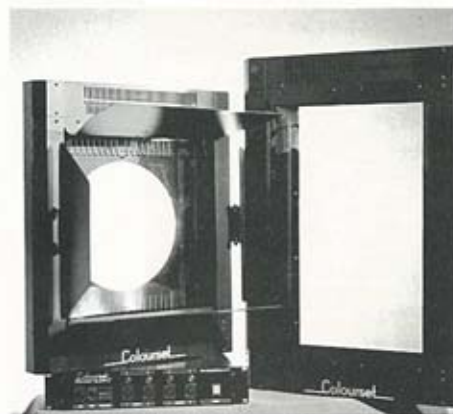
"Australian companies have to expand because the market in Australia is so small. Fortunately freight costs out of Australia are a lot cheaper than freight costs into Australia which all helps."

AG: "The government is talking about an open playing field which is fine as long as everyone is prepared to have one. I think that's one of the barriers we'll probably be facing in three or four years time. Although we've reduced our import tariffs other countries have not."

GP: "The tariff debate is a bit of a loose argument anyway because the difference between the Australian and UK import tariff is only about 10%. I think it's just the tip of the iceberg, freight has a lot to do with it, plus very strong local-based manufacturers. Between the companies in Australia, we can cater for everything."

SHOWCRAFT

Lee Conlon may be better known as the man behind the sound and lighting hire company Revolver Audio based in Sydney but in between tours he found time to set up manufacturing company Showcraft which originally concentrated on sound products. Eventually it branched into lighting, which is now the most successful side of the business, particularly the Colourset colour changer. Over the past three years this unit has proved itself to be both dependable and reliable, so much so that it is finding its way into some of the most prestigious shows in Australia.



Showcraft's Colourset Colour Changer.

"In the eighties as colour changers became increasingly required by touring acts, I decided to buy a set for my hire company," explained Lee Conlon. "I won't mention the brand name, but they cost me \$28,000 for eight. They arrived late and customs also had a strike. Consequently, I didn't have time to test them before the first gig in Melbourne for the group OMD. I put them up in the rig and they just didn't work. I had unbelievable problems with them. I persevered and eventually they worked, but never reliably. I then bought a different make but they were also a nightmare."

"A few years later I decided to make my own colour changers and after three years I succeeded. Initially, I made them to use in my hire company and people were very impressed with them. Whilst on the road a couple of little things came up and I changed the software. After they'd been on the road for a few months I decided to sell them, and since then I've sold 200 in 18 months."

"People like a local product because it's easily backed up. I would like to sell them overseas but it'll be different because we're not established there - by the time I could be, there'll be too many others in the marketplace anyway! I approached the design and building of my colour changers with money as no object because I didn't start it with any reasons to make sales. I made it as a hire item for myself - the hire boss. I wanted something, no matter what the cost, that worked and was reliable. I think with Colourset I've got it."



Showcraft's Colourset Controller - 64 memory, 16 channel desk.

ON TOUR

Catriona Forcer

Sisters Of Mercy NEC, Birmingham

LD: Nigel Holbrough

There are two main rules to lighting The Sisters Of Mercy. The first is that you don't have to light the band at all and the second is that if you think there is too much smoke, there is probably not enough. After that it is a case of matching the mood to the songs which lighting designer Nigel Holbrough achieves very well. Nigel started working with The Sisters in 1985 when their regular lighting designer Phil Wiffen could not do a tour because of other commitments. Wiffen had already established a style for the band with dark, moody lighting and plenty of smoke.

"The band are a lighting designer's dream because the music has such a range of textures and intensities," Nigel told me. "You don't have to begin by putting a 20K wash on that makes every member of the band visible. You light the band incidentally or at least make it appear that way. In fact every circuit of the washes has four Ray lamps which is one on each of three mic positions and one on either/or one of the keyboards. It's then broken up so it works its way around and it's all very directional. At any given time I may well be working two circuits. I'll have six circuits to a wash broken down into three faders or the matrix, which I then ride the levels of to get a swirling movement. As long as I've got a fader up, there are two lamps on everybody down the front and two lamps placed randomly, either both on one keyboard or one on each keyboard. Then it's a case of filling the space around the band which is about 50ft wide and 15ft high. The Vari*Lite's add into that, and because the lights start so low some of them are angled upwards so whatever space you put them in they fill it. If you're playing a large venue, the lights pan out into the audience, they go up to the roof and all the way to the back. The bigger the venue, the more impressive the effect with actually very few lamps, in this case about 150 pars. The rest of the board is filled up with eight ellipsoidals for Andrew Eldridge the lead singer, one for each of the two guitarists, a handful of ACLs, four light units and various other equipment."

To achieve the required copious amounts of smoke Nigel used four Le Maitre smoke processors on the floor and two Rosco 1500 smoke machines in the truss. The two truss machines have fans on them as well as the two main feed machines on the floor. Another fan is placed underneath the riser to help lift the smoke up into a haze. One fan machine is solely dedicated to the lead singer and is placed behind him so that he can step back into it and disappear. Nigel controls the smoke machines from a desk specifically built for him by crew member Ian Hayley. It allows him to select fans on or off and also vary their speed. It assigns any of the six smoke machines to one or two presets which then go down to a couple of foot switches making their control easier for Nigel when his hands are busy on the board.

With so much smoke a backdrop would be a complete waste of time. Nigel claims his lights are the backdrop because they are on every level from the floor to the truss. He believes a backdrop would actually reduce the depth that he gets. Nigel does employ an arcline which runs around the back of the stage and is particularly memorable during the song 'Body Electric'. Followspots are not used in the conventional way because this would destroy the show completely

as it's all about retaining an air of mystery. There are two long-throw followspots at the very back of the stage at floor level and they are only used during a couple of songs as a special effect.

"We're using a Celco Gold which we really had to stamp our feet to get," said Nigel. "In Germany a lot of companies are using the MA desk which I have used, but it's not what I need for doing The Sisters. I've always been a fan of Celco desks and I've noticed a lot of the newer desks trying to imitate the Celco features but they try to do a little bit more, thus making it a lot more complicated to do anything. The main reason I use the Celco Gold is the fact that I can programme it without thinking about it, and also operate it that way. It makes it very useful for one-off shows. It also allows me to run lots of sequences which I can flip between easily. The board looks nice, is easy to use and you tell it exactly what you want it to do instead of it telling you what it wanted you to do! You don't have to use this board in the manner the software designer envisaged you using a rock board. The Celco approach seems to be 'here is a nice simple board with a load of features you might want to use any way around'. It's a very forgiving board as well. If you push buttons in the wrong sequence you'll probably still end up with what you intended."

Nigel describes his Varil*Lite operator Andy Watson as an absolute godsend. They work so well together and they never need to speak to each other during the show as all communication is via the stage. With certain songs Nigel described to Andy the effect he wanted, whilst with others Nigel admits he had few ideas and Andy's input was very valuable. It is a sort of 60/40 split but at any given moment it's difficult to say which is the 60 and which is the 40.

"I'm always chasing the lead singer around the stage," said Nigel. "I find an ellipsoidal that will catch him, put it on him at a low level and then, when he sees it, he decides whether he wants to go into it. All the ellipsoidals are very tightly focused. I used to use break up gobos but everyone started doing it so I began using flat planes of light a lot more. I've got 2K Bambinos with scrollers and barn doors so I can create these fat wedges of light that he can hide behind or stand in front of. In both situations he's not actually lit,

he either disappears or becomes a silhouette. I make a lot of use of a couple of lights coming in flat from the side that are only one and a half feet wide at the centre light position. He knows where they are because of the amount of smoke on the stage making it a slice of light he can put his hands or face into for a cinema noir effect."

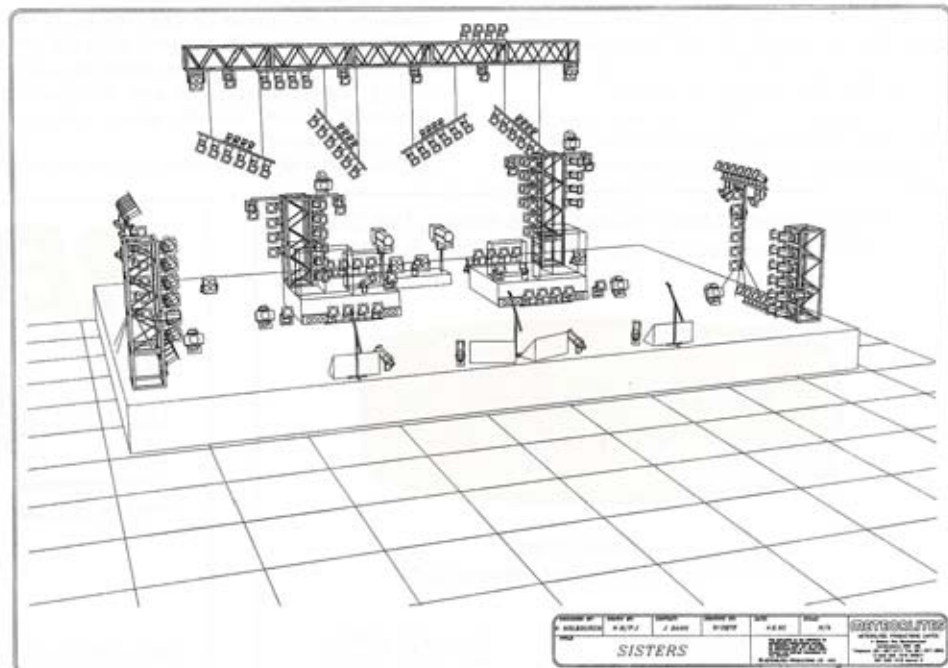
In the USA, Nigel found the responses to the show worryingly unbelievable. Apparently the lights were not only getting mentioned in reviews, they were getting better write-ups than the band. In most situations this would mean P45 time but, fortunately for Nigel, the band thought it was a good thing.

