

LIGHTING+ SOUND

International



ROCK AM RING FESTIVAL, GERMANY'S BIGGEST

- Event Giants: Pavarotti in the Park, Donington Festival, Rock am Ring
- Indoors and Out: Dire Straits, Vangelis
- New performance spaces at Stratford and Cannock
- Major companies featured: Coherent and Ever Radio Violette
- Celco's Navigator and the Personality Card
- All the PLASA Show stands and News

SEPTEMBER 1991

Your investment in the right light.

GOLDEN SCAN "2"

Light-years ahead of the others

Your lighting system is an investment which directly contributes to your success.

Choose with care, because it has to last a long time.

Better not to ignore a guarantee of absolute reliability.

Better use Golden Scan to ensure Clay Paky undisputed quality.

Better be certain of buying the best product on the market.

Golden Scan: International Award as Best Lighting Effect of 1989

Golden Scan «2»: International Award as Best Lighting Effect of 1990



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The New Wybron Coloram™ lets you scroll through as many as 32 different colors in as little as 1.5 seconds!

Its direct drive is whisper quiet. And you can change it from analog to DMX format with the flip of a switch.

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So fast, in fact, that we sold over two hundred units before we'd even begun our first production run.

If you want to learn more about the state of the art in scroller technology, contact Wybron for more details about the new Coloram.

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Your investment in the right light.

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CONTROL BEYOND IMAGINATION



Imagine a lighting controller that will run Golden Scans, Par Cans, Strobes, Pinspots, tubelights, theatre lanterns, display spots, downlighters, floods, multi-mirror lamps, neon, etc., etc., and produce every effect you could ask for.

Now imagine a controller capable of doing all this simultaneously, but with every effect in its own individually programmed and timed sequence. Guess how much it would cost? Well, the answer is a lot less than you might think - less, in fact, than virtually any memory control board on the market.

Masterpiece is in a class of its own, the second generation of integrated lighting controllers. It is designed not only to get the best from intelligent lighting, but also to replace a collection of controllers that might previously have been needed for the job. We have tried to include every feature needed in modern light control.

MASTERPIECE

• 108 CHANNEL MEMORY LIGHTING DESK

- add Masterpieces, switched to slave mode, to expand 108 channels at a time, without theoretical limit.

• DESIGNED FOR:

Theatres, Bands, Discotheques, Intelligent Spotlight and Environmental control.

• CONCEPT:

A synthesis of Pulsar's Touch Panel, Control Desk, Rock Desk and Modulator technology - plus a little more! 70 Touch Pads, 25 Sliders, 108 LEDS, 4 Digit Display and Joy Stick.

• STRUCTURE:

108 Channels, 216 Scenes of the 108 channel levels with fade in and out times, 54 Scene Chases, 48 Environments of Scenes and Scene Chases, 6 Environment Chases.

• FOR THEATRICAL USE:

Fully automatic crossfades or manual crossfades using the A and B masters. Fade In and Fade Out time sliders to create/override the values stored with each scene. Add in any amount of the other 216 scenes at any time. Individual control of the 108 channels always available. Grand Master. Black Out.

• INPUTS:

Audio for Sound to Light and Chases, RS232 and MIDI for total remote control of ANY feature.

• OUTPUTS:

Channels 1-36 available as 0-10v analogue, channels 1-108 transmitted in both RS232 and DMX formats.

• SPEED:

The ultimate in both programming and operation thanks to its conceptual simplicity and having one touch pad for every requirement.

• MEMORY:

Internal memory non volatile. RAM card for backup, changing shows and transfer between Masterpieces.

• SOUND TO LIGHT:

Pulsar Modulator's Sound to Light circuits built in, 3 zones of 4 channels, each patchable at any level over the 108 channels.

• SECURITY:

Using his security code, the 'Programmer' may deny access by the 'Operator' to any touch pad or slider.

• OTHERS:

18 Keyboards of 18 pads, Latch/Flash/Sweep/Solo keyboard modes, Sound to Light monitor, Joy stick with position/velocity, Change security code, Freeze output, Master/Slave desk, Chase section: Manual step fwd/rev, Speed, Slope, Bump/tumble hunt, One-shot/repeat, Use scene fade times, copy chase...

... THE
SPECIFICATION
SAYS IT ALL

FOR FULL SPECIFICATIONS CONTACT

PULSAR
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United Kingdom
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Henley Road, Cambridge CB1 3EA
Tel: 0223 66798 Fax: 0223 460708

France
Clay Paky & Pulsar Sarl,
10 Ave du Fresno, 14760 Breteville sur Odon
Tel: 31 741001 Fax: 31734729

Germany
Clay Paky & Pulsar Vertriebs GmbH
An der Talle 26, 4790 Paderborn
Tel: 05251/409051 Fax: 05251/409931

This is the new Rosco Scroller.

***It will take from 3 to
24 colour frames—
and move them at
an unheard
of level!***





The new Rosco Scrolling System is one of the quietest systems on the market, created especially for theatrical and television applications where only a quiet system is admissible! With its ability to scroll from 3 to 24 colours, it provides one of the widest colour palettes available, at the most affordable price.

The Signal Processor understands a wide range of data protocols used in lighting consoles. The Processor provides control signals and power for up to 24 Scrollers, each one cabled directly to the Signal Processor. There's no chance that a faulty cable will shut down any subsequent scrollers in the chain. This provides accurate, bi-directional communication to ensure precise positioning.

It's the motor that matters.

Rosco uses direct drive/dual microstepper motors that are more accurate and more reliable than DC Servo motors. The System uses a sensor to back up and double check the accuracy of every colour position. What it doesn't do is depend on the fixed length of the string for accuracy as others do! Expansion from heat alone makes that technique error-prone.

A warranty never looked so good.

Here's one guarantee that's worth the paper it's written on! Rosco guarantees the Scrollers to operate under normal conditions for 5 years or it will be fixed free – both parts and labour!

For more information and a colourful demonstration contact Rosco or your Rosco dealer who has the new System available for sale or rental. Once you see it and hardly hear it – you'll want it!



Roscolab Ltd. Blanchard Works, Kingley Bridge Road, Sydenham, London SE26 5AQ
Telephone: 081-659 2300 Fax: 081-659 3153

Also at New York, Hollywood, Madrid, Toronto, Lisbon, Sao Paulo.

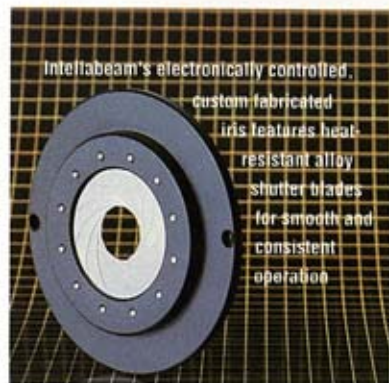
intellabeam 700 HX

Moving Light With Technology

Intellabeam represents the final stage in the evolution of articulate lighting, a system that allows designers and operators unprecedented versatility, brightness, speed and accuracy in the creation of cues and scenes with animated beams of light.

Versatility...

Each microprocessor based fixture can be easily programmed into a scene with precise beam positioning, choice of 12 colors, variable beam sizes, 12 gobo patterns, variable light intensity, and variable speed programming for mirror scanners, colors, gobos, and strobe effect. The Intellabeam system is ideal for theatrical applications, stage and studio, concert touring or nightclubs.



Brightness...

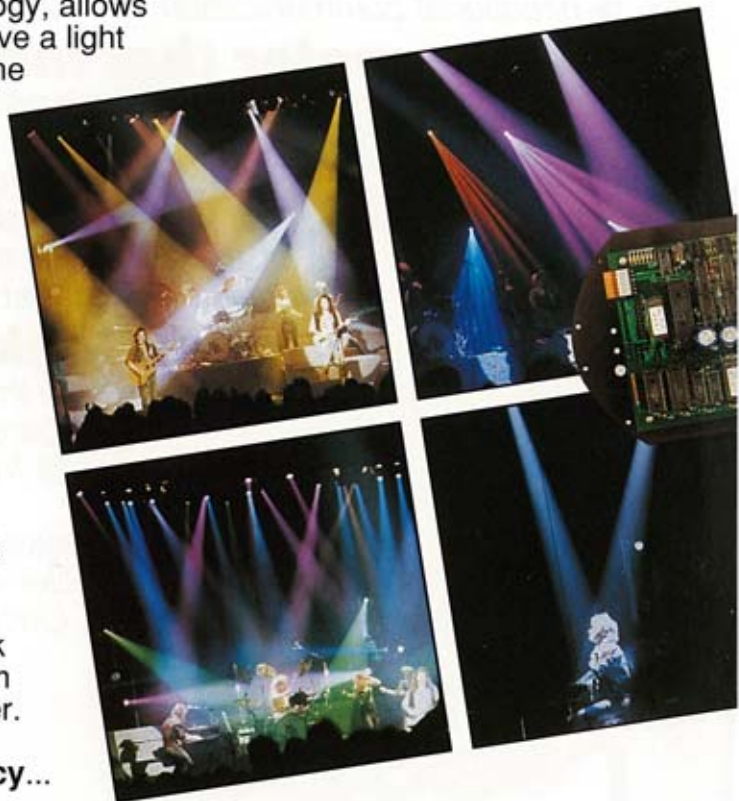
The ultra-efficient optical system, featuring dichroic filtration and infrared heat dispersion coupled with high output lamp technology, allows Intellabeam to achieve a light output unrivaled in the industry. The Intellabeam 700 HX produces a brilliant white light and can select any one of 11 additional pure colors created by dichroic filters on an indexing color system. The 700 watt metal Halide lamp, with an average lamp life of 750 hours, has a 5600K color temperature. A full range dimming system allows for smooth fade to black and cross-fades from one fixture to another.

Speed and Accuracy...

The Intellabeam 700 HX luminaire is able to animate the light beam by means of an extremely swift and accurate scanning mirror assembly which can scan to 170 degrees of pan and 110 degrees of tilt. Lightwave Research uses only high resolution, high torque stepper motors for its scanning mirror assemblies, remote iris, color indexer, gobo and shutter systems.

The Confidence of Control...

Intellabeam offers designers and operators the ultimate in an easy-to-use yet amazingly versatile controller. Total individual control of up to twenty four of the lighting fixtures can be accessed by a single Intellabeam controller. More than 24 Intellabeam 700 HX units may be controlled from a single





controller by setting the address switch at the fixture's rear panel and slaving fixtures together.

Multiple sets of 24 fixtures can be added by slaving controllers together for individual addressability of hundreds of Intellabeam units.

The Intellabeam controller has nine memories, with each one

containing 99 scenes for a total of 891 scenes which can be programmed or edited. Any one of twenty

four presets can be instantaneously accessed by depressing one of the 24 preset buttons on the controllers left side. Further access of up to 288 presets can be achieved by implementation

of 12 channels of an analog remote.

A preset can be programmed with adjustable parameters for any of the fixtures. These parameters are speed, color, iris, beam position, intensity, gobo pattern and strobe rate. Each fixture can be easily programmed, individually or collectively, to any combination of the parameters within a preset. The preset buttons can call up an individual scene or a series of scenes in a fade or chase by

setting the controller in auto mode.

A delay factor of 0.1 to 99 seconds and other time variables can be included into scenes and adjusted manually... for countless variations. The controller has stereo audio inputs for two audio advance functions and to modulate the Color and Gobo Wheel and the Light Intensity. A professional, extremely precise joystick allows for manual operation of the scanning mirror and light beam and is used to position the beam during programming.



Intellabeam 700 HX Fixture

Computer optimized high output
11 dichroic colors
12 patterns
Multi colored special effects patterns
Astigmatism corrected lens - 8, 12.5, 16
Full range dimming
Precise beam position
Rugged construction
Self diagnostics

Variable speed strobe
Variable speeds of mirror scan, iris, gobo, color change
Uses all high resolution stepper motors
Self homing color, gobo pattern and dark shutter indexes
Front surface mirrors
DMX 512 compatible
Uses XLR connectors

700 watt-5600k
750 hour rated life
Remote lamp turn-on
Efficient power supply
Auto remote cooling system shutdown
Low power:
8.5 amps@120V/60Hz
5 amps@ 240V/60Hz
Voltage selectable to : 100,120,240VAC at either 50 or 60 hertz.

Length 92.50 cm
Width 33.02 cm
Height 20.70 cm
Weight: 25.9 kg

Controller

9 Memories
891 scenes
Up to 288 presets
Controls 24 channels
Master/Slave
Edit and page copy

Memory lock
Analog interface
Fixture exclusion
Inductive joystick
Cross-fade functions
Color modulate
Gobo modulate
Intensity modulate
Two audio modes
Stereo audio inputs
Timed delay factoring

Fixture homing
1/2 amp @ 120V/60Hz
Voltage selectable:
230, 120, or 100 VAC
at either 50 or 60 hz
Height: 17.78 cm
Width: 48.26 cm
Depth: 26.85 cm
Weight: 7.2 kg

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2209 WEST BRAKER LN. ■ AUSTIN, TX. U.S.A. 78758





96 control channels

512 patchable dimmers

up to 480 memories with move times

up to 480 alpha numeric legends

36 preset focuses

up to 120 level sequences each with programable speed in BPM

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THE CONSOLE FOR
all digital
CONTROL OF
COLOUR CHANGERS
MOVING LIGHTS
DIMMERS

four 99 entry cue stacks with programable crossfade times

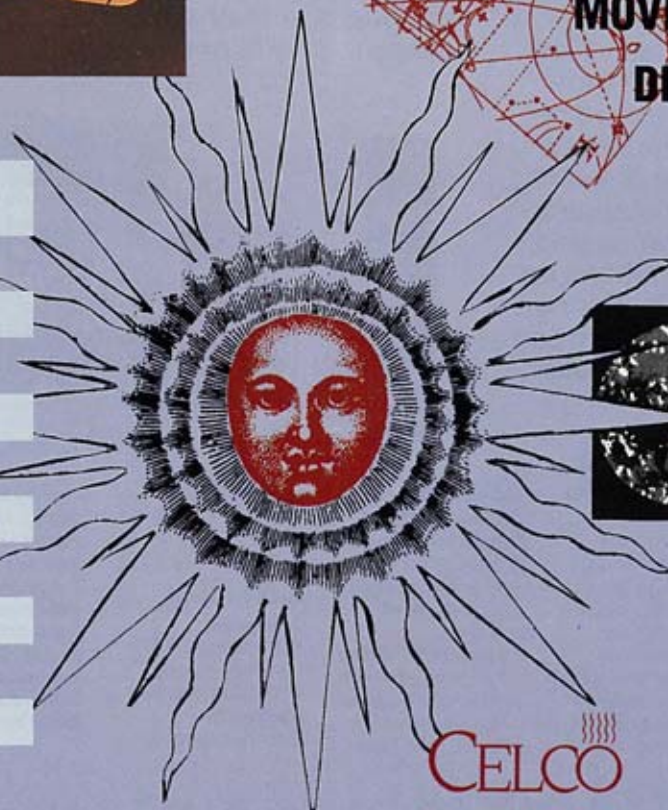
copy and gang facility

sound to light and bass step sequence

linking via MIDI in/out/thru connectors

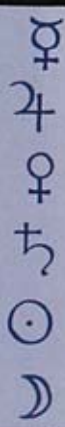
Q-Card storage interface

personality interface



CELCO

A Division of Electrosonic Ltd.
Hawley Mill, Hawley Road, Dartford, Kent DA2 7SY England
Telephone 0322 22 22 11 International +44 322 22 22 11
Fax 0322 28 22 82 International +44 322 28 22 82 Telex 896323 ESMXG



Castro
Pollex and US patents pending

LIGHTING+*Sound* International

SEPTEMBER 1991

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THE PLASA
LIGHT & SOUND
SHOW 1991

The International Entertainment and Leisure
Technology Show

OLYMPIA 2, LONDON
8-11 SEPTEMBER 1991

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PLASA

Industry Looks to PLASA Show for Confidence Boost

With the industry literally on its knees and in urgent need of a stimulus in the form of a new confidence and flow of orders, there are high hopes that the PLASA Light & Sound Show will magic some much needed money into the system.