"I try not to design a show that's only meant to be seen in a proscenium arch from the lighting desk," explained Nigel. "Very few people are on that access and at that level. This show works so that people down in the front are getting a complete set of different looks. In a bigger venue Andy Watson will always tweak the big, forward facing looks and, if there are people up at the sides, he'll spread them wider.

"I'd like to do some more designing but I wouldn't want to end up being in demand in the sense that people would want me to design their show just because it would give them a wonderful show. I can't just create a wonderful show for anybody who comes along. It would be more a case of finding something that worked for a band that I wanted to make it work for, and someone willing to try something a little radical. If someone like KLF came up and they were willing to give me a certain amount of room to manoeuvre, then I'd love to do that.

"As a designer I appreciate input from all the crew. Their comments are very valuable as I can't come up with everything. It's a complicated light show and you need a lot of crew. Ian Hayley came in as a rigger but when I found out that he was actually quite a clever lad with the soldering iron, I encouraged him to take care of all the strobe units and assorted 'toys'. I'm not afraid to say I've got an idea of how this should work, but if anyone's got a better idea we'll do it their way and credit them with the idea. You get more out of people if you encourage them to get involved."

Whilst planning The Sisters of Mercy show, Nigel made use of the Meteorlites CAD system



Meteorlites' schematic for Sisters of Mercy.



Above, and right, Sisters of Mercy on stage at the NEC in Birmingham.

photos: Adam Stevenson

which he found very advantageous. It might not be 4:1, but Nigel could generate a view from the lighting desk of the rig and stage. Several copies could then be made and the show story boarded with coloured crayons. Different views could be produced so the rig was not such a mystery for the people involved in its construction.

Equipment List

- 16 x bars of 6 raylights
- 6 x bars of 4 raylights
- 4 x bars of par 36 ACLs
- 6 x bars of par 64 ACLs
- 10 x ellipsoidals
- 2 x long throw Lycian Super Arc followspots
- 10 x par scanners
- 8 x pro scans
- 15 x VL2bs
- 6 x 2K Baminos with Showchanger scrollers
- 8 x Thomas 4-Lights
- 10 x lengths of arcline
- 4 x Terrastroses
- 4 x raystroses
- 4 x Le Maitre smoke processors
- 2 x Rosco 1500 smoke machines
- 1 x Celco Gold desk
- 1 x Task Master controller for Showchangers
- Avo dimmers for NEC
- 40ft of A type trussing
- 4 x sections of Thomas pre-rig

Def Leppard Melbourne

LD: Jonathon Smeeton

Emphasizing a current trend for mixed use of different automated luminaires, Def Leppard set out on their world tour last month with no less than three varieties. Having missed their British dates, L+SI caught up with them in Australia, thanks to Julius Grafton of Channels magazine.

Def Leppard's '7 Day Weekend' tour rang through Australia in July, direct from the UK where the tour kicked off in June. Houses were not great,

the show was less than a sell-out for Michael Copell, and hopefully not a sign of things to come when Leppard reach the USA as you read this.

The tour started in the UK following 13 warm-up club dates in Europe. First port of call in Australia was Perth on the West Coast, naturally closest from the UK, whereafter the band played Adelaide, Melbourne, Brisbane and finished in Sydney.

Sydney hosted two performances in the Entertainment centre, half the 12,000 seats noticeably empty for the last show of the Aussie run. This was loaded out at 11pm on Thursday 23rd July, with essential equipment flown direct to New Zealand, where one show with local production was scheduled on the Saturday - a tight schedule that had production manager Mark Spring kept busy.

Boasting a roller stage, the show is performed in the round, with the band smuggled out in two giant roadcases on wheels, which roll under into the packed subterranean space beneath, the centre of which hosts a giant hydraulic hoist to propel the drummer 20' into the air.

Although the stage was rolled into place after the extensive lighting rig and audio were all airborne, the crew then had to pack power distribution, dimmer racks, amp racks, lasers and stage gear, work stations and the aforementioned hydraulic ram under the stage, a precision process that doesn't happen with a conventional end stage, where there is room in the wings for much of this essential apparatus. The stage design was cunning, with a central tunnel running right through that, from the audience perspective, was just a stepped centre section of the stage. Walkways either side were fabricated once everything large was moved under.

Following the trend of late, most of the production came into the country from the UK, with Jands Production Services supplying some trussing, cans, Vari*Lites and the house Turbosound speaker system, amps, subs and support band microphones.

English LD Jonathon Smeeton is no stranger to

Aus, having been here with Kylie Minogue, Tears For Fears, George Michael, Wham and several other acts. He is well seasoned to life on the road. "It's quite luxurious actually, and I've got friends all round the world." Jonathan started work in January, with construction and technical rehearsals right up to the end of May. The lighting boasts a few firsts: Light & Sound Design's new moving par lamps have a regular L.S.D. colour changer, but the cans (loaded with ACLs) pan and tilt to command. The lighting design is different in that the four main trusses radiate out up to 120' from the stage edge, with most of the fixtures out over the audience. Four moving pods run on tracks on the main trusses, while raising and lowering. Eight sub-trusses form a geometric framework up high, the show is hungry for points.

Two 22 watt Lasers (used with two colours) are based beneath the stage, with fibre optic points to eight custom Intellabeam mirrors for intelligent control of lasers from an Intellabeam controller. 16 Intellabeams are used in four groups 120' out at the end of the main trusses and 58 Vari*Lites are used throughout the rig. Eight Megamags each sit in front of 18 Pars. Eight Megastroses, approaching 80 Audience Pars and a few Molefays complete the rig.

A record five lighting operators work on the show, with Jonathon Smeeton calling the 16 followspots, eight of which are in the rig working from an Apple Mac, on which he eventually hopes to control most of the show via MIDI. Vari*Lites are run by Peter Lothian, then there is an operator for Intellabeams and Megamags, one for colour scrollers plus LSD's moving Par system, and the traditional analogue console operator driving a Celco Gold console.

With so much at his disposal, Jonathan had plenty of looks to call on during the hour and a half show. The 16 followspots were quite effective in the round, with the angles fairly sharp as you'd expect with a centre stage.

Audio ran through 56 Turbosound TMS-3 cabinets in four arrays of 13 each, with 32 JBL Sub-Low cabinets, supplied by Jands Production

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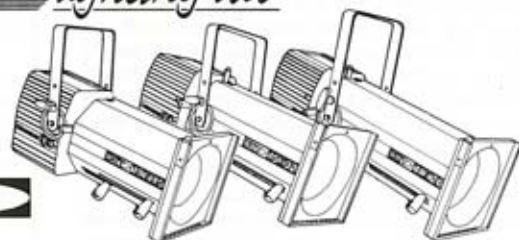
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Above, and right, an Australian backdrop for Def Leppard.

Services. Sound engineer Robert Scovill pulled a tight mix on a pair of Gamble EX-56 consoles, assisted by the fact the stage bore no backline whatsoever. The guitar amps were beneath the stage, where the guitar technicians worked, while an outside technician was located within the barriers to activate effects. The drum kit was heavily synthesised with plenty of MIDI assisting the drummer, who lost his left arm in a road accident some years ago.

With the proliferation of processing, allied to a central cluster in the middle of Sydney's notoriously difficult Entertainment Centre, Scovill had the best opportunity to pull a tight sound, and he did. It wasn't 'off the dial' loud like Tim Colvard's M.C. Hammer disaster, but it was loud enough.

Monitor engineer Phil Wilkey had his hands full with a pair of Midas XL-3 consoles, and a wing board. A difficult assignment as the band worked truly in the round, so monitor sends were from front wedges at different positions, and four flown fill-arrays. The sends had to satisfy a guitar band who moved around at will, without backline

within earshot.

The Australian tour is run by tour manager Malvin Mortimer, with Dick Adams as tour accountant. As is always the case with arena tours, a culture exists within the tour party that outsiders may find strange. Wally Bigbee Jr is employed as 'boffin', and is ensconced in a dressing room with enough tools to build a space shuttle. He boasts he can fix anything. Production manager Mark Spring works out of two roadcases forming a foldout office, with bubblejet printers atop. His desk had the obligatory picture of the tin lid and bottle of Tabasco sauce. The wall of the production office had an offering from two of Sydney's better types, who figured Mark needed some motivation. This came via a scrawled message on an A3 sheet of paper, something about 'sleezebags' and two Polaroid pictures of the girls concerned. Of course they were Polaroids as you might remember them, when rock and roll was, well, rock and roll!

Incidentally, it's winter down under so touring is down to a trickle, but the Cure are slated for more shows than Leppard, likewise Simply Red

look like making money in the next month or so before the season starts in October. Locally a concert version of Jesus Christ Superstar opens in arenas shortly, having sold a whopping 20 nights in Sydney alone. This production features entirely Australian talent, and is set to be the highest grossing show this year. Leppard left for New Zealand as L+SI closed for press and will arrive in the US in mid-August.

Tony Gottelier writes: The controversy over the mixed use of a variety of automated luminaires, which has brought 'waggly mirror' devices into the concert sphere alongside original heavyweights, first evidenced with Dire Straits continues with the current Elton John tour and David Hersey's new design for Starlight Express in London. A discussion group will be held during the PLASA Show in London, involving many of the leading protagonists in the current debate. The 'Automated Luminaires' seminar will take place in the Whitehall Room at Earls Court 2 at 14.15 on Tuesday September 8th. Tickets can be obtained from the PLASA office, telephone (0323) 410335.

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PRO LIGHT & SOUND ASIA - SINGAPORE

John Offord and Paul Dodd shared the work-load at the IMM Centre, Jurong East

Having spent just a few minutes in the noisy hall, I opted for and settled a Singapore dollar deal with lighting designer Paul Dodd for him to produce a report on stands in said area before sidling off to the L+SI stand in the quiet zone where I could do my 'half' of the job in comparative comfort. (There are times when it pays to be the editor.)

In general terms one could write home from Singapore and say Pro Light & Sound Asia is a tropical summer summary of what Europe saw in the spring - an encapsulated SIEL/Frankfurt/SIB flown out to the Far East. And I make no apologies if some of this report and accompanying pictures are a bit of a roll call. But for the exhibitors who bothered to put their money down and make an appearance out East then who's to say they don't deserve a line or two of publicity?

The Sound & Communication Industries Federation (SCIF) and DTI joint venture group included many standard industry names, mostly in sound, of course, but a few PLASA companies, mainly involved in the lighting sector, joined in too.

Opposite the L+SI/PLASA stand **Martin Audio** had a parade of product and displayed for the first time new managing director David Bissett-Powell who joined the indefatigable David Bearman for the trip of a lifetime. A little further along, the stands of **Lighting Technology** and **Arri** both had ways of enticing visitors off the aisles. For Lighting Technology it was the famous flicker candle trick that got people talking to Bev Bingham and Garry Nelsson: for Arri it was the enticing smile of Nick Shapley that pulled the punters into the clutches of Randall Miles. Lighting Technology gave emphasis to the Lightpaint colour scroller, the Brucie Brute mini-8-lite unit and JEM's 'Roadie'. Arri showed their Mirage, Impuls 2 and Imagine 2 memory lighting consoles plus the Reflexion security system which copies up to 60 states from any DMX output lightboard into 12 submasters, with five pages of memory. Far away at the Pan Pacific Hotel they had a display of their TV lighting equipment for invited guests.

Wharfedale's Steve Halsall and Stephen Song of Swee Lee Co, their distributor, showed the full Force Series range including a prototype of Force 10SB, a 2 x 15" 1200W sub woofer that will be fully launched at PLASA in September. **Fane** products were also shown on stand.

Citronic's new PCX386sx is a rack mount fully compatible IBM industrial type computer in a rugged 19" rack mount configuration for on-the-road MIDI systems or professionally installed studio, automated lighting and environmental control. It has a high specification power supply capable of running five full size IBM spec interface cards as well as the on-board 1.44Mb 3.5" floppy and hard disc driver, VGA colour graphics, parallel port, two serial ports and games port. Separate forced air cooling is provided for the power supply and interface cards make this a serious machine for touring and fixed installations. The computer comes complete with 1Mb Ram, AMI BIOS for IBM compatibility and DOS.5. The power supply is CSA and TUV approved as well as being built to the new EMC requirements. A range of hard discs, monitors, keyboards and RAM options are also available to customise the PCX386sx for customer's own applications. With the growing requirement for PC's in MIDI and lighting control applications this new unit provides an interesting option to the more marginally designed business machines, and being a true IBM clone it can also run your business system!

Also shown by Mike Gerrish on the Citronic stand were two new high performance professional 2U equalisers, SPX7-41 and SPX7-47, further extending the company's pro-product signal processing line to front of house applications where precise control is required. Both models are fitted with high quality 45mm faders.

Clive Bradbury presented **Celestion's** full SR Series range of enclosures in addition to their new BX professional sound reinforcement components, first shown at this year's Frankfurt Music Fair. It was Celestion's fourth appearance at this show, having exhibited

since its inception.

Many of the big names in loudspeakers were present at the IMM Centre. **JBL** showed their new Array Series 4892 and the 4200 Series studio monitors. **Community's** colourful stand homed in on their CSX range of performance speakers, and **Apogee** showed their Series 2 loudspeakers and the versatile Artist systems on the stand of Music Plaza. **Electro-Voice** and **Dynacord** equipment was based on the stand of Mark IV Inc; **Nexo** had their own stand as Singapore-based Nexo (Far East) Ltd.

Soundtracs had a wide selection from their sound console range with Solo Live 24, Solo MIDI 24, Trackmix 2, Quartz 32, Sequel 24, Megas Studio and Megas Stage laid out for examination, managing director Tod Wells reporting to L+SI that Swee Lee of Singapore are now their distributors for the whole of South East Asia.

Soundcraft, based on the stand of Electronics and Engineering Pte Ltd, showed their Vienna and Delta SR consoles for the first time in Asia alongside Venue, Sapphire and Spirit Studio, Monitor and Live. Equipment from **Amcron** and **Altec Lansing** also figured on the same stand.

Back to Mark IV, the **Midas XL3** live performance console attracted a good deal of attention and sat alongside were **Klark Teknik's** DN728 configurable digital delay line and DN800 active crossover.

Allen and Heath consoles, including the new GS3 ultra compact recording console, and **Turbosound** speakers were presented on the stand of Expotus Limited. Also in the SCIF group **Amek/TAC** had a varied range of mixing consoles including the latest three-month-old 'Einstein' desk. Not to be outdone, **Trident** of Shepperton showed their 'Trident 90' outside the UK for the first time.

On a joint stand, Nigel Cunningham of **Millbank** and Robert Lingfield of **Hill Audio** showed a combined range of products including the new Hill TSA range of power amplifiers and their new PA Test Set from Millbank that had already proved useful to numerous fellow exhibitors.



Paul Mulholland of Jands (left) shows the 48 channel ESPII to Wayne L. Wilson of Flashes Sound, Papua New Guinea.



Apogee Sound Inc.'s Jim Sides (left) and Nicholas McGeachin (right) with Winston Ignatius Goh of Audio-Visual Land Pte Ltd.



Zero 88's Freddy Lloyd with Sirius control boards and Yeo Kim San of Theatre Project Sdn. Bhd.



The stand of Lighting Technology with JEM's Roadie in foreground left.



Light Processor's new 'Integrator' control on the stand of Hawko.



Phil O'Donnell (left) of Strand Lighting Asia with theatre consultant Richard Brett.

Cloud Electronics had their complete range on view, but put emphasis on their CX Series - the CX Modular Mixer, CXF Fixed Format Mixer, CX Zoner - following their highly favourable reception in the UK and Europe. Roy Millington of Cloud and Ray Wilkinson of Northern Lights did the stand duties.

Drawmer featured their DL251 'spectral compressor' which incorporates the unique 'dynamic spectral enhancement' circuitry to restore high frequency energy lost during the full band compression process. It can also be used to add extra 'spectral energy' to the programme material.

New on the stand of Omniphonics was their PRE1 audio resolver/pre-amplifier which has been designed to ensure that a signal leaving the unit is within .002 of the same signal that entered. Saturn Research/LA Audio had three latest units on view: the Multi Gate, Midi Mute and Classic Compressor.

Phil Hildrow of C-Audio showed four new products: the new TA Series 2 x 600 Watts power amplifier, a sub-bass crossover, the MP1 studio and broadcast amplifier and the IA computer controlled amplifier system. In addition, they also showed for the first time in Asia their newly styled RA Series, along with the existing EQ graphic equalisers and R707 high powered amplifier.



US sound guru Fred Ampel (left) of Technology Visions with David Bissett-Powell and David Bearman.

Before returning to the lighting line-up I should at least complete as far as possible the 'names' in sound. A Yamaha touring console was centre-piece on the Music Plaza stand and Crest Audio equipment was also evident here. Audio Technica had their own stand showing a comprehensive range of microphones, and Sony had the ultimate in trickery with their Audio Sweetening System, DAT editing and video chase systems and a CD mastering system. Centre-piece was their PCM-3324S 24 channel digital audio recorder.