A decision had to be taken by PLASA and their organisers Philbeach Events to reduce the overall floor space at Olympia 2 from four floors to three, but reports from both Philbeach and the PLASA office are that the pre-show buzz is as good as previous years. Enquiries from overseas to both offices have been particularly strong. PLASA's acting chief executive John Offord reported that the seminar programme had again been well received and that various special meetings for PLASA members coupled with distributor meetings organised by many manufacturers would all help to swell trade interest for the event.

Obviously, the move to three floors reflects the unusually poor trading conditions the industry is suffering, but with practically all available stands sold as we went to press, the result should be a far more atmospheric and compact show. Show director Simon Boyd of Philbeach said: "I believe that the show will now benefit tremendously by being spread over three floors, and in addition we are sure that this event will create a firm foundation for the 1992 PLASA Show when it moves to Earls Court 2. Philbeach report a 10 per cent increase in new exhibitors and are confident of at least equalling last year's visitor figures which peaked at 7,200. "We have put in a massive effort to attract new and high quality visitors this year," continued Simon Boyd. "More has been spent on advertising and direct mail campaigns in both traditional and new market sectors. We have also made it easier for visitors to attend the Show by creating very attractive travel and hotel packages."

The PLASA Light & Sound Show will be held at Olympia 2 in London from September 8-11 (Sunday to Wednesday) and is open each morning at 11am, closing at 6pm on Sunday, Monday and Tuesday and at 5pm on Wednesday. We look forward to seeing you there.

Zero Expand into Luminaires

Zero 88's Hertfordshire premises have been a hive of activity in the past few weeks with no less than three individual new products and one completely new range due to be unveiled at the Light and Sound Show. "The pressure has led to us moving the development department out of the building to a quiet haven so that we could get some peace and isolation," Zero's development director Richard Thornton-Brown told L+S.I.

The fact that Zero are launching a comprehensive and economical new range of luminaires will certainly make the industry sit up. Called the 'Focus' range, Zero 88 sales director Freddy Lloyd told L+S.I they are ideal for the smaller stage, clubs, municipal halls and the education market. The units are manufactured from aluminium for lightness with strength, and the line-up includes three profiles, a fresnel, PC and an asymmetric flood. "All are manufactured to Zero's usual high standards," he said.

Also due for launch are the Lightmaster XL, the Alpha pack and the Rackmaster 490. The Lightmaster XL is a 12 channel into 96 dimmers desk designed with the small band, small hall in mind. For musicians enthusiastic about experimenting with lights and MIDI, the Lightmaster is a perfect entry-level desk at a very reasonable price for the facilities offered. With fully programmable master and sub masters it outputs DMX or standard analog.

The Alpha pack is a 3 x 1.5kW per channel wall mounting and portable flat-pack dimmer designed with half an eye on the schools and college market. One unique feature is the overload 'clamp' which prevents a total load out in excess of the rated maximum for the unit, across the three outputs at the same time. In the event that this occurs as the result of amateur enthusiasm, the Alpha automatically fades the lights on all channels to an average safe level. The unit comes with an intriguingly intelligently designed wall bracket, which enables safe and easy removal of the pack to a new location.

Anticipating the popularity of the long awaited 1.5kW Par lamp, the Rackmaster 490 six channel dimmer will handle loads of up to 15 amps per channel at 240 volts with outputs protected by MCBs.

Zero 88's stand at this year's show will be a spectacular island site, topped with a silver and red pagoda. Alongside will be their hospitality suite where, no doubt, customers will find Freddy Lloyd and David Catterall holding court.

ARRI Reflexion



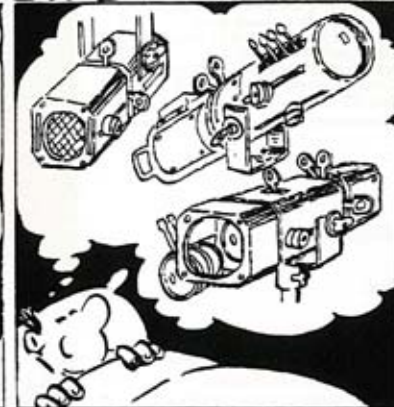
ARRI (GB) Ltd are launching a number of new lighting consoles at the Light & Sound Show this year, including Reflexion, a revolutionary new back-up system.

Reflexion is a clever little console which is connected on the DMX line between any modern lighting console and the dimmers, and which copies up to 60 lighting states from the output of the main board. These states are available as five pages of memory on 12 submaster faders, with bump buttons, for manual or flash operation. Reflexion automatically detects main console faults, and gives seamless handover to back-up memories in the event of a problem.

Reflexion will have many uses in the theatre and TV lighting world, and can even be expanded to handle as many as 2,000 dimmers! Rumour also has it that versions supporting and translating Strand's various analogue multiplex standards will come along soon.

See Reflexion as well as ARRI's new Mirage, Impuls 2 and Imagine 2 lighting control systems on Stand F155 at the Light and Sound Show. And if you haven't yet sent ARRI your entry for the Mirage prize draw — better hurry, the draw will be at 1pm September 11th, on the stand.

Action News



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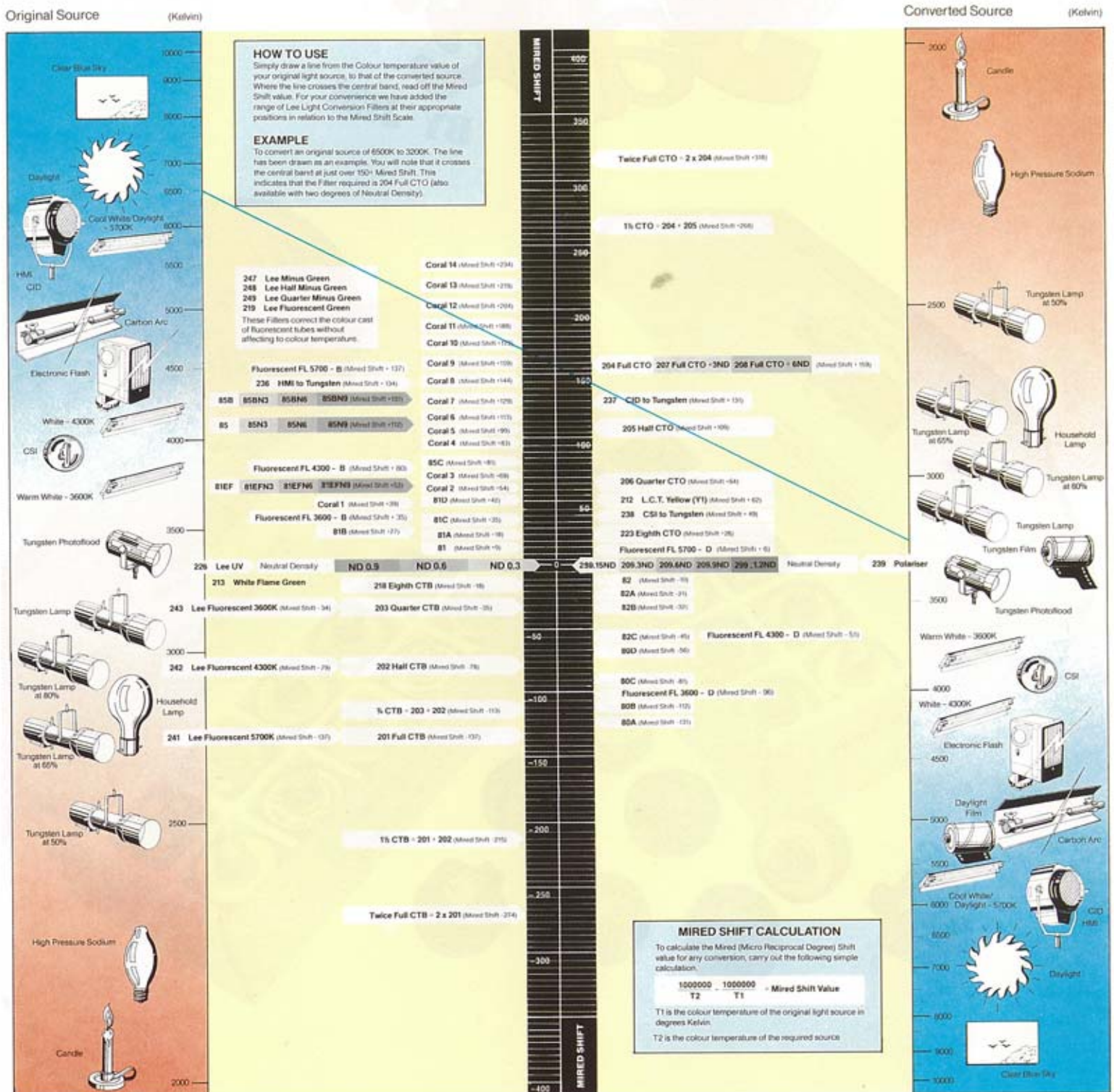
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Name

Address

Light Source Conversion Calculator



The Art of Light

revealed

Lee Filters Limited does much more than manufacture high quality light control media for the film, television, theatre and stills photographic markets. The company offers - whenever it can - to make an additional input to benefit the industries it serves.

That's why it has developed a series of technical posters - available free of charge - to help filter users make the most of its products. To understand more fully how the art of light works. To create better images.

The first poster in the series - shown on the opposite page - has been designed to provide a simple and instantaneous reference for the calculation of filter requirements when converting from one light source to another.

Each type of conversion filter is listed in its appropriate place on the scale together with neutral density, UV and polarising filters.

To get your free poster (size 33" x 23½") simply clip the coupon, and send it to:

**Lee Filters Limited,
Central Way,
Walworth Industrial Estate,
Andover, Hampshire SP10 5AN,
England.**

This is what you've come to expect from Lee Filters. The art of light. And more.

Please send my free copy of the Lee Filters Light Source Conversion Calculator poster.

Name _____

Job Title _____

Address _____

Grafix Heads for the Palace

Camden Palace will play host to what promises to be one of this year's major fringe events during the Light and Sound Show. On the night of Tuesday September 10th, the infamous Laser Grafix magic laser bus will collect invitees from the Novotel Hotel at 20.15 and 21.30, from the Tara Hotel at 20.30 and 21.45, and from the Kensington Close at 20.45 and 22.00, and whisk them to what is arguably London's most 'happening' venue.

From Grafix' point of view the purpose will be to show off the Coherent Purelight seven colour laser system driven by their Prisma controller which is installed at the club. There may also be an opportunity to see the Tasco/Grafix combination Starlaser in operation in a discotheque for the first time.

Laser Grafix' Mark Brown promises an

evening of thrills and spills, including certain items over which we will draw a discreet veil in the interests of proper decorum.

Sheffield Strikes Gold

Following our article on Sheffield's new leisure facilities in the last issue, and supportive comments for the city's speculative investment, it has been announced that private investment of £100m has been attracted to the area for a new theme park.

To be built in the Don Valley, between the stadium and the Meadowhall shopping complex by Tivoli International, the 70 acre site has already been given outline planning consent. The aim is to recreate Copenhagen's world famous tourist attraction, the Tivoli Gardens, in downtown Sheffield.

ROUND-UP OF NEWS FROM PLASA 1991

Avitec Make a Show Of It

At this year's Light & Sound Show Avitec Electronics plan to produce their most innovative exhibition stand to date.

The company have got together with Optikinetics to combine the latter's Trilite structural system with their own light and sound display. Optikinetics introduced freelance designer Richard Hurdling who produced their memorable 'Pink' stand in 1988 to work alongside Avitec's award-winning lighting and sound designer Paul Dodd.

As part of their overall operation Avitec will be offering the services of interior design in tandem with Leisure Design Partnership, structural design with Trilite, installation in conjunction with Jasco, neon with Disco Neon, and of course sound and lighting design from their own team.

Avitec's comprehensive range of effects lighting will be combined with sound from Tannoy and Cerwin Vega. Avitec will also be dedicating a separate stand to the Ramsa range of sound products.

Avitec can be found on stands G66 and G67.

White Light and Modelbox

Following its successful launch at the Light & Sound Show last year, Modelbox will be showing the latest version of its Auto-CAD-based lighting design software - the AutoLIGHT 2.5.

Amongst other recent developments, Modelbox will also be previewing Laplight, a new stand-alone lighting package. Designed to run on a basic PC or Macintosh, and fully two-way compatible with

AutoLIGHT, the Laplight combines the database of its big brother with powerful mouse-driven edit, design and report functions. Meanwhile White Light will be showing the VSF 90, the successor to the Patt 252 effect.

White Light and Modelbox are on stand F87.

Ryger Go for Gold

Ryger Electronics are to launch four new touch panels including gold-plated models at the forthcoming PLASA Light & Sound Show. Keeping company with the panels will be a new 12 channel lighting desk, expandable to 30 channels, and the new M2L MIDI to light controller which is a totally self-contained unit incorporating 8 lamp drivers.


Ryger can be found on stand S257.

Sound Formula

At this year's PLASA Light & Sound Show Formula Sound will be showing the successor to the award-winning PM-80 modular production mixer - the PM-90. The new mixer features studio-quality faders, auxiliary sends per channel, fully assignable crossfade on stereo modules and many more output facilities.

Alongside the PM-90, the full range of products will be on the stand including the System 2000 production mixer, the AMX6 mixer, the SE2 series equalisers, the QUE-4/8 studio headphone foldback systems, the Guardian CX4 fire alarm interface unit, and the Sentry environmental noise control unit.

Formula Sound will be on stand F137.



The Lamp Company

Fast Supplies of Theatre and Disco Lamps

Contact Guy Merchant on
0932 231010

A L S A N T L I T E D

Primary manufacturers/suppliers worldwide of aluminium couplers (scaff clamps), aluminium snap hooks and many other aluminium fittings to fit either 2" (50.8mm) or 1.29/32" (48.4mm) tubes

Ask for collage of full range - custom design work undertaken

Unit 2, Hotspur Ind. Estate
West Road, Tottenham
London N17 0RJ
Tel: 081-808 5005
Fax: 081-801 9851

081 808 5005

What's the difference between Pro-Audio and DJ?

Rosco Expands Fog Machine Range



One of the leading fog machine manufacturers, Rosco has expanded its high performance range by launching the Rosco 1000. Designed to fill the market need for a basic, low cost, yet robust machine, the Rosco 1000 features the latest in electronic technology. Built to function on either 220/240 or 110 volts, the 1000 delivers high output fog, and uses Rosco's own Academy Award-winning Fog Fluid, now available with a wide range of scents.

In addition to an international network of service centres and stockists, Rosco provides an engineering service for specialised, permanent use of the company's fog machines in a wide variety of venues.

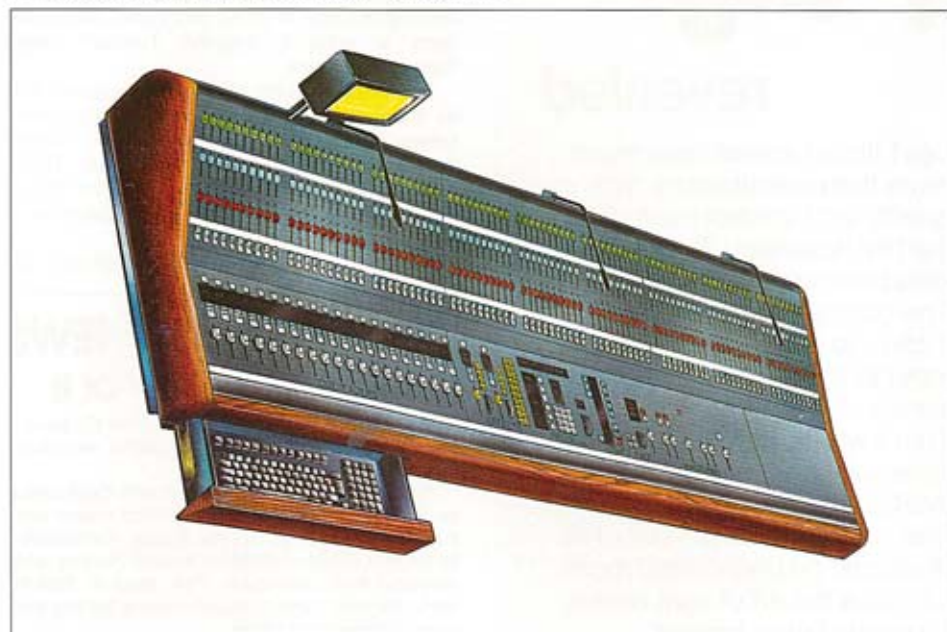


Another recent addition to the company's portfolio is the Rosco Scroller System designed to use from 3 to 24 colour frames, providing one of the widest colour palettes available.

The Signal Processor interprets a wide range of data protocols including DMX512, AMX192 and 0-10volt DC Analog. In addition, the processor controls signals and power for up to 24 scrollers, each cabled directly for optimum reliability. Two micro-stepper motors ensure quietness of operation, enabling the system to find application in a range of venues.

Rosco will be on stand F175.

The Jewel in Avolites' Crown



Taking pride of place on the Avolites stand at this year's PLASA is the QM-Diamond lighting control console which will be launched at the show. The QM is the first completely digital desk from Avolites. Unlike earlier consoles, it no longer uses menus to access its features. Recording or modifying a chase, memory or page can now be achieved by simply pressing a key. Chases can also be recorded into a page memory and replayed at the recorded speed.

The console, designed after an extensive research programme, also features a soft-patch that may be programmed in or away from the

desk. Another interesting development is the use of a high-resolution electro-luminescent screen which provides the operator with an alpha-numeric display showing the dimmer and output levels. Steve Warren, Avolites' sales director told L+S: "During the design of the QM-Diamond, the research department contacted many of the major independent lighting directors, both in the UK and overseas. The research showed that many of the consoles were difficult to programme, so we came up with a powerful, yet flexible lighting control console that is remarkably easy to programme."

Avolites will be on stand F83 at the show.

Doughty Line Them Up

Doughty Engineering, one of the leading manufacturers of bracketry for the entertainment industry, will be launching three new product ranges at the PLASA Light & Sound Show. First in their line up is the 'Club' range of lighting and equipment stands, constructed from lightweight steel tubes and aluminium fixings. 'Studio' is a heavy duty range of five stands, constructed from box sectional and tubular steel with aluminium fixings. Finished in a black nylon coat, the 'Music Stand' range are fully adjustable for height and declination.

Doughty are on stand B34A.

Mixing with Citronic

Citronic are using PLASA 91 to launch two new additions to the SM Remix range of discotheque mixers, the SM150 Remix, and SM250 Remix.

The SM150 Remix features crossfader and the now established 'Punch' facility for transformer mixing. The SM250 Remix offers all the facilities of the SM150 plus a few extras. A number of add-on units expand the input and output capabilities of the basic unit. Also on demonstration at the show will be the SPX1-01 Audio Zone Controller.

Citronic will be on stand F101.

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JBL on the Harman Stand

Stealing the limelight on the Harman stand at this year's Show will be the newly-launched JBL Sound Power M Series. The M Series is a range of three systems featuring a new cabinet design.

The full-range loudspeaker systems will be complemented by a new range of crossovers from Audio Logic, comprising four models to suit a variety of applications. From C Audio will be the RA500, the newest in a range of high performance Mosfet power amplifiers, and from ART, the MDC 2001 total signal system controller featuring a new voltage controlled amplifier.

Harman will be on stand S242.

Full Range from Yamaha

Yamaha Professional Music Division will display the company's wide range of pro audio products at this year's PLASA Show. Olympia 2 will see the first public showing of the new 'Club Series' speakers. Also new are the S1520 full-range sound reinforcement cabinets, using Yamaha's proprietary Active Servo Technology. Visitors to the show will also be able to inspect the new Professional CD recorder, the YPDR601.

A feature of the stand will be the S12 and S22 monitor speakers intended for personal monitoring, installation and AV applications. In addition to industry-standard products such as the GQ1031BII graphic equaliser and SPX1000 multi-effects processors, Yamaha will show the D1030 digital delay lines. Together with all this, the company will also display their range of professional power amplification products.

Yamaha are on stand F157.

Ludwig Pani Projection

Generating interest on the Ludwig Pani stand at this year's show will be the new BP12 Platinum slide projector which offers double the image brightness of the BP6 Gold. Alongside this will be the new AMD-15 automatic magazine slide changers, together with a comprehensive selection of Pani products.

Ludwig Pani will be on stand F129.

Cerebrum's 'Specials'

Cerebrum Lighting are to announce two special package deals at PLASA on the opening day, September 8th. The first, their PLASA 'Prolight' package, will feature the acclaimed German MA LightCommander 2 24/6 and 48/6 desks with flight cases and cue cards. The second, Cerebrum's 'Disco' package, will feature the ALS Enigma Micro in a ready to go format with associated dimmers. Cerebrum will be on ground floor stands G68, G47 and G48.

UKD's Competition

UKD's stand at this year's PLASA Light & Sound Show will feature no less than 10 new products from ProgramSistem in Italy. Named with imagination, the lighting effects line-up includes the Corkscrew, Psycho, Yuppie, Javelin, Tracer, Reflex, Cosmic, Spirit, Charlestone and Symphony. Alongside these new effects will be further products from the comprehensive UKD stable.

Together with a full stand of product, UKD have injected a bit of fun into the proceedings by offering an all-expenses-paid trip to the Rimini trade fair next year. The competition, run in collaboration with ProgramSistem, offers along with the main prize, a visit to ProgramSistem's factory, a traditional Italian meal, a day trip to the Republica de san Marino, and visits to some of the area's top nightclubs.

However, there is a condition of entry. Between the PLASA show itself and January 1st,



Ian Potter (UKD), with Fabio Gollinucci, Gunde Oberhammer, Sandro Centinara and Liviano Paolucci, of ProgramSistem.

1992 £8,000 worth of ProgramSistem effects must be ordered from UKD, and paid for. To make things slightly easier the figure has been reduced to £5,000 if a first order is placed during the Light and Sound Show.

UKD can be found on stand F174.

Celestion Launch BX

Celestion will use the Light & Sound Show to launch its new BX Series loudspeaker chassis and Bullet and Slot Tweeters. The loudspeakers that make up the BX range are available in either 12" or 15" configurations. Designed for use in 2-way or 3-way systems, either singly or in arrays, Celestion's new Bullet Tweeter provides high sensitivity, wide frequency response and conical dispersion for high frequency sound reinforcement applications.

Celestion's new Slot Tweeter offers a 70 x 30 degrees dispersion pattern for the maintenance of wide near-field coverage, and the avoidance of beaming at high frequencies. Live demonstrations will take place during the show, with Rick Wakeman scheduled to make an appearance on Monday September 9th.

Celestion can be found on stand F148.

Dedicated Video

Memotech Computers have announced a first for the PLASA Show. Last year the company launched the Video Ribbon, this year it's the turn of the Video Column. According to the company, the Column can operate any number of monitors stacked vertically, using dedicated programmed effects.

Memotech will also show for the first time the new Barco 21" videowall monitor. Based on the industry standard 28" monitor, it will find many applications in venues that are limited on space.

Memotech will be on stand F143

Marquee Lines up the Big Names

An impressive array of new pro-audio products from major manufacturers will be demonstrated at the PLASA show by Marquee Audio. Part of the line-up will feature Soundcraft's new Europa front-of-house console, the Accord 212W monitor wedge, and JBL's Sound Power M Series.

A new range of high spec amplification will be on view from HH Electronic. The five amplifiers combine up to 1200W of power with lightweight 2U chassis, and speakon outputs.

New from Adams-Smith is a fail-safe back-up system for use when synchronising pre-recorded material in live performances. The company has added a unique Failure Sense Mode to their popular Zeta-Three transport synchroniser which automatically responds to system failure. Also on stand will be EMO's new MPM3 three-phase Mains Power Monitor.

The FCS-960 dual mode graphic equaliser from BSS, another recent addition to Marquee's product line, offers options of room tuning or response contouring. For club and disco venues, Marquee is showing the Denon DN-4000F double CD player, and a selection of karaoke products from Nikkodo. Yamaha signal processing, live sound desks from DDA, and C-Audio power amplifiers are among the further selection of professional audio equipment at the show.

Marquee Audio will be on stand F170.

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Databeat Beating the Recession

John Leefe of Databeat gave L+SI a progress report on the success he is having with the company's computer-controlled CD music system.

The Hard Rock cafe in London have added a third unit to the two already in Singapore and Orlando and plan five additional sites elsewhere in the world later this year. Meanwhile, Virgin Megastores have now chalked up their sixth Databeat, the Rock Island Diner in London is another new client, Allied Breweries have taken two units and Greenhall Whitley one.

Two systems have been acquired by Royal Caribbean Cruise Lines for their massive new cruise liner Monarch of the Seas, currently under construction in St-Nazaire, France. One of these is being used in an unusual area, designed to appeal to youngsters, where all the systems are totally interactive and several parallel interfaces to the system are provided, a facility especially designed for the project, but now available to others. Conceived and implemented by Wynne Willson Gottelier, the room was designed by specialist interior designers Bidnell Phillips.

New developments underway include an interface to Oxtron's CL60 environmental lighting controller and the introduction of a 2u high, rack mounting, 286 AT compatible PC with 45 Mb hard disk. Although designed to replace the PC in the Databeat system, the company are offering the unit to others for £1075.00. Most rack mounting PCs are at least 3u and very expensive by comparison.

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SOUND NEWS

Elliott Bros and **Electromusic Ltd** have upgraded the sound system serving the upper floor of the Wag Club in London's Wardour Street. Additional Turbosound TSE 111 mid-high loudspeakers have been installed to enhance the dispersion of sound over the dance floor. Electromusic were the audio contractors who designed and installed the original system in 1987 which was used for a high energy discotheque and live bands on two levels.

Public address, voice alarm and pro sound systems at Birmingham's new Indoor Arena were provided by **Tannoy-Audix** and the company has been praised for its part in the smooth running of the construction. The project was completed on time and within budget. The arena's six lane 200 metre athletics track is the first of its kind in the country and will cater for international, national, regional and local events. It has also been designed with a view to staging spectacular events such as opera. Tannoy-Audix's new Orbit system was specified for the public address and voice alarm installation. The pro sound system consists of a central cluster of loudspeakers suspended in the middle of the arena, the classical approach to a sound system in a large hall where only mono sound is required. The central cluster, one of the largest in the UK, was designed by a consortium working under the direction of Tannoy-Audix.

Over the summer period **R G Jones** of London have undertaken a series of major open air classical concerts which have exclusively featured the Renkus Heinz 'Smart' range of processed cabinets. Leeds Castle in Kent held two annual open air festivals where the system consisted of 32 C1A cabinets supplemented by SR-1As on delay towers. Next venue was the Kenwood Bowl where M-1, SR-2 and SR-121A delays were used. Before a return visit to Kenwood for a gala performance of Tosca with

Placido Domingo and Maria Ewing, equipment had to be organised for the main stage and supplementary systems at the Henley Arts Festival. SR-1As were used exclusively here with sub-bass support from LR-2As.

Elliott Bros (Audio Systems) Ltd have designed and installed a stage management console and PA system in London's Old Vic Theatre, providing a new production and communications centre. The core of the installation is the stage management desk which has a 20-way fully patchable cue light system and features the RTS MCE 325 and MCS 325, supplied by Meriden Communications Industries Ltd. A three-zone priority paging system comprising Phillips SQ10 and SQ12 amps and Sennheiser microphones completes the refit.

Recent additions to the **Carlsbro** Delta series of PA cabinets are the Delta D112 and D600X. The D112 develops 250 watts into 8 ohms through a 12" driver, a bi-radial horn and high frequency bullet tweeter. The D600X delivers 600 watts into 4 ohms via a pair of 15" drivers, with a potential switchable crossover for bi-amp applications.

Swedish sound system manufacturer **JBN** are currently seeking distributors for their Sound Ceiling loudspeaker system. For further information contact Stig Opsahl at JBN Sound Ceiling System AB, PO Box 169, 891 24 Örnköldsvik, Sweden. Telephone: +46 (0)6660 45670.