Phil O'Donnell, managing director of Strand Lighting Asia Ltd, headed the Strand team and they had a representative range of products including LX12 and MX48 control desks, the Mini Light Palette 90 control system, Act 6 dimmers and CD-80 digital dimmer packs. Luminaires included products in the Minim, Quartet, Prelude, Leko, Cantata and Coda ranges. The new Color Call scrollers were also in evidence as were Rosco products including Supergel, designer materials and fog machines. Completing the line-up was a Strong 2k xenon followspot.

ShowCAD was front of house for Cerebrum Lighting, with John Lethbridge in full control and with Rod Bartholomeusz still wearing learner plates but due for the test any day. Gelstring scrollers were on view again together



Geoff Jones in Laser Studio mode.

with Powerdrive stands including two latest additions to the range, the Lighthoist and ScanStand.

Several lighting companies had arrived at Singapore via the World Lighting Fair in Tokyo, and still holding hands for the last leg of the tour were Freddy Lloyd of Zero 88 Lighting and Chris Cronin of Light & Sound Design. Chris was working from 'up top' and around the edges with Total Fabrications trussing and ground support, while Freddy kept both feet on the ground with Zero's controls and Focus luminaires.

A fair bundle of lighting 'names' appeared on the stand of Music Plaza/Audio Visual Land Pte Ltd, the Yamaha off-shoot based in Singapore. Avolites had the many-suited Steve Warren with his QM Diamond at stand front, the structure was from Thomas, and other lighting equipment included Camelont Rainbow scrollers, Teatro and Spotlight luminaires, Lycian followspots and projectors from High End Systems and Martin.

Jands showed their new ESP11 lighting control console (first mentioned in L+SI in our Frankfurt review) which is available in 24 and 48 channel formats. Also shown, and for the very first time, was their DDX-60 60 channel DMX 512 demultiplexer. Event and Event Plus completed the line-up.

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Mitch Peebles in control for High End Systems' presentation . . .



. . . and the show itself.



Fal effects in motion.



The Clay Paky presentation, complete with videowall assistance.



The 6 x 6 Laserpoint Pixelite videowall with 2 x 2 projection wall to left.



Softlink from LSC with Len Hayward (left) and Alan Graham.



The Cerebrum Lighting presentation with ShowCAD at stand front.



The Omnicron laser control centre on the Hawko stand.

Also from Australia, **LSC Electronics** gave the first showing of their TS1220 dimmer which carries on the tradition of their Tour Series. The new unit includes a 20A circuit breaker per channel, a vast array of options of power connectors and the choice of having both DMX512/1990 and analog input signals connected simultaneously. Its intelligent twin microprocessor control circuitry gives added features such as LED indicators, riggers switches, auto frequency selection, chase patterns, optional on-board scene storage facility and selectable fade curves and power supply monitoring. LSC have also extended the available modules for Softlink and their Focal 180 console now has considerably advanced software. The company will have its full range of new products at the PLASA Show on the stand of Lite Structures. Between now and then they've locked managing director Gary Pritchard away in the shed at the bottom of his garden to dream up more goodies.

Theatrelight of New Zealand showed their Scenemaster and Showmaster control boards but highlight at Singapore was their new 12 x 10 amp digital dimmer which has DMX512 and analogue inputs, magnetic circuit breaker protection and automatic voltage frequency selection amongst a host of features.

Gerriets, the specialists in manufacture and make up of fabrics for the entertainment and presentation industries, also showed **Triple E** tracking and mechanical systems. Having their own representative office in Singapore must have made their life a great deal easier than for the vast majority of exhibitors.

Finally, and looking ahead - hopefully - to the PLASA Light & Sound Show in London in September, I spied the **Wenger** Sound Module Room on the stand of Music Plaza. Any takers? Ring me at the PLASA office and I'll happily

give you the contact information.

John Offord

You are now entering the Noisy Zone, where fantasy begins and reality disappears (behind the waggly mirror on the front of it); a place where time has no meaning (that's the jet-lag), and where your eyes can scarcely be believed (too much smoke). Yes, this is the Noisy Zone of Pro Audio and Light Asia 92, in a hall that this year was at least air-conditioned during build-up, had a reasonable height to its roof, good facilities, embarrassing toilets and a totally out of town location. Within the Zone two sections dominated, the APIAD Italian contingent, and Inova who represent, amongst others, High End Systems.

Whereas the Italians were spared the nightmares of last year's structures, their stands were still not complete and ready for occupation the promised 48 hours before the show opened, leading to more than a few raised latin adjectives. Despite this though, come opening time, the entire hall was able to switch on and crank up their sound systems to produce an incredible cacophony of concurrent demos which diminished only slightly over the next few days. Still, I suppose that if the sign on the wall says Noisy Zone, you've gotta make some noise!

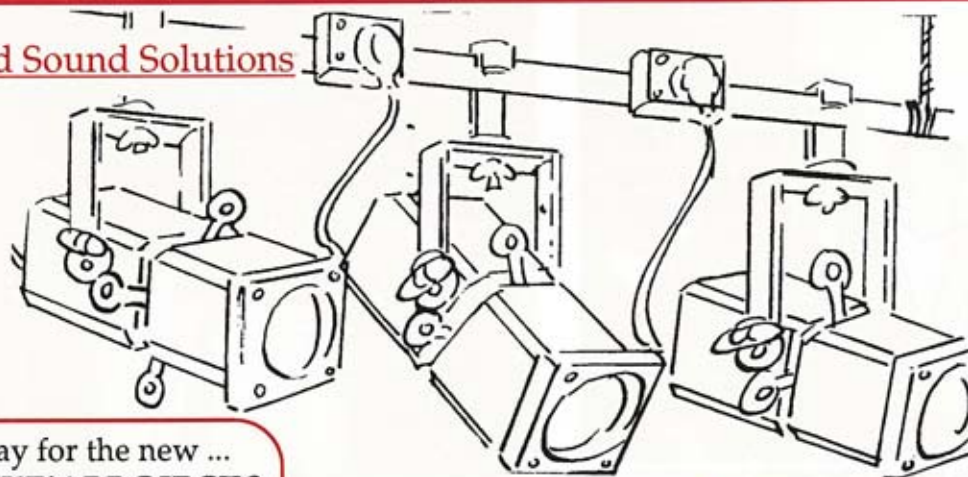
Amongst the many Italian companies present there were a few new products to be found that had not been seen at Rimini - **LED** had two on display - the Sharp and the Wheel, the former using an 800W linear lamp to produce a sound activated multicoloured conical fan of rotating horizontal flat beams, the latter an 800W 'tunnel' lamp to produce a similar effect but with cones rather than flat beams. Both are members of LED's excellent family of low-priced beam effects.



Spotlight's luminaires in silhouette.

A new addition to the Galaxy/Synchro genre, but with several importantly different features, the Fal Octopus made its debut on the Fal stand. The central HMI575 lamp is mounted on an ingeniously user-friendly retracting platform. The effects mirrors around the body of the unit are not all identical as on other variants, opposite pairs combine to produce different effects: cones, flat fans, scanning beams, etc - all of which are sound activated and rotate bi-directionally. A 0-10V input permits selection of the various patterns, blackout, and fully automatic sound activated mode, and is daisy-chainable to multiple units.

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Mike Gerrish with some of Citronic's latest signal processing wizardry including the latest SPX7-41 and 47 equalisers centre of stack.

Talking of families, **Pulsar** and **Clay Paky** were once again showing how professional a clean and nicely laid out stand can look. Andy Graves and Derrick Saunders needed only to touch a languid finger on the remote control to start a fully automated, timecoded lightshow. The comprehensive presentation was completed with a videowall display of the product range. Although everything had been displayed at Rimini, news has reached me that a Golden Scan with five rotating gobos, to be called TigerScan, will be launched at PLASA.

Coemar were showing a large range of equipment including the recently launched MicroScans and the TAS Synchro with a brand new remote controller. **Novalight** were creating some serious illumination with the first

production models of the Booster, which uses an HMI 2500 lamp to produce the outdoor 'skytracking' flower whose power was demonstrated to ample effect lighting up the 'hitchhikers' on Rimini's seafront earlier this year!

On the **Fly** stand I was able to get my hands on the Olos controller which was hooked up to units in the Fos range of moving mirrors - a clever controller for some very well endowed projectors.

Moving away from the APIAD section there were several other items of interest to be found. **Hawko** are a company that distribute a significant range of products throughout the Asian market. On their stand **Light Processor** were ably represented by Graham Norman

demonstrating their extremely comprehensive new Integrator controller. This unit is sophisticated enough to warrant a review of its own, but to provide a brief overview it combines the facilities of a chase sequencer, memory lighting desk and intelligent fixture controller in one unit. There are 128 scenes, 64 scene chases and 24 cues/sequences available for moving mirrors - many of the most popular of these have their DMX channel assignments already stored within the Integrator, automatically assigning 'Action Keys' to gobo, colour etc and the mirror motors to the integral joystick. Communication is via DMX512 (1990) - 256 channels, RS232, assignable eight channel analogue and Midi in/out. Four pages of 14 touch sensitive pads provide instant



Lording it from above: Chris Cronin presents Light & Sound Design's Total Fabrication range.