Theatre sound specialist **Autograph Sound Recording** is providing a 'sympathetic' treatment for the new rock musical 'A Tribute of the Blues Brothers' which opened on August 12th at the Whitehall Theatre in London. The show uses a powerful, but restrained, sound system which has been designed by Autograph's Nick Gilpin. Following a concert format, with dialogue links between songs, the production stars Con O'Neill and Warwick Evans, who are supported by three backing vocalists and a six-piece band. The performance takes place entirely on the



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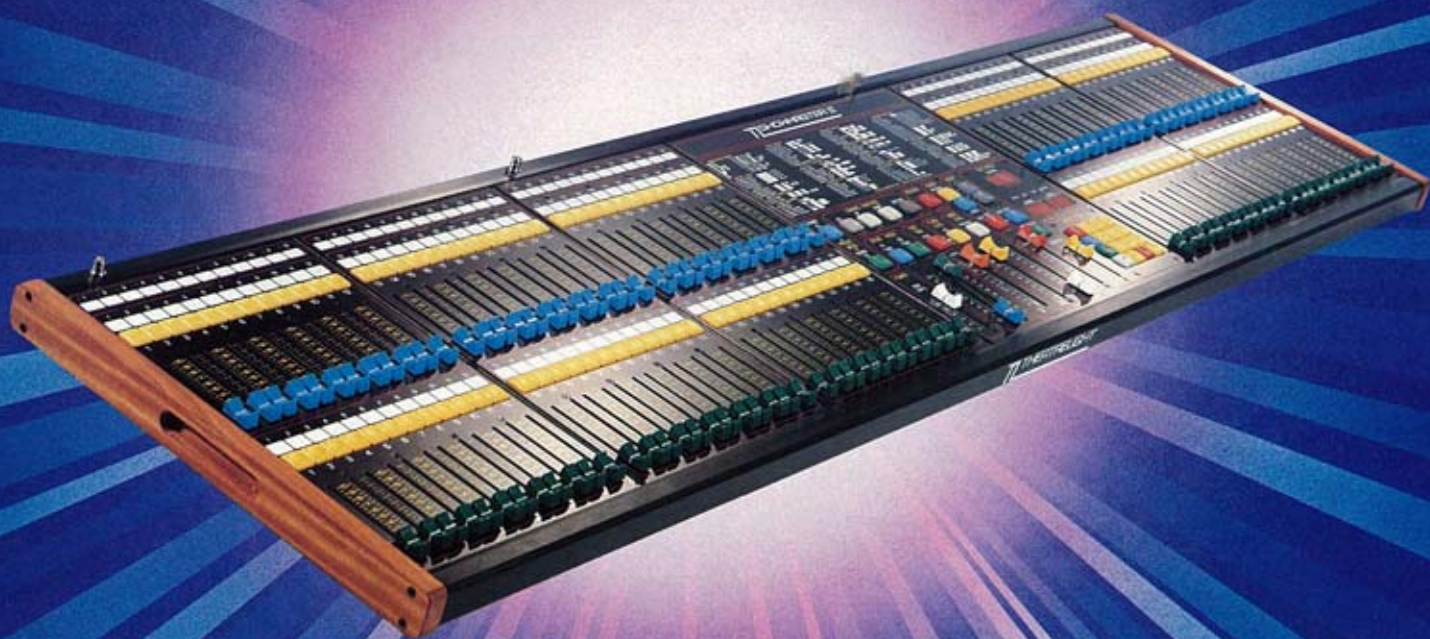
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BB King with the Meyer Sound UM-1A at the Montreux Festival (story below).

stage, with a variety of delays compensating for the distances involved. Hand-held radio microphones are brought into play for all the vocal numbers, with lavalier units being used for the dialogue links and brass instruments. The system makes greater use of on-stage monitoring than is usual for a West End production, so as to establish an appropriate atmosphere for the energetic performances.

Autograph explained their approach to L+SI. "Our aim was to create a gig-type feel in the theatre, with considerable depth and quality to the sound. The musicians' monitoring system contributes to the overall feeling of power and uses a combination of classic Martin wedge loudspeakers and Meyer units. We are using just eight Meyer speakers for the main system, supported by two sub-bass units, with extra horns increasing the spread of the vocal sound."

The monitor mix is derived directly from the main front-of-house console, a 40-input Midas XL2, and is being controlled via an external Midas matrix. This approach avoids the problems of extensive split feeds to a separate on-stage monitor console and gives total control of all elements of the sound to the solo balance engineer.

Design, installation and equipment specialists **Marquee Audio** report a dramatic increase in their services to the theatre community. Within the past months four notable theatre venues have been supplied by them with systems featuring DDA consoles. The newly-designed Oxford Playhouse Theatre has reopened with a complete Marquee sound package centred around a 32-channel DDA Q series console, a Martin Audio processor controlled speaker system incorporating the new PM3 bi-amp three-way monitors and a pair of CTX sub-bass

cabinets, driven by three C-Audio RA3000 amplifiers.

For Theatre Clwyd Marquee provided a 24-channel DDA Q series desk with theatre inputs in addition to audio recorders from Tascam. At Northampton DDA desks have gone into the Royal Theatre and the Conference Forum at the Sedgwick Centre. The Theatre Royal desk is complemented by a Tascam 34B deck and JBL Control 5 control room monitors. At the Sedgwick Centre the Marquee team completely rewired the Conference Forum's control room to accommodate the new console plus five HH electronic power amps and EMO Systems accessory equipment.

Sting, Toto, BB King, The Robert Cray Band and Herbie Hancock were just a few of the artists who used the **Meyer Sound** system at the recent 25th anniversary Montreux Jazz Festival. Meyer Sound have been involved with the festival for four years but this year the organisers nominated them as loudspeaker supplier to the whole festival site. Three years ago, a permanent MSL-3/650-R2 system was installed in the Casino and a UPA-1A/USW disco system fitted into the Platinum Bar. These loudspeaker systems were supplemented at this year's festival by further cabinets including full UM-1A monitor systems in line with the specific artists requirements. Once set up, the whole system was equalised with Meyer CP-10 complementary phase parametric equalisers in conjunction with SIM measurement technology. David Solari, managing director of **Autograph Sales Limited**, the European distributor of Meyer Sound products, personally oversaw the operation and **Hyperson**, their Swiss Meyer Sound dealer, provided the sound reinforcement system support.



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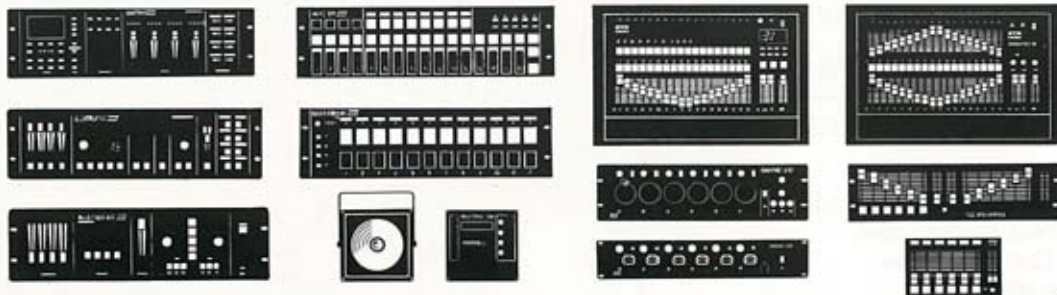
LIGHTING NEWS

A contract to re-equip Kuwait TV is being handled by **FSL International** of London who are Strand Lighting's distributor for the Middle East market. Also involved is local Kuwaiti contractor **Centronix** who will provide the necessary local support for Strand engineers during the installation phase of the contract. During the invasion by Iraq, the majority of equipment at the TV station was either removed or damaged by occupying forces. A complete survey of the damaged studios was carried out by FSL in the course of executing other contracts for the Kuwait TV authorities. This has resulted in Strand receiving a contract to supply three Galaxy lighting control systems together with all the luminaires and related equipment to return the studio complex to full operational condition.

A two-tonne, seven-and-a-half metre wide, mushroom-shaped, multi-function, lighting module, comprising 30 segments of Foamex supplied by **William Cox Plastics Stockholding**, has been installed at Desborough Hall for the Royal Borough of Windsor and Maidenhead. Each segment was pre-formed from 6mm white Foamex, finished in midnight blue emulsion paint, and assembled to an aluminium structural framework, on-site. The structure holds 30 downlighter spotlamps, 500 star-shaped fibre optic lights, and fluorescent tubes to provide uplighting illumination for the ornate plaster ceiling. Design and development was carried out by Allan Chamberlain of Colchester-based **ACT Divisions Ltd** and thermoforming was carried out by Protacryl-Ensign.

LSC Electronics of Melbourne Australia has announced the release of a new module for their Focal modular lighting control desk. It provides three rows of 12 faders each with a

Discotheque ... or ... Professional



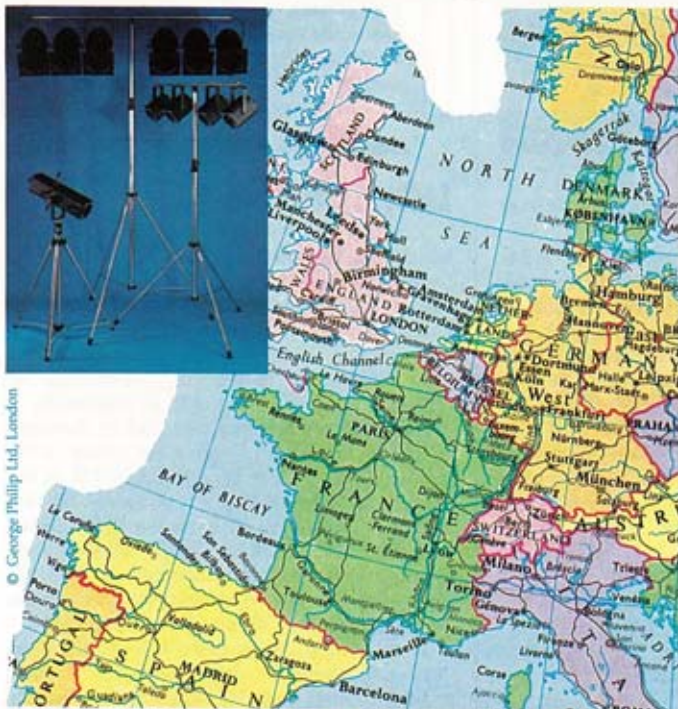
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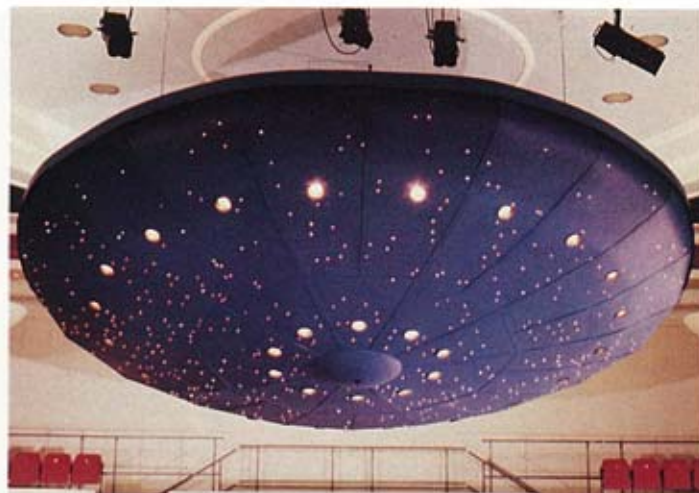
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Lighting module at Desborough Hall.

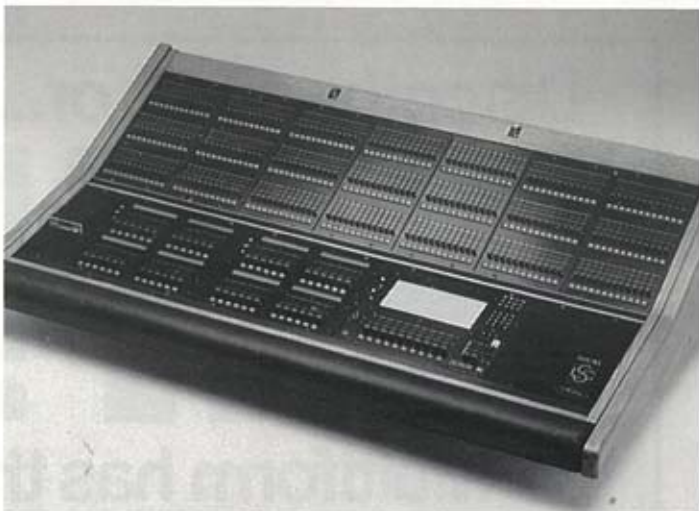
separate flash button. This structure allows for single preset control of up to 252 channels in a compact physical size. The software can also configure the desk as a 3-preset structure if desired. The heart of the desk is the CSM computer scene module which, with its built-in 80 x 25 graphic LCD screen, provides a comprehensive display of the desk's present state. Aimed at the theatre and TV markets, sales of the new format have begun with the recent installation of a 252 channel system into the main studio of television station GTV-9 in Melbourne. More details in our PLASA Show coverage.

Forced into administrative receivership earlier this year, the former directors of Malham Ltd report that they have managed to purchase enough of the old company to reform, and are now trading as **Malham Lighting Design Ltd**. The co-directors are James and Andrew Eynon and the new company is trading from the original premises at 65/75 Malham Road, London SE23. They told L+SI that the new operation will offer all the services of Malham Ltd including maintenance of existing Malham installations and systems.

GTE Sylvania has expanded its high intensity discharge lamp manufacturing facilities in Europe following an investment programme at its Tienen factory in Belgium. The company's well-established BriteArc and BriteBeam lamps for the film, TV and discotheque markets are already being produced on the site, and plans are advanced for the manufacture of a new range of single-ended discharge lamps. The new manufacturing unit will service markets world-wide, and particularly place marketing, manufacturing and product development facilities close to the major European markets. It also includes a test and management unit to ensure that the highest quality standards can be set and maintained.

G-Mex Manchester recently installed a new rigging grid which serves to significantly increase loading capacity and forms the basis for effective and flexible rigging methods. The new space frame was designed by consultant engineers Brian Colquhoun & Partners and had its first outing when it was used for the recent Rod Stewart concert, where just under 20 tons of sound and lighting equipment was accommodated. **Unusual Rigging Ltd** have been appointed for house rigging, providing points at a suitable trim height for the in-coming production, and they have adopted a most effective rigging system with accurate point adjustments achieved by clutch chain apparatus.

Two teams of **Electrosonic's** engineers are working to build important elements of the sound and lighting control required by the Euro Disneyland theme park, due to open in April at the Euro Disney Resort east of Paris. Electrosonic are building the complete systems at their Hawley Mill Dartford HQ and sub-assemblies are also being prepared by their



LSC Electronics' focal desk.

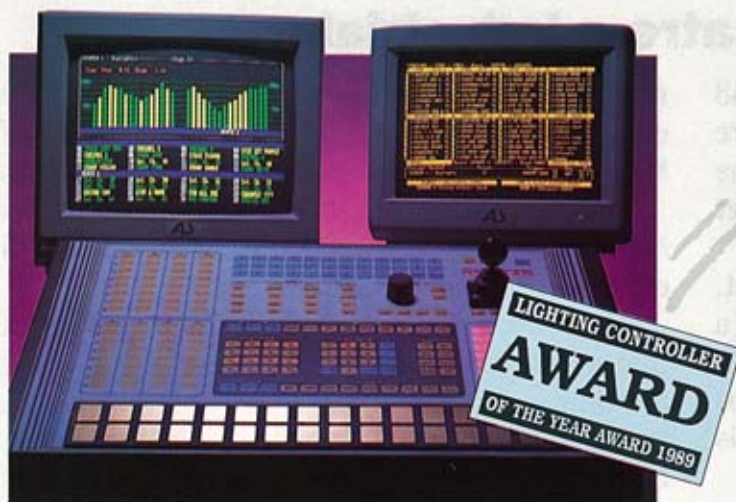
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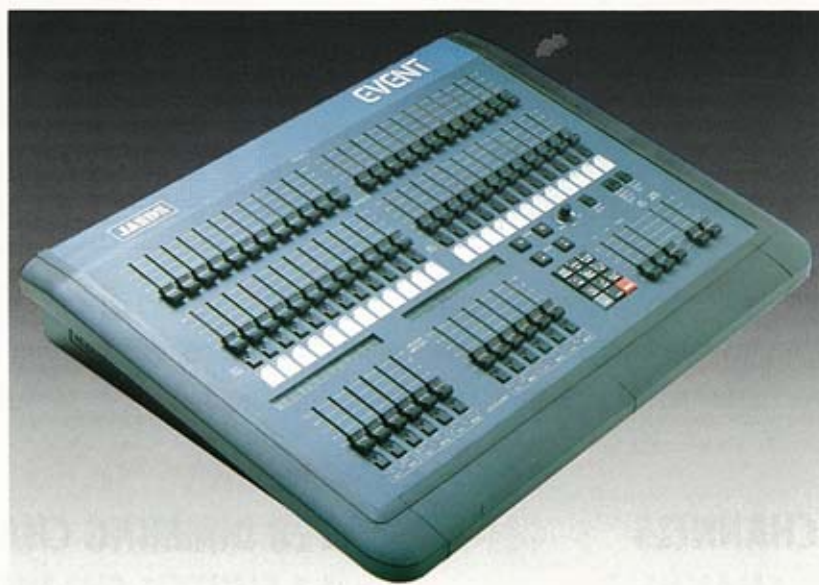
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The total flexibility of the Event is seen in the Assign Master faders, these can be used to control a Page of memories just like

regular scene masters but that's just the start. They can also control Chases and any combination of Memories and Chases can be assigned to the faders.

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The shape of things to come: an injection-moulded bowl for Expo 92.

manufacturing subsidiary, Electrocue Ltd of Maidstone.

Kamax, the new acrylic-imide co-polymer recently brought to market by the **Rohm and Haas** company, has been selected by Philips to create lighting fixtures for next year's World's Fair in Seville, Expo 92. A total of around 2,000 lights, each 12 metres high, will be equipped with bowls made of Kamax that will diffuse light with a bluish hue. The material was selected because of its heat resistance and especially for its resistance to ultra-violet rays, which helps prevent deterioration of the fixtures. The highly original design of the lighting is by Miranda and King (Italy) and the moulder for the Kamax bowls, of almost one metre diameter, is the French company Allibert.

In continuing its tradition of offering the highest standards of service to visiting companies, the Cambridge Arts Theatre has become the first theatre in the UK to install a Strand Light Palette 90. The venue has a history of association with this American system, having purchased its original Light Palette 1 in 1981. Light Palette 90 is a logical development of the series, and should carry the theatre's lighting requirements into the 21st century. The supply

of all equipment was by **OpTex** of New Barnet who also project managed and installed the system. Although better known in film and television circles, the company's newly-formed lighting division reported to L+SI that it has made the transition into theatrical lighting control without problems. The story behind the installation will appear in our October issue.

Strand Lighting Inc has announced the consolidation of its entertainment and architectural lighting business in the USA. Following the re-location of manufacturing facilities for its architectural lighting products to Los Angeles, the remaining US distribution, marketing and research and development functions, presently based in Salt Lake City, will be integrated into the Strand Lighting Inc operation in Los Angeles. The combined Strand Lighting Inc business will service the US market through its US sales division headed by executive vice president Bill Groener. International support to other operations within the Strand Lighting world-wide organisation will be spearheaded by marketing manager Steve Norman, and Ian Ibbison, director of research and development. Strand Lighting Inc manufacturing is headed by Robert Heninger.

PEOPLE

Those two well-known lighting men **Joe Thornley** and **Brian Fitt** have told us they can support you with a double act or go solo as you may desire. Consulting engineer Joe Thornley is working out of Thetford as 'Thornley Associates' and majoring on planning and lighting design for TV studios, theatres and film studios. Brian Fitt is offering his services as a theatre consultant specialising in lighting systems for the television and film industry. They have just produced a joint publicity brochure where they state they can put their long experience in the industry to work either "independently or combine forces



Catherine Fouraignan.

for projects where mutual specialist expertise is required". Joe is on 0842-752033 and Brian is on 095381-732.

Following increased activity in its specialised range of high intensity discharge and tungsten halogen lamps within the stage, television, theatre and audio visual sectors, GTE Sylvania Special Products Group has appointed **Ken Rickman** to the newly-created post of UK sales manager. Ken trained as an architect with the major London practice Norman & Dawbarn, established a technical lighting services department with Merchant Adventurers Ltd, and was general sales manager of CCT Theatre Lighting where he promoted through specification the use of compact high density discharge light sources in studio and theatre luminaires.

Sapro, the French lighting equipment manufacturer, has appointed **Catherine Fouraignan** as export assistant. You can meet her at PLASA and at the Discom show in Paris in the autumn.

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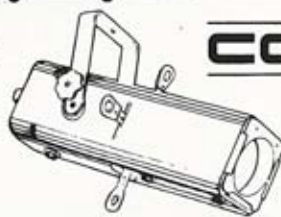
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COHERENT'S SILVER ANNIVERSARY

Tony Gottelier traces the history of the Group which has been the only manufacturer brave enough to produce laser tubes specifically for the entertainment industry.

The early beginnings of what was to become the Coherent Group will ring a bell with many other individuals whose innovative manufacturing businesses had their roots in the late sixties. No more would this be so than in entertainment technology, where numerous creative and now highly commercial companies emerged from the 'smoke filled rooms' of the period.

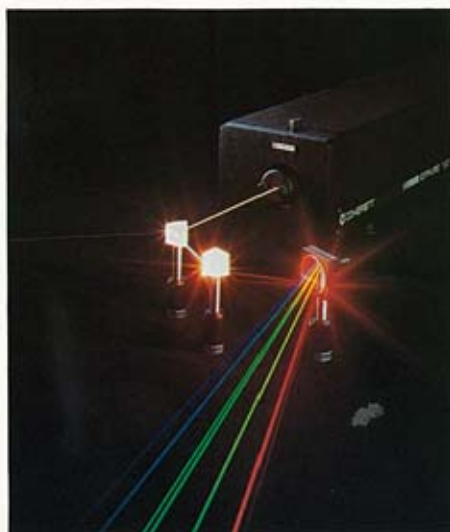
The difference in this case was that of the three individuals meeting in the utility room of a private house in Palo Alto, California in May 1966, one was a physicist and the other two were mechanical and electronics engineers.

Their ambitions also were somewhat far reaching. Having come from careers in Spectra-Physics and Varian, they wanted to build laser products and did so, using the wall socket of a domestic clothes dryer as the power source. By the end of the first year, they had succeeded in developing a laser power meter, still sold today, and the first CO₂ laser for industrial material processing.

By the end of 1966, Coherent supported a staff of 13, on a sales turnover of \$461,000 including three other founding partners — a finance manager, a marketing specialist and another physicist. By 1968 sales turnover topped \$1m and five years later profits reached the same milestone, while staff employed, grew by ten times the 1966 figure.

The first international subsidiary was set up in Britain in 1969 and, in time-honoured Coherent tradition, commenced operations from UK general manager Colin Saunders' garage. Again, from unlikely beginnings, Saunders is credited with having initiated the contacts which opened up markets for Coherent products, not only in Europe, but also in the Far East where the Group now operate subsidiary and associated companies.

From original sources of finance through the Rockefeller Foundation and DuPont, Coherent went public in 1970, the same year as it developed its own in-house optical fabrication



The Coherent Plasma Tube.

capability.

25 years after that inauspicious start, Coherent report sales of \$191m, and 1,500 employees, and they boast 17 product groups broadly covering scientific, medical, optical instrumentation and industrial applications. Of the founding cabal only James Hobart, the original physicist, remains at the helm as chairman and CEO, the role of president and chief operating officer being in the hands of Hank Gautier.

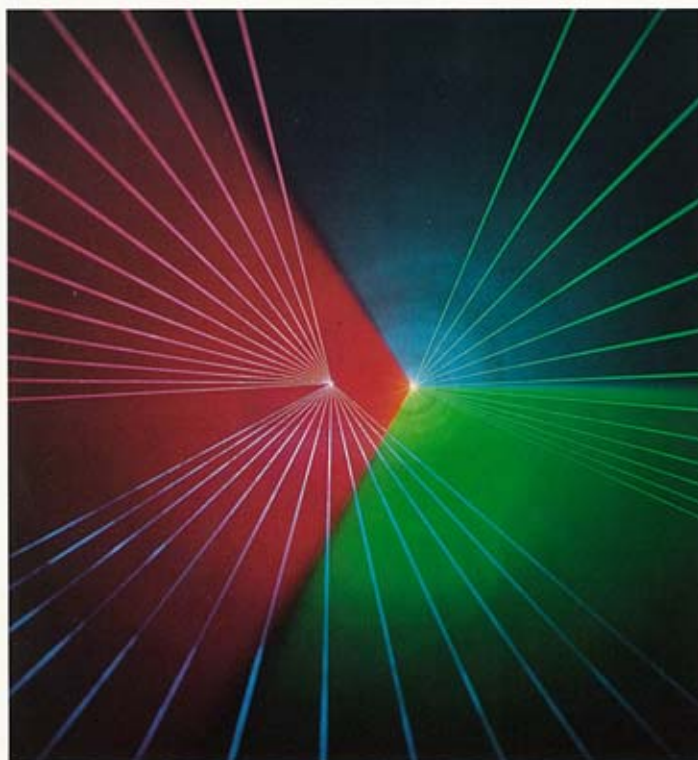
Beside all of this, the supply of lasers for display purposes in the entertainment market must have seemed pretty small beer, if not an unlikely source of revenue at the time. However, during the early years, the R&D programme seems to have been pushed along by the desire to be competitive with Spectra-Physics, the other big name in lasers, in the development of Argon and Krypton ion systems

which, although produced originally for laboratory purposes, were coincidentally proving ideal for the fledgling light-show industry.

In the mid-seventies when John Wolf, working with The Who, effectively invented the concept of the entertainment laser, he was working with the Spectra-Physics 168 Argon which subsequently became a standard for the purpose. He also started a dynasty of almost biblical proportions. For it came to pass that Wolf's company Laser Effects begat Laser Creations when Chris Matthews and Andy Holmes moved on, Creations begat Laserpoint when Andy Holmes and Matthews' brother took off, and Laserpoint begat Laser Systems when Geoff Jones and Tony Gibbs split for the land of their fathers. And between them, they all begat Laser Grafix, for Mark Brown had, at one time or another, worked with all of them. It came full circle recently when Laser Creations acquired Laser Effects, Wolf's original company.

In Europe, Germany and Switzerland had been the main centres for laser display effort resulting in Tarm, Lobo and ACR. In the US, where interest had started around the time of Billboard shows in the later seventies, Dick Sandhaus always impressed me with his Science Faction Corporation product, but it was Laser Media who were to make the most impact globally with their graphics packages, and wider exposure with the 1978 ELO tours, which they are still doing incidentally. Strangely, as if to emphasise the incestuous nature of the game, the latter was originally organised by another Englishman, Joe Browne of Tasco, who has also recently been involved in the joint Starlaser project with Laser Grafix using Coherent product.

I remember when we spec'ed and achieved the first GLC approved permanent laser installation in a London nightclub at the Camden Palace in 1983. It was also a Spectra 168, as was the later, larger installation at the Hippodrome. However, by 1985, Coherent were



Above and right, technological laser effects from Lobo.



Laser Media's graphic package for ELO.

fighting back with their Innova 70 Argon and Krypton models — the Argon in particular very quickly made an impact and took a large slice of the light-show market.

More recently the introduction of the Purelight laser, the first of a series specifically designed for the entertainment market, which no other laser company has done previously, includes the highly innovative Skylight laser, and has had a major impact in its intended market. (These are both described in detail in the panels accompanying this article). Companies such as Laser Grafix, using the Purelight with their compact full-blanking and graphics-capable Prisma memory desk and a well designed optical table using high speed scanners, have achieved remarkable results with it in the field. The range of seven colours achievable with the Purelight make it capable of generating luscious hues and sharp bright colours in beam displays.



Laser display from Tarm.

Laser Media have also tapped the value of this newcomer using it to great effect at the London Plantarium laserium and in concert situations, for example for their fibre optic displays for the

forementioned ELO. Inevitably, as our illustrations show, other laser companies have swiftly followed suit, in particular ACR who, by designing their own power supply for it, have cornered the market in the 1 watt budget-priced version of the Purelight.

I was delighted to be influential in the award process which gained this Corporation and its seminal Purelight product an LDI award in Orlando last year, not least because of Coherent's commitment to this industry. The Skylight also, is poised to be a major player, especially once it is appreciated just how easy it is to maintain.

As an indication of their commitment to the entertainment market Coherent have, for the first time, appointed a person as a full time liaison in the entertainment market in Europe. Based at their German headquarters in Roedermark, Wolfgang Hemmer-Girod, a physics graduate from Bonn University, got the light show bug when he was engaged as Coherent's service manager. "I was

The SkyLight 200 Series Ion Laser System

SkyLight 200 is the first large frame ion laser product designed in direct response to the needs of the Laser Entertainment and Display industry. SkyLight 200 is available in Argon versions with guaranteed power outputs of up to 30 Watts and Krypton versions of up to 6 Watts. Because of the very low divergence of the SkyLight 200, it produces exceptionally high brightness. The SkyLight 200 is designed for outdoor concerts, events and displays, and for large indoor events.