Derrick Saunders (left) and Andy Graves (right) of Pulsar and Pio Nahum of Clay Paky (second from right) with Anthony and Jocelyn Goh of Hawko.



Cloud Electronics' Roy Millington shows the CXF mixer.



The Gerriets stand with Triple E track systems.



A busy period on the stand of Arri GB.

response for those who still like to get their hands on, backed up by an LED display of all output channels and, simultaneously, their levels. All in all a product worthy of much deeper attention than this article can provide.

Also on the Hawko stand, Peter Schwandt was operating the new **Omicron** Virus computer laser control system with one of the most aesthetically and ergonomically pleasing laser control boards I have seen. The system offers true 3D image processing and a host of sophisticated features whilst retaining the element of instant access.

Amongst other equipment on the Hawko emporium was the Smart Cube (see L+SI July 1991), **RCF** speakers and **Formula Sound's** popular range of mixers including the System 2000 and the new PM90.

Magnetopulse are agents for **Laserpoint** and had put together an extremely attractive stand with a facade featuring a 6 x 6 Pixelite Videowall and a 2 x 2 Projection Videowall upon all of which they were alternating demonstrations of Laserpoint's Shogo and Confex control software.

The **Laser Studio** stand was a constant hive of activity, with Geoff Jones running frequent fully automated laser shows using the 1W Spinnaker white light laser from Spectra Physics with the FX controller, a very effective combination that retails below 20K in the UK. Alongside this was a Purlite 2 and the Magnum R.G.B. Colourlock system. The sound was provided by **Wembley Loudspeakers**.

As mentioned previously there was one other section that dominated the Noisy Zone - **Inova**. They occupied two stands each of approximately 164 square metres: one for the **High End Systems'** display and the other split between Inova's other product ranges and a hospitality area lavishly decorated by Bygone Times and refreshed by Carlsberg. These were an example of how planning and co-ordination should be, resulting in an extremely professional presentation - something both to be proud of and to do serious business with. High End's Meroform stand was also built by Inova and provided regular dramatic lightshows with the award-winning Mitch Peebles at the controls. Sited amongst these was High End's new Touchdimmer 12 making its first public appearance. As its name implies it is a 12 channel touch-sensitive dimming controller featuring 10 matrices, 10 chases of 127 steps

each, 0-10V output, real time chase programming and crossfading, master/slave linking and is Midi addressable. Although not part of the lightshow itself, another item making its first outing was the Trackspot, a compact intelligent moving mirror unit with 10 colours, 10 gobos, micro-stepping, 100% dimming and a very bright QT8500 light source. Both these items and the Cold Flow, a device for making low fog using the F100 with the Cold Flow Formula juice and a front end addition connected to a tank of CO2, will be prominently featured at the forthcoming PLASA show. The Intellabeams and Emulators used in the display were in their new black livery, a change dictated by the stage market that gives the units a much improved (non?) appearance.

Following the lightshow was a spoken description of the fittings displayed and then an invitation to visit the second part of Inova's stand across the gangway to view, amongst other items, some new products from **SLE**. Firstly came the Rotostatic which projects and slowly horizontally cans a cone of light. The unit uses a 24V 250W lamp and looked impressive when used in pairs. The Supertunnel projects a circle of G cones with sound activated bi-directional rotation utilising a 36V 400W lamp as source. Other new effects were the Rainbow - which projects two semi-circular 'flower' patterns that pass through each other, again to sound, and the Goboscan, an eight gobo, six colour totally automatic, sound activated 800 watt moving mirror unit. At the end of the demonstration, there was a word of thanks from the microphone and an efficient distribution of catalogues - all in all a superbly presented and synchronised sales exercise.

Across the event exhibitors reported that although there were comparatively few visitors to the exhibition this year, the calibre was high, and sales leads were good. Everyone was grateful that busloads of students were not brought in to boost attendance numbers as at other exhibitions they had visited.

As for myself, I begin to wonder just how many more waggly mirrors the market can absorb. I suppose at least that if the market is so flooded by 'originals' there will be no room and therefore no need to fear the dreaded, but this year not highly evident, Taiwanese copies. I prefer to think that we might at least begin to create something radically different.

Paul Dodd



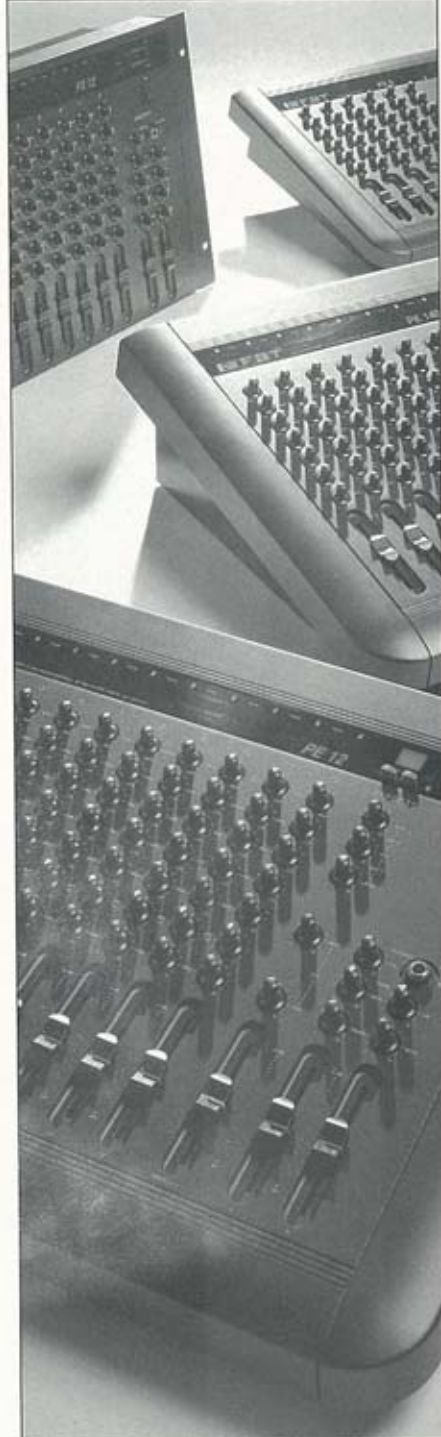
Wharfedale's Steve Halsall (right) with Stephen Song of Swee Lee Co.



Man in charge: SCIF chief executive Ken Walker (right) with Ray Wilkinson of Northern Lights.