Performance and Reliability

SkyLight 200 Argon and Krypton systems utilise reliable metal/ceramic Innova Technology introduced by Coherent in 1981. Sealed mirror technology and intracavity catalytic beam seals assure hands-off, trouble-free, low maintenance operation.

The SkyLight 200 is available with PowerTrack Active Stabilisation of the optical cavity. Better than the best manual adjustments

attainable, PowerTrack controls alignment of the optical cavity providing a level of performance, power stability, beam-pointing stability, and low-noise operation not possible with unstabilised ion lasers.

SkyLight 200 is also the only modern large frame ion laser to use a full series-regulated linear

passbank for low noise operation. This helps to eliminate problems with installations using microprocessors and other computer-controlled components.

The SkyLight 200 meets the special requirement of the Entertainment and Display marketplace at affordable prices.

SPECIFICATIONS		
	Argon	Krypton
Power — Multiline	20W, 30W	4.5W, 6W
Wavelengths (Colour)	458-514 (blue/green)	647-676 (red)
Beam Diameter	2.6 mm	2.0mm ¹
Beam Divergence (full angle)	0.7 mrad	0.5 mrad ¹
Mode	TEM ₀₀ + TEM ₀₁	TEM ₀₀ + TEM ₀₁
Optical Configuration	Sealed Mirror/Sealed Cavity	Sealed Cavity
Polarisation	100:1, Vertical	100:1, Vertical
Stability, Light Regulation	±0.5%	±0.5%
Noise	±0.5% RMS (10Hz-1MHz)	
Warm-up Time	0-99% in <2 min (with Power Track Option)	



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Innova 70 Purelight Ion Laser System

Coherent's PureLight Laser System is designed to provide highly reliable, hands-off white light performance in small-to-medium-sized auditoriums or discotheques. With a nominal 2W output, the dominant visible colours include blue, green, yellow, and red. Furthermore, colour balance and colour stability are maintained throughout the operating life of the laser system with only minor adjustments required. A high power version of the PureLight is also available which can provide up to 4.5W of RGB (red, green and blue) visible output. Yellow is an optional output of the high power PureLight system.

The PureLight delivers high power laser light with excellent beam properties. The standard optics provide a low order multimode beam, with a very low divergence angle.

A standard feature of the PureLight system is a remote control module which allows the laser to be controlled from a remote console.

Performance and Reliability Through Design

Design features emphasise reliability, and performance. The Innova 70 uses a SCR

(silicon-controlled rectifier) power supply with a linear-transistor passbank to achieve high performance and dependability. The linear passbank reduces optical noise by regulating the current through the plasma tube. Both current regulation and light regulation are standard on the Innova 70 systems.

The aluminium resonator of the Innova 70

is thermally and kinematically isolated from thermal and mechanical fluctuations introduced by the plasma tube heat load and cooling water. In addition, the high thermal mass and thermal conductivity of aluminium ensures a uniform heat distribution of any residual heat, resulting in fast warm-up and high power and pointing stability.

SPECIFICATIONS

Power Specifications (Multiline, Multimode)

Guaranteed Output		PL-1.5 1.5 watts	PL-3.5 3.5 watts
Dominant Lines/Colours			
Red	647.1 nm	S	S
Yellow	568.2 nm	S	O
Green	520.8 nm	S	S
Green	514.5 nm	S	S
Blue	488.0 nm	S	S
(S) Standard (O) Optional			
Modes		TEM ₀₁ *	TEM ₁₀
	488.0 nm	TEM ₁₁ *	TEM ₂₁ *
Beam Diameter¹		1.6 mm	2.1 mm
	488.0 nm	2.0 mm	2.5 mm
Divergence		1.2 mrad	1.5 mrad
	488.0 nm	1.4 mrad	1.8 mrad
Output Polarization Greater than 100:1 (Vertical)			

fascinated by all those crazy people rushing about demanding instant service support, same day in, same day out! After a year I decided to move to sales with products that don't break down. It seemed like a lot less stress."

In the course of my research for this article I had a long conversation with Henry Gauthier, the President and COO of Coherent. He was very keen to emphasise the Corporation's commitment to the entertainment market, despite their massive turnover in science-related fields. "In a way we see this as a commitment to Europe," Hank explained. "The light show market is severely restricted in the US by the tough performance regulations, but we are aware of the substance of the market in Europe."

Coherent are a company which, from small beginnings in a kitchen, have grown, in a mere quarter of a century, into a massive corporation through dedication and commitment to innovation. If they continue to display the same tenacity in performance technology we could all be in for a very exciting time ahead.



Hank Gauthier, the president and general manager of Coherent.



Coherent's Wolfgang Hemmer-Girod.



Tasco/Laser Grafix Starlaser rocking with Deep Purple.



Laser line-up from ACR.

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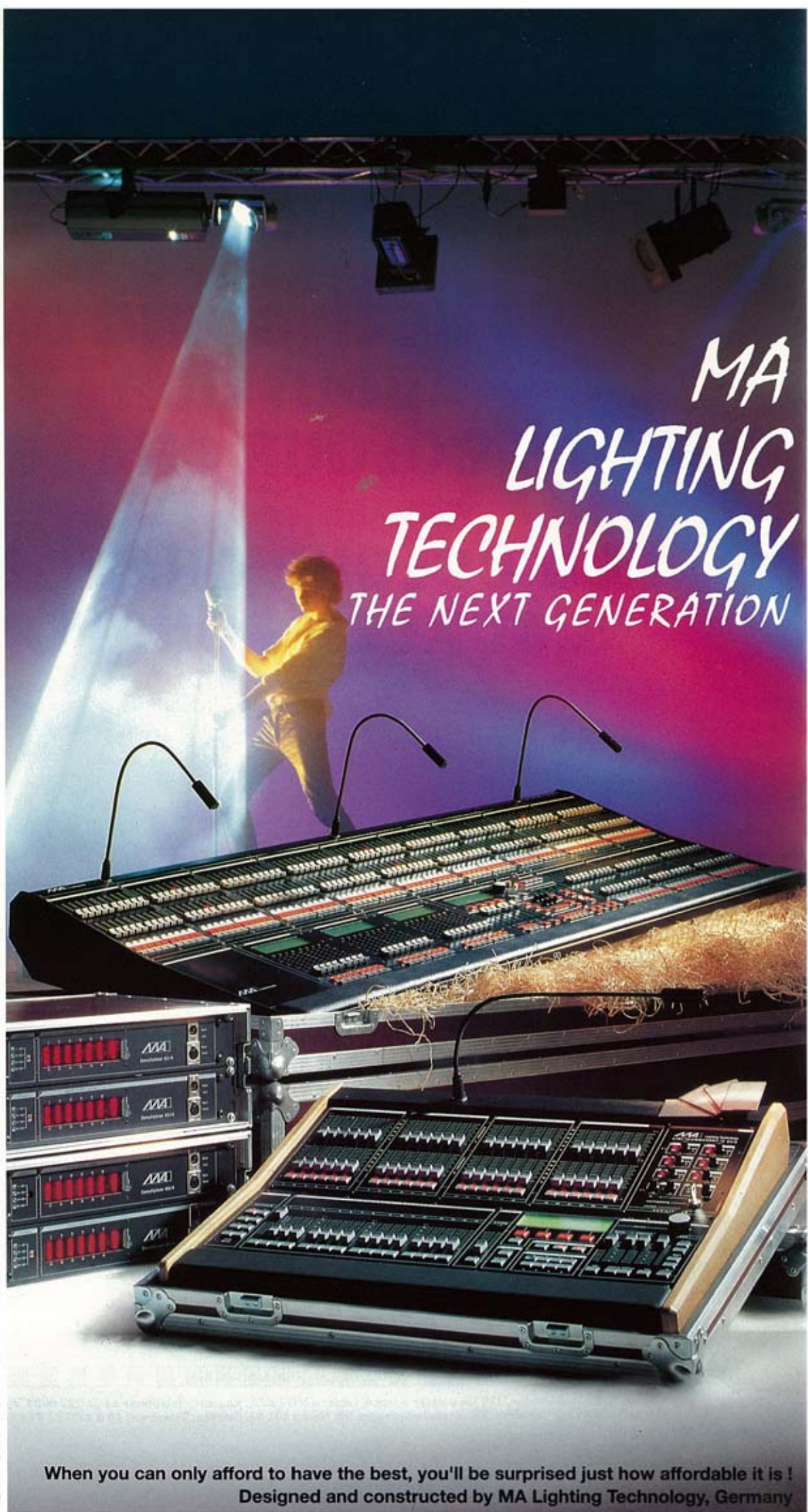
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Tim Fothergill unfolds the story of an outdoor spectacular in a force nine gale



Lasers and lights combine to create a spectacular backdrop for Rotterdam.

The summer sky over Rotterdam was a blaze of lights, fireworks and lasers as the city celebrated the Eureka Event of Excellence.

Eureka is an international organisation which interacts with companies and research institutes in 19 member countries and helps them pool resources in the development of leading-edge technologies. The event was held in Rotterdam because Holland is the venue for this year's ministerial conference, and 1991 is the fifth anniversary of the Eureka organisation.

Headlining the show was the Greek composer and musician, Vangelis, with a guest appearance from Jon Anderson, taking a little time off from the Union tour with the international rock band Yes.

The show was to be an example of the use of leading-edge technology in the performance of a large outdoor spectacle, and as many new technological innovations as possible were integrated into the production, including a central time code system that would generate the cues for the majority of the show sequences.

Designed by Tony Winter, the event brought together companies from all over Europe. My job was to provide a laser show for the benefit of the 200,000 strong audience along the river bank of the Maas and for the viewers to Veronica (one of the Dutch TV stations) the likes of which had never before been seen in Europe.

The brief was to provide as wide a coverage of the immediate and surrounding area as possible. Two twin-scan projection systems were to perform on the fascia of the buildings lining the stage side of the river bank. On the roofs of three of these large buildings were placed 20W Spectra Physics 2035 large frame lasers, running single scan effects heads. There were also two more 2035 lasers on the ground at the far left and right of the back-stage area. A total of five 2035 lasers performed spatial effects over the audience and onto the surface of the water. Four 168

Argon lasers, all running single scan effects systems, were placed on-stage as the central focus of effects. Two were placed centre stage, under the keyboard riser, and a further two were placed up-stage left and right behind the chorus of 350 local singers.

"The equipment was ready, pre-production was complete, and now all that was necessary was to prove that the system actually worked."

On the opposite side of the river, a pair of 30W 2035 Argon lasers were positioned at either end of the audience area, projecting the various elements of the graphics show and telling the story of the Eureka project.

The whole show was to be run from a single time code track, generated from the 48 track master. This SMPTE track was to be transmitted using a special system installed by the Dutch RTT Telecom company utilising data phone lines, to link the nine laser control computers that would be running the graphics and spatial. Each computer was individually programmed with a time code and event sequence which acted on the presets programmed into the data keys on the computers. By setting a time event simultaneously on all nine, and then linking into the time code, all the computers, and the scanning systems would perform the same effects and sequences, despite being separated by up to 4.5 kilometres of cable. And all this would be in perfect time with the music. This was important since the time code was also being picked up by the broadcast vans, controlling 17 cameras around the site, and so synchronous effects were required.

These computers were the Boogly controllers from Micro Robotics, a company specialising in micro systems, and whose work with companies such as Jim Henson's Creature Shop, helped animate the moves of the Ninja Turtles and of the Goblins in the film

Labyrinth. Designed in cooperation with Resal Laser, one of the leading Dutch laser companies, owned by Michel Povee, the system was designed with large shows such as this in mind, and integration is the keyword with Boogly, which also exhibits MIDI and serial connections to the outside world. Coupled with a new and compact scanning system, this 'Lasernet' communications system was the perfect system for the job in hand.

Of course, the practical considerations of finding enough power and water around the site, and of providing secure enclosures for the systems, and indeed, getting the equipment up to the roofs of the waterside buildings was another matter. Technical production was handled by Frequence, a light and laser company from Belgium, run by Manuel Michaels, who specified the show requirements and brought in personnel from Denmark, France, England and, of course, the programming and digitising team from Resal Lasers Holland. This was truly a continental team, language being no barrier to technical expertise.

With the help of Spectra Physics, who supplied four of the 2035 lasers, the equipment was ready, pre-production was complete, and now all that was necessary was to prove that the system actually worked.

Water supplies were provided close to the laser positions, and generators were dropped off around the site to provide power to both lights and lasers. Portakabins mounted on 20 feet container stacks allowed unimpeded views of the projection areas for the lasers on the ground. Small wooden 'rabbit hutches' were provided on three buildings and miraculously survived an evening of force nine winds and heavy rain storms. Luckily, all the large frame lasers were in position and ready to fire within two days under the supervision of the English technical riggers, Paul Green, Chris Forbes and myself. Experience on shows such as the Jarre Docklands fiasco, The Wall in Berlin and general touring had prepared us for virtually any problem, and with the help of the



An array of Space Cannons, Super Troupers, Argon Lasers and architectural lighting illuminate the stage and surrounding buildings.

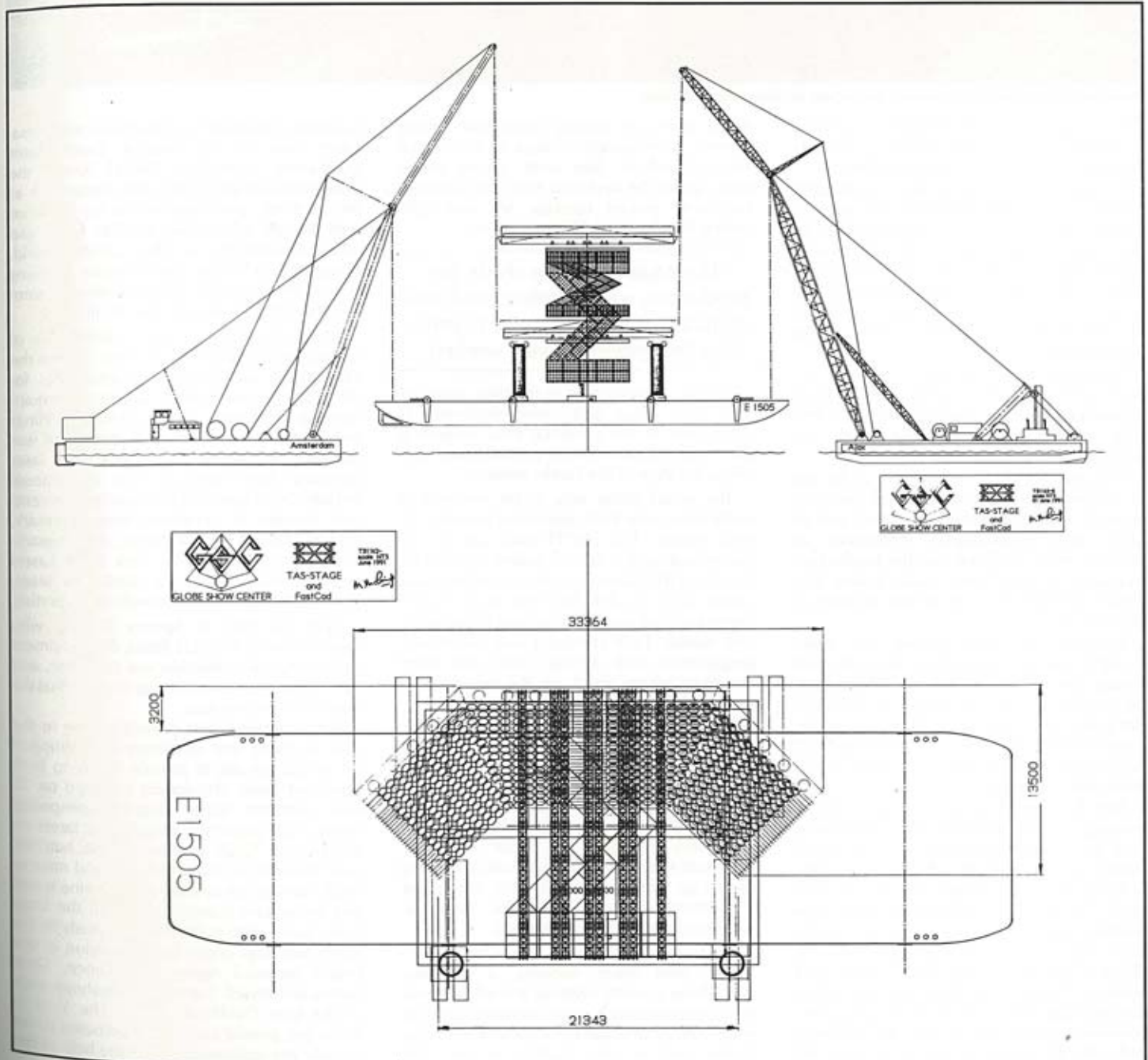
Dutch electricians, carpenters and stage crew the work was completed on schedule.

The next job was to fit-up the stage, but delays caused by the weather put the schedule back slightly, so the intervening period was spent programming the effects and time code for the show. Under the expert supervision of Frits Raeymaekers and Louis

van Waversveld, two men who have been actively involved in the development of the Boogly system, the English crew helped complete the spatial show programming. The first run through of the laser show was on the Friday night, four days before the show, which allowed time to check the 'Lasernet' system, and sort out any other problems. This part of

the show being complete the programming crew were able to concentrate on the much more complicated graphics sequences which were to appear throughout the 56 minutes of the show.

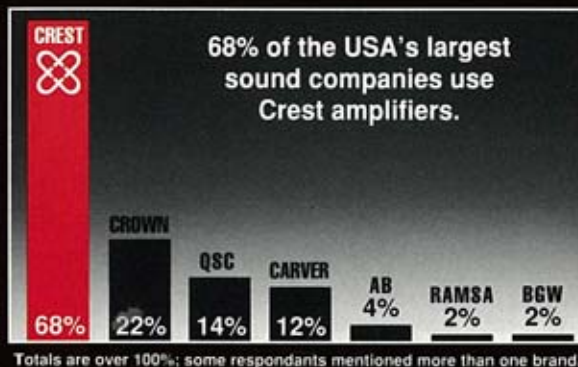
And so to the event itself. An original steam locomotive chugging across the rail bridge in full view of the audience was illuminated with



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4 ohms/channel	250	350	475	600
2 ohms/channel	N/A	440	680	770

EIA (at 0.05% THD)



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Super Troupers, barges of fireworks lit up the sky, a complete floating PA was provided by Stage Accompany, there were helicopters, 1k single head Space Cannons were on-stage and on the high buildings, and four head Space Cannons were on the floor; a huge moving lighting rig, in the shape of the event's logo (the Greek letter Sigma), was on stage, the backdrop of the buildings was lit with colour changers, making them stand out sharply against the skyline of the city, and lasers streaked across the sky over the heads of the audience. The whole scenario came alive, choreographed to the anthemic music of Vangelis.

From the reaction of the crowd and the media, the show was a terrific success, and from the reaction of the crew it was a technical success despite the ever-present rain and wind.

With the coming of 1992, and Europe-wide celebration of the open borders, there will be opportunities to recreate this event or perform others like it, making excellent TV and a spectacular evening for the crowd. It also proves that we can work together as Europeans, and remove the blinkers that so many people have concerning 'foreign' work.

Our thanks go to all the people that made this show such an enjoyable success and who helped to prove that European countries can work together constructively.

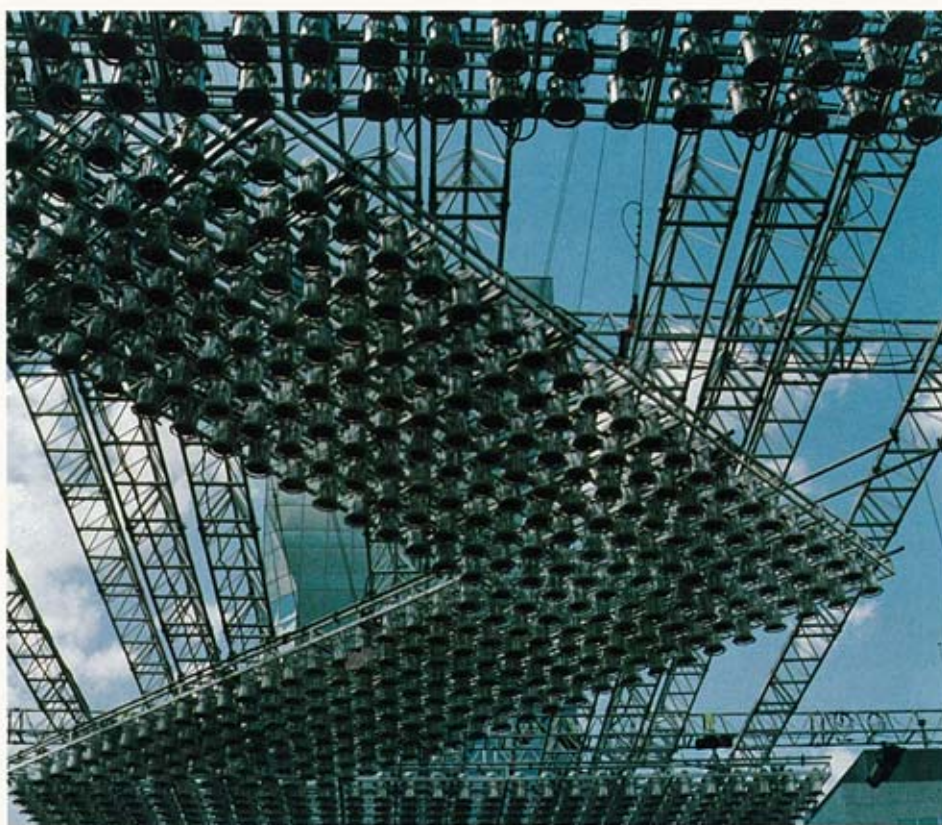
Equipment List

Lasers:

7 x 2035 Argon Ion Lasers min spec 20 watts
4 x 168 Argon Ion lasers min spec 4 watts
9 x single scan effects systems
2 x twin scan graphics projection systems
9 x 'Boogly' laser controllers

Stage Lighting

24 x Super Scans



Close-up on the lighting rig.

12 x 1k Space Cannon moving head systems
750 x Par cans

Sound

Stage Accompany/Stage Hire computer controlled PA

Stage

Constructed on a barge, the lighting rig was supported by two large cranes

Arena Lighting — Space Cannons

Architectural and environmental lighting utilising colour changers, providing building fascia lighting

Tim Fothergill is a freelance laser and Vari*Lite operator/technician, and is one of the small number of working European laser specialists to hold an American Operators Licence.

Cerebrum Lighting

The services we offer

Cerebrum Lighting are the recognised choice for the discerning trade buyer, with everything you need, from a single gel up to the most complex lighting control desks, all available under one roof.

Besides a comprehensive range of products sourced from the most innovative manufacturers around, including Advanced Lighting Systems, Light & Sound Design and Powerdrive, for whom we are *exclusive* distributors worldwide, we also aim to offer exceptional levels of service.

THE FIRST CHOICE FOR THE STAGE AND EFFECTS LIGHTING BUYER

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At our premises we have installed a comprehensively equipped demonstration studio packed with the latest lighting control technology, looking out onto a motorised lighting rig, flown from the warehouse roof.

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LIGHTING

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Hundreds of satisfied clients around the world have proved that it makes sense to centralise purchasing with Cerebrum Lighting.

We keep our sales counter at New Malden open every weekday from 8.30 a.m. until 6.30 p.m. to trade, professional and retail clients and there is plenty of free parking space right outside the door.

Worldwide dealer distribution - Cerebrum Lighting Ltd. Units 4 & 5, Shannon Commercial Centre Beverley Way, New Malden, Surrey KT3 4PT England. Tel. 081-949 3171 Fax. 081-949 3649

ON CAMERA: ROCK AM RING

Stephan Pick provides the pictures,
Showtec of Cologne the Lighting and Sound



Held annually at the Nuerburgring in Germany, a venue better known to most people as the home of the German Grand Prix, Rock am Ring is the country's biggest open air live music festival and usually attracts over 70,000 visitors over two action-filled days.

It's big on size — two main stages — big on equipment, and big on acts. For the 1991 event held recently 'names' included An Emotional Fish, The Sisters of Mercy, INXS, and Bob Geldof, with Sting stepping into the finale spot.

Showtec of Cologne supplied the equipment for both sound and lighting and had to get the show 'on the road' in double quick time following an earlier problem during build-up of the stages. In the usual showbiz manner they coped.

The sound was configured PA left, centre and right to cope with the two stages and there were two monitor and front of house systems. After the event the lighting rigs went straight to Belgium for the Torhout-Werchter festival.

The rest of the story is best told by a study of the plans and a look at the pictures (including this month's front cover). All photography is by Stephan Pick. As a footnote and not included on our lighting list, two four-head Skytrackers provided the after-Sting go-home show.

Sound Equipment

PA system:
140,000 watt Martin Audio system, consisting of RS1200 (1st PA level) and F2 (upper PA levels). 30,000 watt for delay towers.

FOH:

2 × Yamaha PM3000 40/8/2
1 × Yamaha PM2000 32/8/2



TV 48-25 DMIX



Do your clients deserve the BEST?

You know we make the finest dimmer systems available ...

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- 1 × Soundcraft 24/4/2
- 1 × Klark Teknik DN60
- 8 × Klark Teknik DN27
- 3 × Klark Teknik DN716 DDL
- 3 × BSS MCS200 crossovers
- 8 × dbx 160X
- 2 × Teac Tascam 112
- 1 × Yamaha KS15
- 1 × Clearcom Intercom
- 6 × dbx 160X
- 8 × BSS DPR402
- 2 × BSS DPR502
- 12 × Drawmer DS201
- 1 × Roland SDE3000
- 1 × Eventide H3000
- 6 × Yamaha SPX90
- 3 × Yamaha REV5
- 3 × Yamaha REV7
- 4 × Lexicon PCM70
- 1 × lexicon 480L
- 1 × AMS 15/80

plus all necessary microphones

Monitor 1:

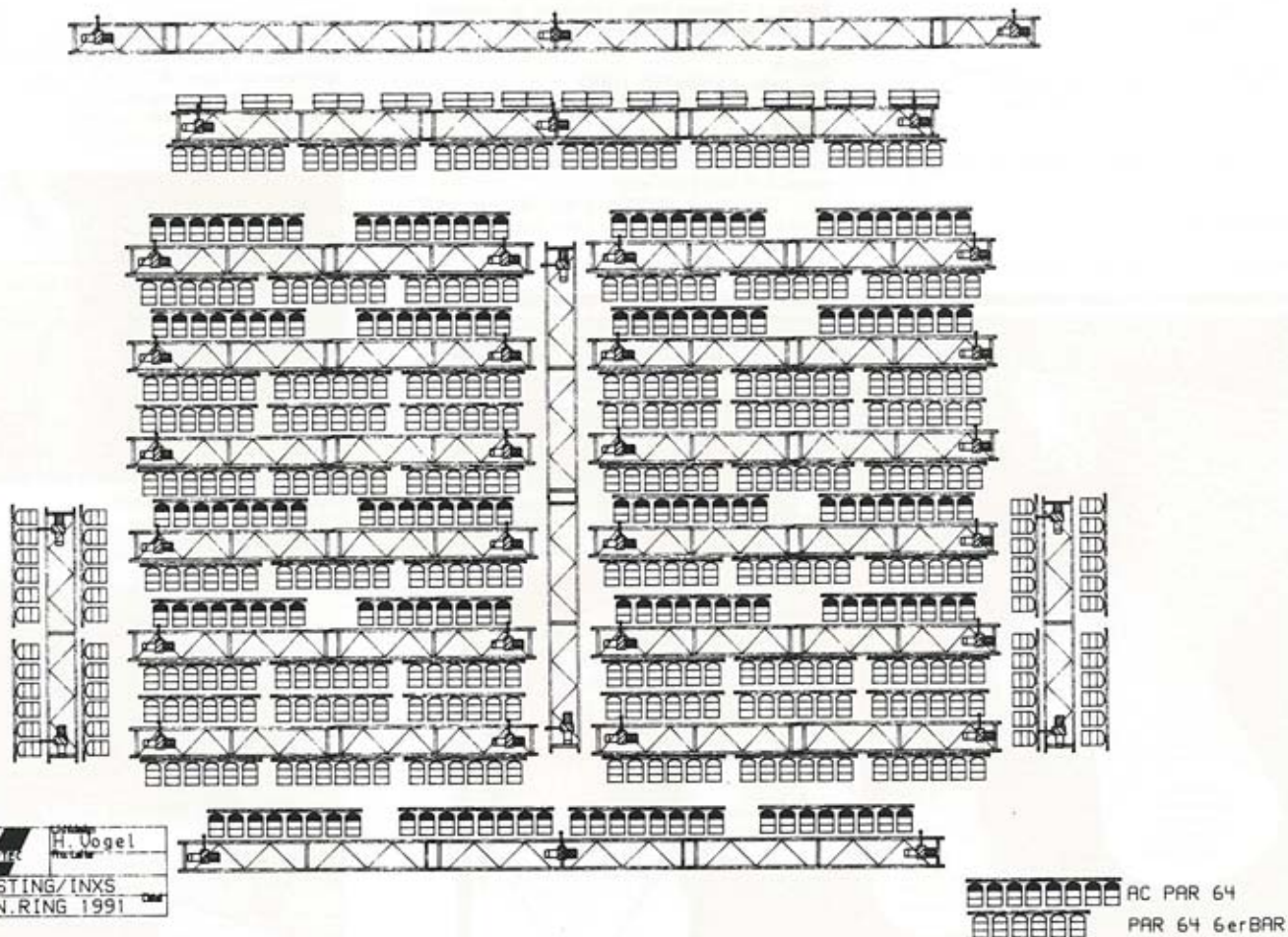
- 1 × Ramsa S840 40/18
- 1 × Klark Teknik 1/3 octave EQ
- 6 × dbx 160X
- 4 × Drawmer DS201
- 1 × Yamaha SPX90
- 1 × Yamaha REV7
- 16 × wedge (inc. cue-wedges) 15"×2" bi-amped
- 2 × drum fill, 3-way, Martin Audio VRS800
- 8 × side fill, 4-way, Martin Audio RS1200