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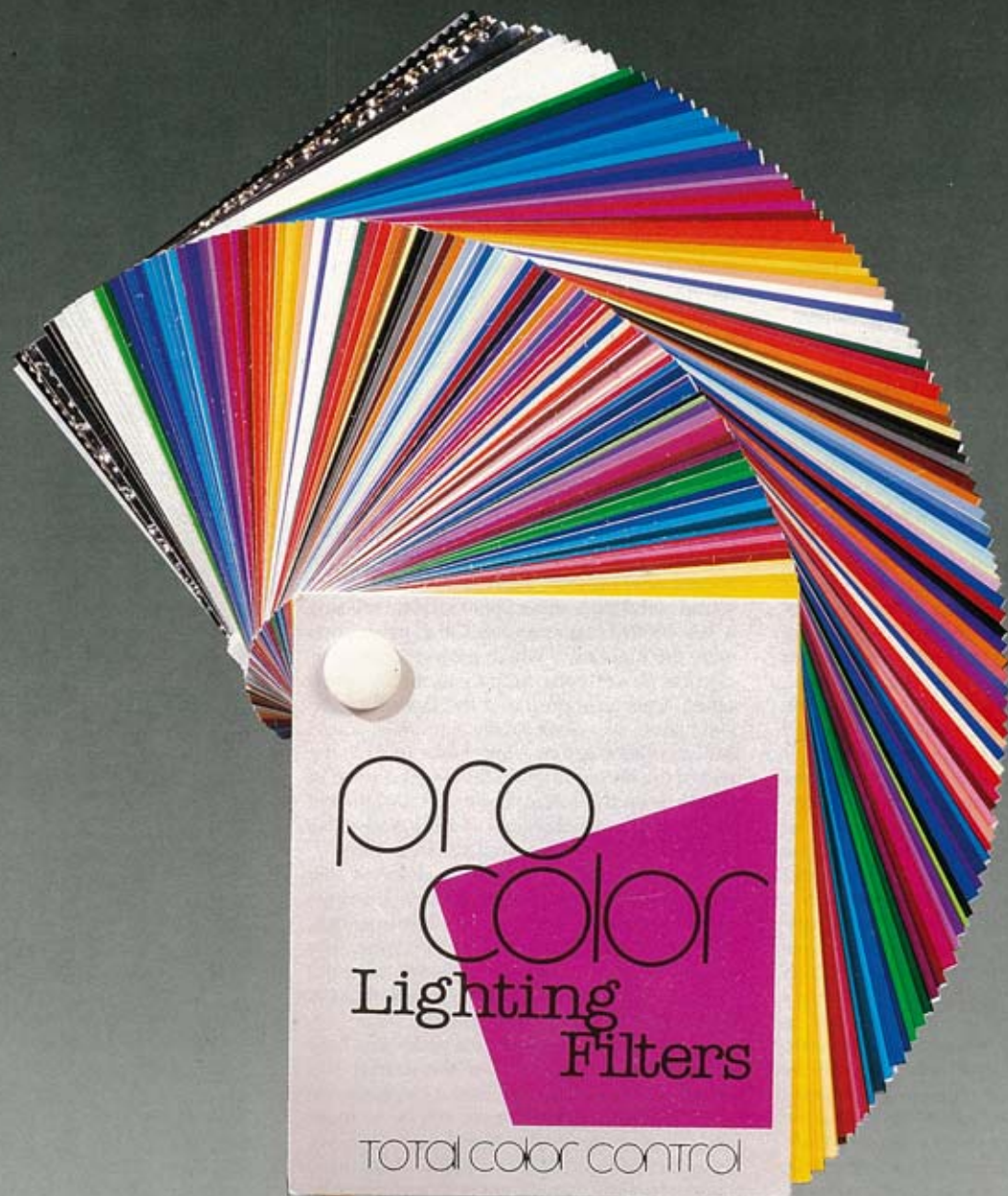
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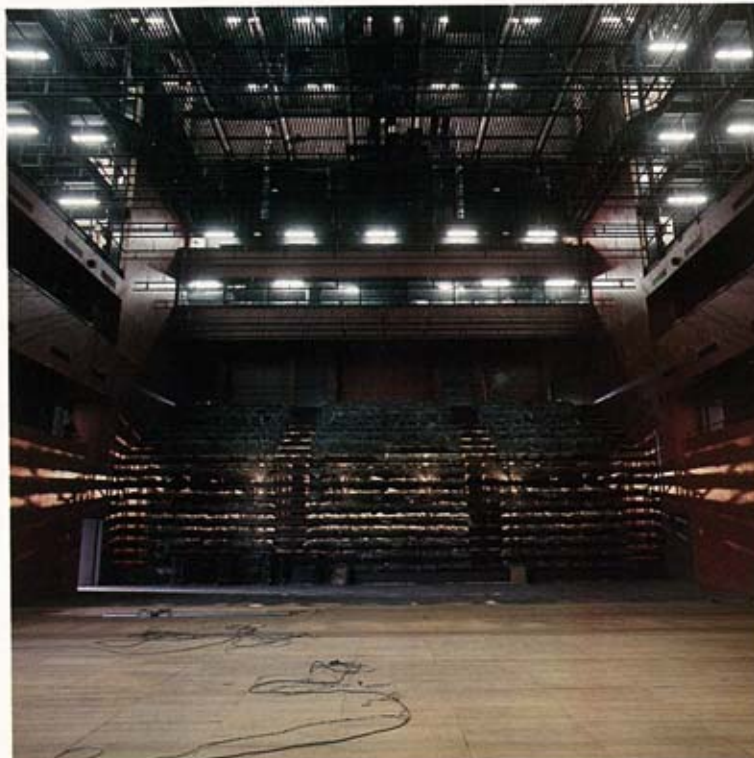
THE VERY MODEL OF A MODERN MODULAR THEATRE

Among the AVemora of Expo '92, Tony Gottelier discovers a gem of a theatre, which he believes could be a blueprint for future performance spaces. He also investigates the considerable technical equipment in use at Expo's open air arena, El Palenque

After the disappointment of the Auditorio as a performance arena, largely due to the total absence of any technical theatre input to the design, it was a total contrast of the opposite extreme to discover the Teatro Centrale within a quarter of a mile on the same Expo site. In this case architect Gerardo Ayala is to be congratulated for his highly intelligent approach, and the fact that he was open minded enough to accept considerable input from Juan Gomez-Comejo the Teatro's technical director. Juan, and his assistant director Tano Astiaso and Fransesco Permanyer, sound and video specialist, form a rare and experienced team and, this time, were sensibly on the project in good time to influence the technical structures. And the resultant splendid facilities are, indeed, both extensive and pragmatic.

And I am happy to report that, unlike other such arenas on the site, this little gem will remain in place on the Isla de la Cartuja in Seville long after the international Expo brigade have packed up their pavilions and departed the Iberian peninsula.

So it was well worth the extra effort. Designed by its architect as a 'box within a box', the exterior is clad in natural stone, though through the glass wall of the main lobby the interior and mezzanine levels are revealed. Conceived as a house for contemporary productions, with artistes as individual as Laurie Anderson, DV8, Rosas, L'Esquisse, Carbone 14, Frankfurt Ballet, Toneelgroep, Remote Control, Deschamps and Deschamps, Thalia Theatre and the Michele Anne de Mey Company all appearing there during Expo, it is



The performance area, an adjustable proscenium.

easy to see why a highly versatile multi-purpose space is essential. Thus, the performance area can be reconfigured from traditional 'Italian' end-stage theatre, to Elizabethan, arena format or even theatre in the round with free staging also an option with industrial presentations, lectures or fashion shows in mind. Audiences of up to 700 can be accommodated, depending on the configuration. And there is even the luxury of a back stage 'black box' rehearsal space which is a scale model of the real thing!

The two essential factors in this elastic situation are the Figuera roll-on-roll-off seating, which is interlocking tiers of seats which

concertina in a tortoise-like retraction, and the adjustable proscenium. Realised by New York specialists Hoffend, the width of the stage opening can be varied from 10 up to 16m and from seven to 11m in height. It can also be moved nearly four metres up or downstage, or it can be flown out totally. To achieve this the pros is a series of giant overlapping flaps which can rotate through 90 degrees in two planes to be taken out and stored on the technical tier. All of this is further supplemented with a set of three lifts at the front edge of the stage, totalling six metres in depth.

The flying equipment consists of 66 counterweight sets of 400 to 500kg, 41 'Omni' winches from 1500 to 200kg of which 12 are laterals, 20-1500kg mobile motorized point hoists and hemp rigging equipment facilities are provided throughout the house. There are 24 gantry 'Nivoflex' and 12 'Combi' extensions to connect the gantries. All of this technical equipment, provided by Hoffend, is managed by their 'Micro Commander' control system.

Supplies to the grid are on drum trolleys, which provides 18 circuits, each of 5kW, plugged straight into each lighting bar (or 36 @ 2.5kW).

There are two flexible lighting bridges above the stage and a wide range of luminaires from such houses as ADB, Strand, Niethammer, Juliat, Quartz Color, Teatro and Thomas (see accompanying equipment list). The followspots are Robert Juliat HMIs and Juliat also provided some electronic shutters. There are six PanCommand 'Color Ranger' scrollers available, together with a choice of Rosco 4500



The Compulite console with Ramsa desk in the background.



Teatro Centrale: architecturally a 'box within a box'.

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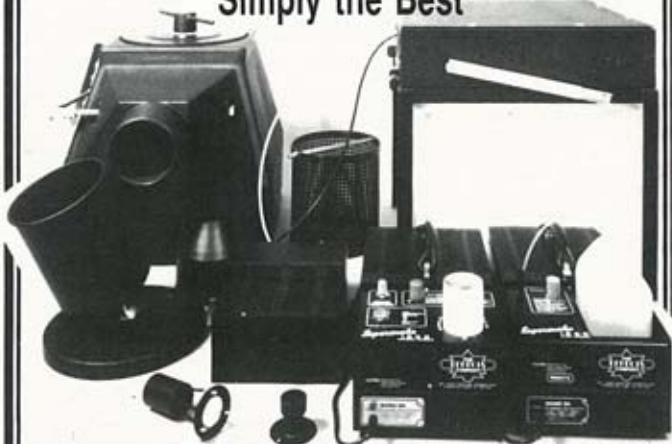
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Technical director Juan Gomez (centre) flanked by Francesco Permanyer, sound and video specialist (left) and Tano Astiaso, assistant director.

smoke machines or Le Maitre 'Pea Souper' dry ice foggers. Selection of the lanterns was solely on a 'best buy' basis from each of the suppliers concerned, according to Juan Gomez. Lighting control of the 700 dimmer channels, supplied mostly by ADB, but with some 'Eurodimmers' and DDD, is by two synchronized Compulite Mini-3s supplied by Eurolight. The smaller of these is mobile and there is a dedicated DMX line connecting colour changers, shutters and mobile dimmers. They also use a digitizing tablet for programming which, they told me, they had found to be the easiest method.

A fine example in microcosm of the careful thought which has gone into these technicals are the side stage verticals which are mobile, extendable and fold forward for rigging. And the outriggers have been turned to good use as stepladders at the rear. Even the mini rehearsal theatre is equipped with 12 'Omni' motorized winches and 12 portable point hoists, enabling performers to work in a 'real life' situation.

The acoustics, which were designed and implemented by Garcia BBM of Madrid in association with Muller and Muller of Germany, are also flexible. 32 curved panels mounted on four of the lateral bars, and 16 others located in the auditorium, are reflective

on one side, sound absorbing on the other, allowing various acoustical adjustments. The consultants have recommended specific settings for a variety of productions, such as opera or theatre, and for the different seating arrangements. These are fine tuned by the technical crew at the time.

As far as sound is concerned, there are 128 mic lines patched to a Ramsa WR-S840 mixing desk which outputs via a Klark Teknik DN60 and RT60 spectrum and reverb analyzer to 12 Ramsa WZ-9320 eqs. and from there on the house system is all Meyer, at the insistence of Francesco Permanyer. There are 12 Meyer UPA-1B bi-amped speakers and four MS-USW-1 sub bass cabinets with associated controllers and power amplifiers. There are also the mandatory effects units and a variety of playback devices. Stage monitoring is all Ramsa.

Live video transmission of any show to non auditorium areas is made possible by an IR controlled camera and there is an assortment of video sources available for use with a Sony Trinorma TV projector and a choice of black or white back projection screens 15.5 by 8.5m.

Tano Astiaso is especially proud of the Clearcom 812 system, located stage left, which, via a patch bay, accesses 12 lines with between 20 and 30 points on each line. There is an input approximately every three metres from roof to basement!

This little trio headed by Juan Gomez first came together on a project to convert an old building in Madrid into the Salla Olympia theatre. Then they became involved on the Teatro Centrale project for two and a half years. Since they had achieved such a great deal together I asked Gomez whether they had any plans to set up together as Spain's first professional theatre consultants. "Not at present," he assured me, "but you never know what may come along in the future." "I, for one, look forward very much to reporting on their

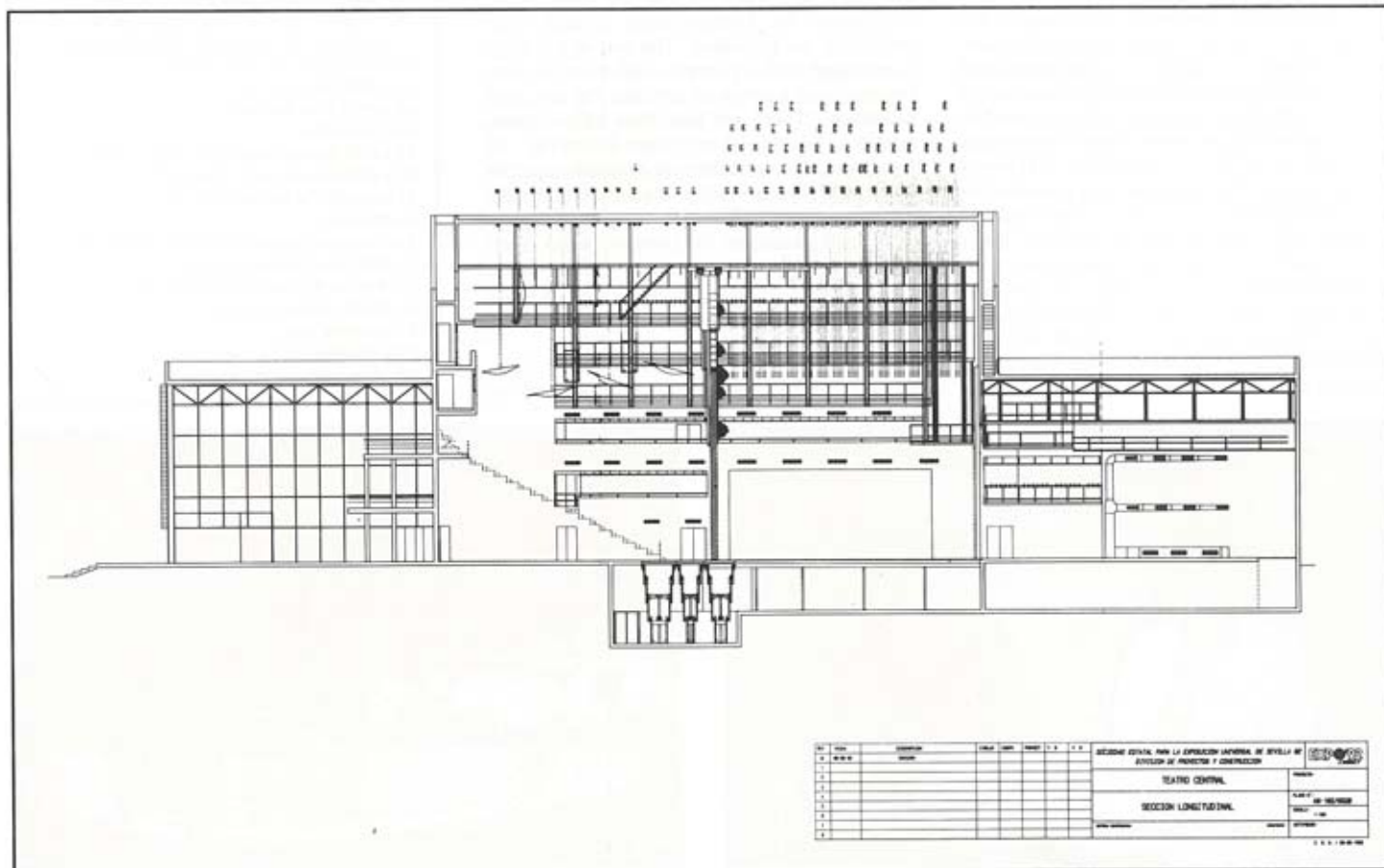


Ingenious stage verticals at Teatro Centrale.

first large scale effort which cannot, surely, be too far round the corner.

EL PALENQUE

On the contrary Juan Aranda, technical director of the Palenque, Expo's open air arena, has a thankless task. With a 19.3 by 23.5m thrust stage surrounded by fountains and a terrace consisting of nine tiers of seats set in the middle of an open plaza with bars, kiosks and a milling throng, there is always more noise from off stage than on. For Palenque, with its continuous and ever changing performances morning, noon and night, 18 hours per day from 10am to 1am with six or more different shows, is the major focal point of Expo '92 and, certainly at night, has become the major meeting place of the site.



A long section through 'this little gem' of a theatre. Teatro Centrale, Seville will remain in place long after the Expo international brigade has shuffled off the Spanish soil.



El Palenque - focal point of Expo nightlife.

As with the Auditorio, when Aranda appeared on the scene, major architectural decisions had been taken and the fundamental design set, but fortunately he was there in time to influence major changes. He upgraded the power specifications, extended backstage facilities considerably, provided for cable routes throughout keeping sound and lighting runs apart which had not been the original plan, improved the loading access, raised the height of the canopy by 1.5m to allow for the technical grid at seven metres from the stage, removed the bottom tier of seats which were too low for sight and modified the structure to provide the essential 30sq.m dimmer room in the basement. Once again a theatrically naive architect was on the case, though it could have been worse; originally there was to be no covering to the stage at all!

Despite these changes all trimming of the lighting still has to be carried out from a tower, as the aesthetic did not allow for the tented roof to be raised sufficiently to provide catwalks. So the idea is to have as many lights as possible which do not require re-focusing as very often only 15 minutes is available between performances. The modified grid provides for a 2.5kW point every 5m. The task of performing such miracles falls to Jordi Llongueras, the chief technician who takes it all with the bemused smile of a man who has seen it all before. Three shifts are operated across each 24 hours, with a crew of 24 per shift including board and followspot operators, eight for the lighting, four sound men, two for

video, four scenery technicians, two stage managers and four stagehands.

A large cabin is provided front of house for control of sound, light and video plus two followspot perches, at times there are as many as seven or eight technicians working there. All sound is Ramsa, as the approved Expo sound supplier, and lighting control is an Avolites 90 channel board supported by two ADB Tenors. The dimmers are also ADB.

The lighting rig, arranged on trusses, is distributed in two zones over the Palenque stage. The first, to provide for dancing to a live band at night, is situated in front of the pros and provides for concert type lighting with a predominance of Par 64s and Syncrolite automated luminaires with ADB fresnels for general wash. Also in this area there is a 6 x 4m back projection screen for which two Hardware for Xenon large format slide projectors are provided. The rest of the stage is provided with a general wash from 92 2kW fresnels, and a range of profiles, Par 64s, and Molefays. There are four Pani follow spots, with two positioned on chairs in the rig. 80 Rainbow colour scrollers are available together with four Rosco smoke machines (see also equipment list). All the lighting is on rental from, and supported by Siemen's team of on site technicians consisting of Luiz Ruiz, Germinal Ruiz, Jose Amoros, Jordi Ramos, Marcelo Ortega and ex-Strand, ex-pat Graeme Pusey.

It is calculated that there will be at least 1,056 different performances at the Palenque during

Expo '92, including being the centre for each country's national day. Yet, despite the haunting image of the hand of doubting Thomas (which hangs behind Aranda's desk), I have little doubt that the chain smoking technical director will survive and move on to still greater things in Spain's developing theatre infrastructure.

More bits and pieces from Expo

Just a few of the pavilions of note which we failed to mention in our June review:

The Saudi tent, with sand-sunken monitors and Fitch designed exhibition; the twin domed Omani minarette with AVE installed show; and the Energy pavilion with its video projection theatre and fascinating interactive exhibition.

Teatro Centrale Equipment List

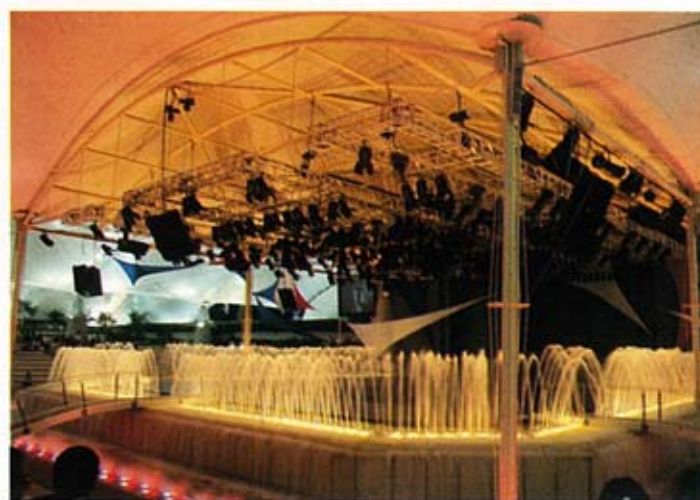
- 6 x ADB CH50 5kW fresnels
- 24 x ADB F201 2kW fresnels
- 36 x ADB F101 1.2kW fresnels
- 15 x Strand 650W fresnels
- 2 x Quartz Color Sirio Bambino 2.5kW HMI fresnels
- 30 x ADB C201 2kW plano convex
- 42 x ADB C101 1.2kW plano convex
- 12 x Niethamer Emizoom HPZ 211 2kW profiles
- 8 x Niethamer Emizoom HPZ115 1.2kW profiles
- 12 x Niethamer Emizoom HPZ 111 1.2kW profiles
- 12 x Robert Juliat 612S 1.2kW profiles
- 48 x Robert Juliat 614S 1.2kW profiles
- 36 Strand Prelude 650W profiles
- 2 x Robert Juliat HMI Korrigan 1.2kW followspots
- 8 x 2 Quartz Color Iris 2 x 1kW panorama
- 14 x Quartz Color Iris 1 1kW panorama
- 36 x Quartz Color Pallas 1kW panorama
- 8 x Strand Coda 1 650W cycloids
- 12 x Teatro work light 300W cycloids
- 4 x Thomas 2kW blonde floodlight
- 40 x Thomas 1kW Par 64 No.1
- 40 x Thomas 1kW Par 64 No.2
- 40 x Thomas 1kW Par 64 No.5
- 20 x Thomas 300W Par 56
- 20 x Thomas 50W-24V Par 16
- 3 x 8 Thomas ACL 8 x 650W air craft

El Palenque - Luminaire Schedule

- 2 x Pani HMI 1200 short optic followspots
- 2 x Niethamer Unispot HMI 1200 followspots
- 130 ADB 2kW blue series fresnels
- 30 x ADB 2kW blue series pc
- 48 x ADB 1kW Asimetric
- 18 x Svobodas
- 42 x ADB Europe range 2kW 22/40 profile
- 10 x ADB Europe range 2kW 16/32 profile
- 24 bars with Par 64 (six on each)
- 6 x Molefays
- 2 x Hardware Xenon 5000W slide projector
- 2 x ADB Tenor lighting boards
- 1 x Avolites 90 channel lighting board
- 4 x Rosco smoke machines
- 4 x industrial fans
- 80 x Rainbow colour changers
- 18 x Syncrolite automated luminaires



The technical director of Palenque Juan Aranda (left) and Jordi Llongueras, chief technician.



The Palenque surrounded by fountains and terraced seating.

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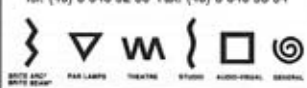
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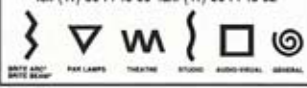
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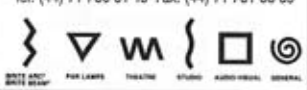
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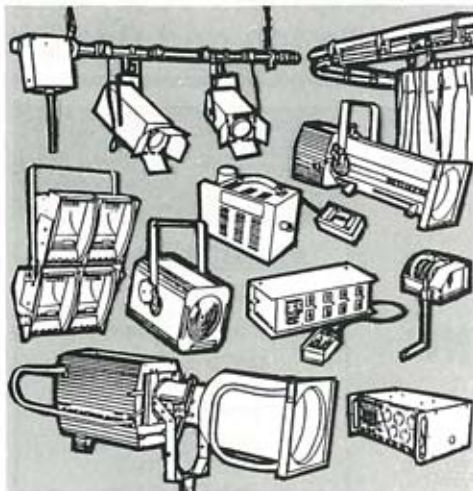
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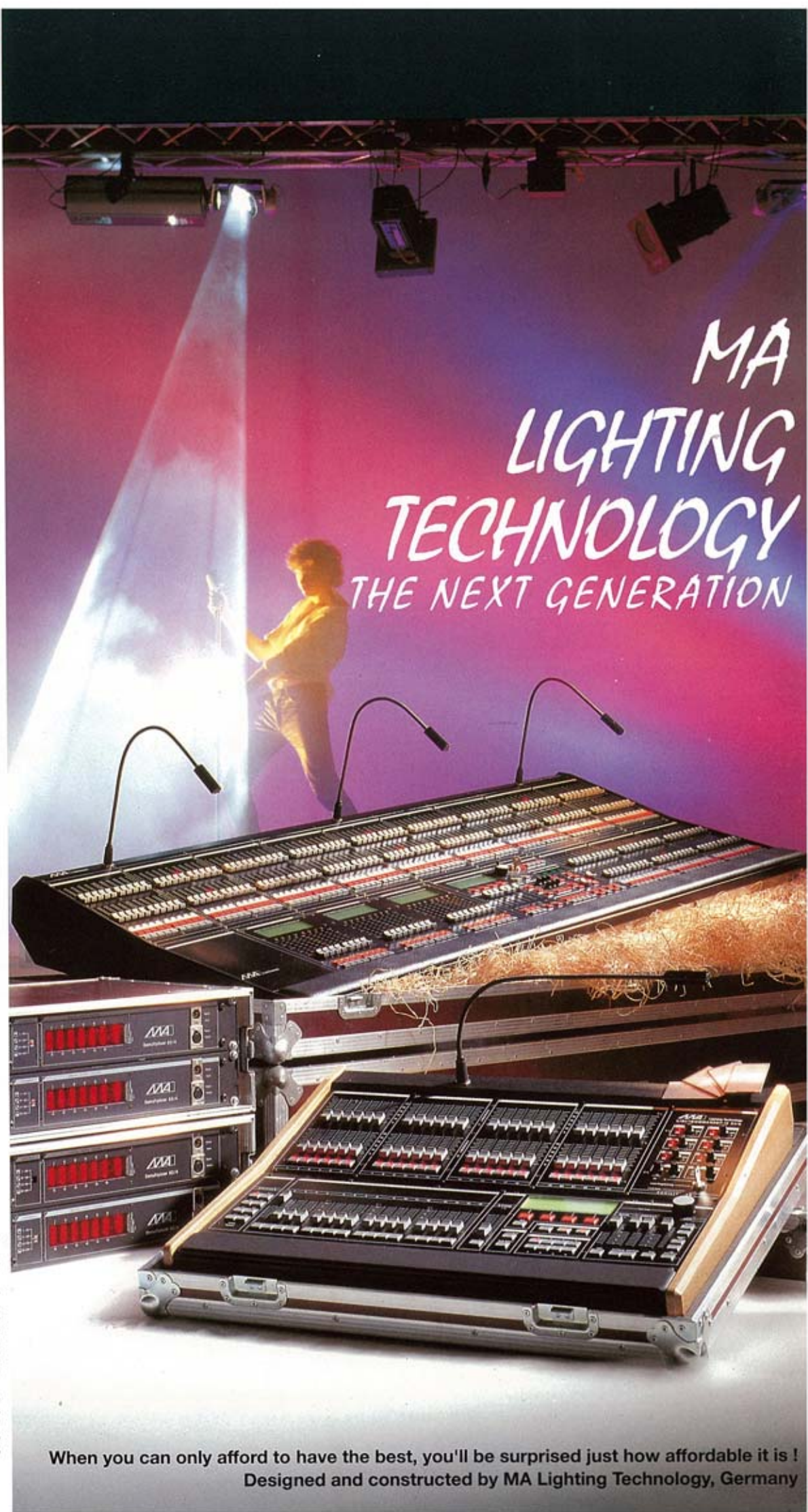
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