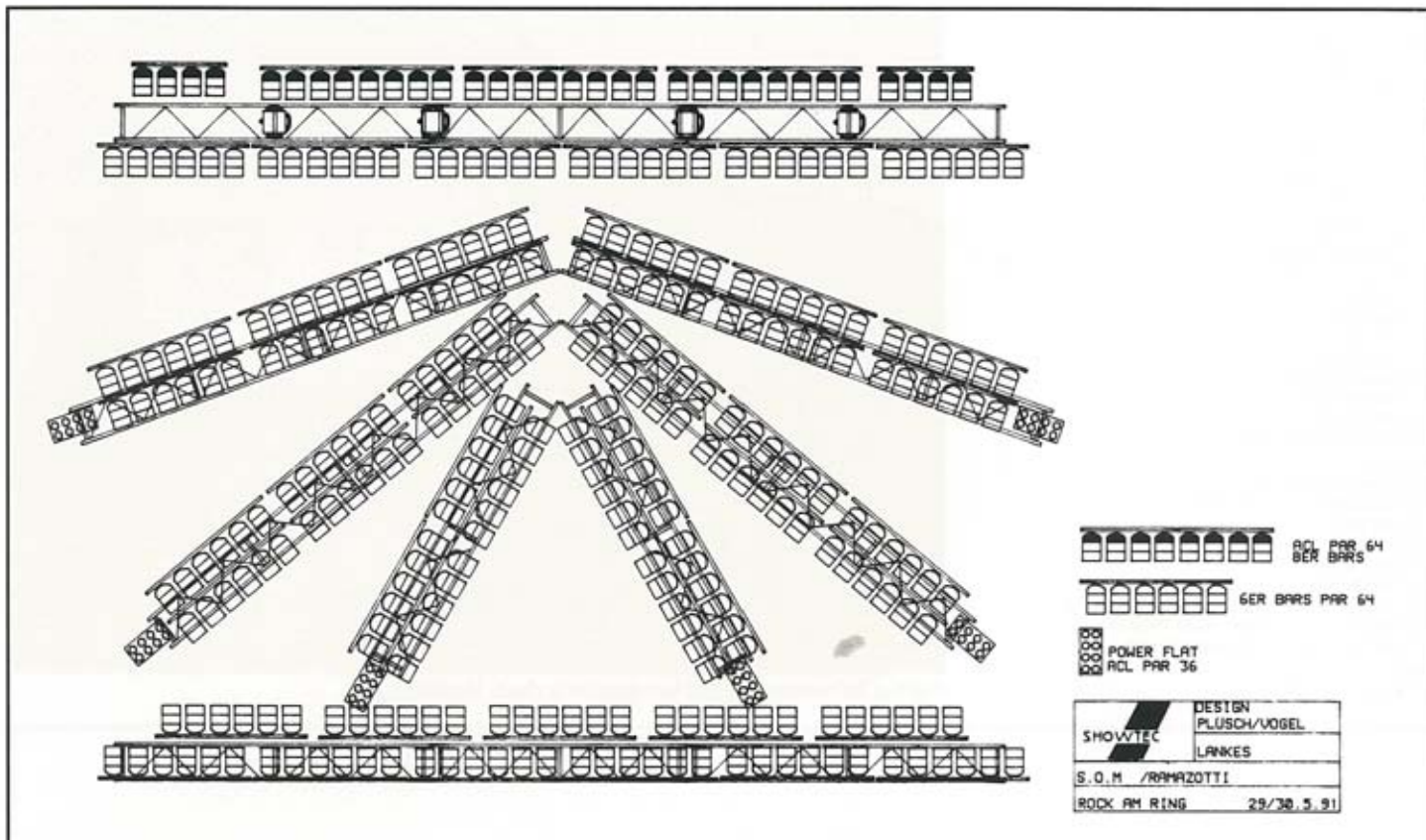
Monitor 2:

- 1 × Ramsa S840 40/18



Night at the Neuburging: the two stage set is clearly identifiable.





1 × Klark Teknik DN60
 14 × Yamaha 1/3 octave EQ
 4 × dbx 160X
 2 × Drawmer DS201
 1 × Yamaha SPX90
 1 × Yamaha REV7
 16 × wedge (inc. cue-wedges) 15" + 2" bi-amped
 2 × drum fill, 3-way, Martin Audio VRS800
 4 × side fill, 4-way, Martin Audio RS1200

Crew:
 2 × FOH engineer, 2 × monitor engineer, 6 × stage, 1 × service

Lighting Equipment

General:
 Follow spots: 8 × Super Trouper Xenon 2kW

Intercom: 3 × Clearcom MS200 main station, 28 × Clearcom RS100 belt packs, 10 × walkie talkies.
 Dimmers: 6 × Avolites 72 channel dimming system
 Rigging: 2 × Demag 500kg chain hoist, 10 × Verlinde 1 ton chain hoist, 22 metres Mini Beam truss.

Stage A:
 Truss spots: 4 × Pani HMI 1200W
 Control: 1 × Celco Gold 90 channel, 1 × Celco Major 60 channel
 Rigging: 42 Verlinde 1 ton chain hoist, 126 metres triangular truss, 10 metres Slick Tower Beam truss, 29 metres Slick Mini Beam truss.
 Units: 372 × Par 64 1000W on 6 bars, 184 × Par 64 ACL lamps on 4 bars, 16 × Molefay 8-lites ACL, 24 × cyc lights Iris II.
 Miscellaneous: 2 smoke machines.

Crew: crew chief, 2 riggers, 3 lighting technicians.

Stage B:
 Control: 1 × Avo QM500 90 channel
 Rigging: 30 × Verlinde 1 ton chain hoist, 72 metres triangular truss, 12 metres Slick Mini Beam truss.
 Units: 402 × Par 64 1000W lamps of 6 bars, 48 × Par 64 ACL lamps on 4 bars, 16 Par 36 ACL lampes on 4 bars, 11 × Leko 6 × 16", 10 × Molefay 8-lites.
 Miscellaneous: 4 × smoke machines.
 Crew: 1 rigger, 4 lighting technicians.



From a technical viewpoint . . .



Universal Lighting Trusses

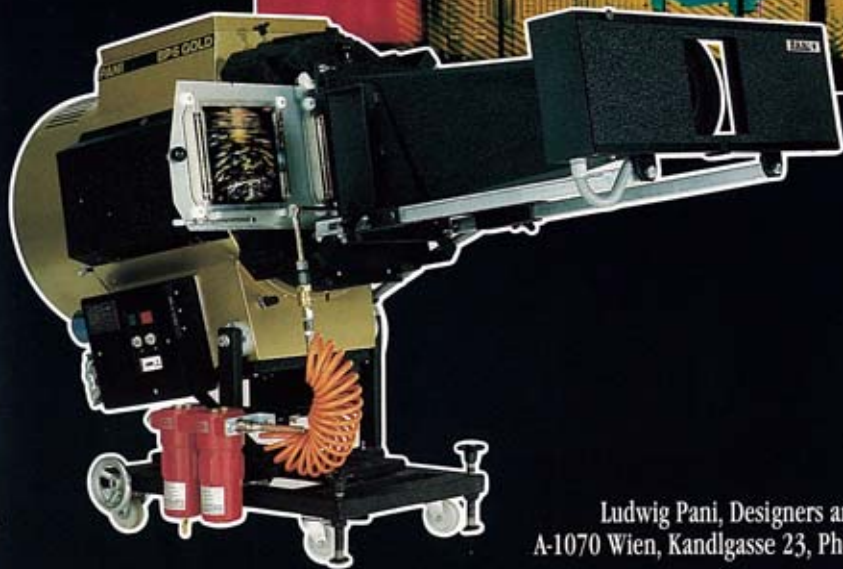
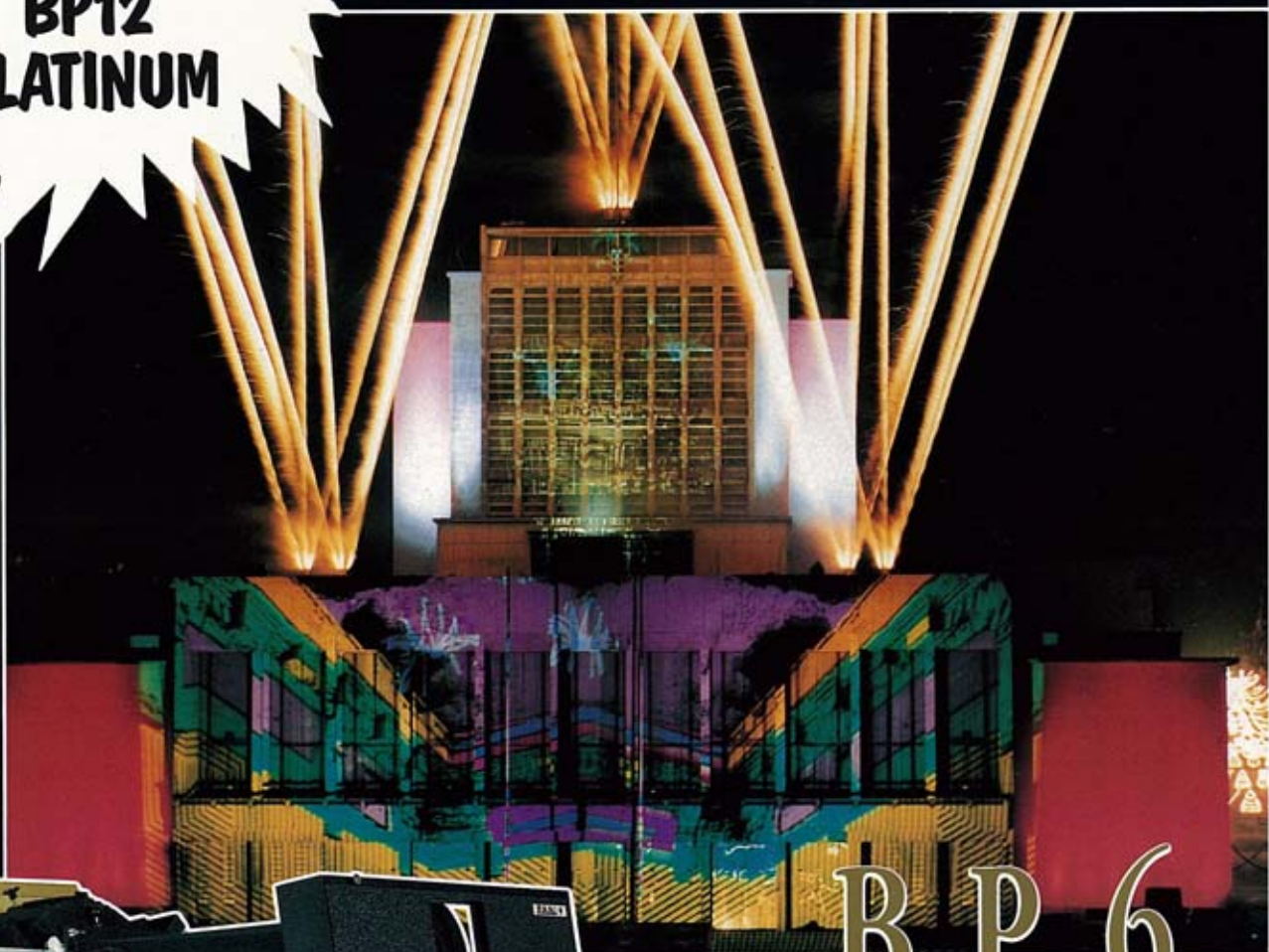
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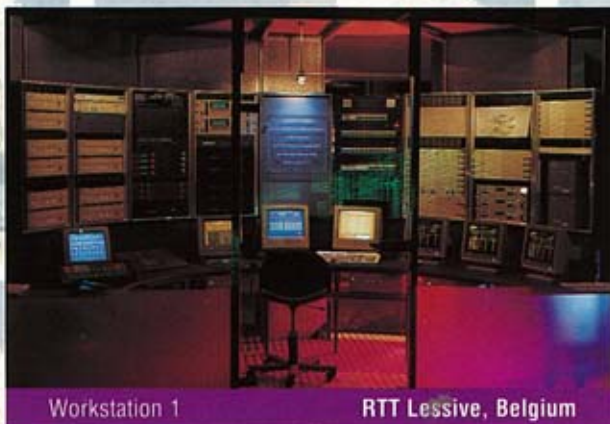
For further information call or write
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A-1070 Wien, Kandlgasse 23, Phone 93 24 62-0, Telex 01-32076, Fax 96 42 87



LIVE WIRE



See us on Stand B39
at PLASA, Olympia 2, London
8-11 September 1991



Workstation 1

RTT Lessive, Belgium

The AV nerve centre at RTT's satellite Earth Station – a high-tech modular solution controlling four separate exhibition areas, using the latest modem links.

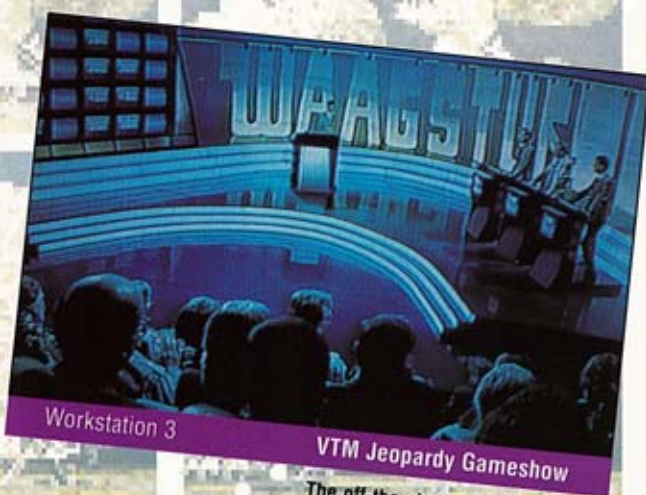


Workstation 2

TUNE TUBE

Photo: Ron Geesin

The Tune Tube is an interactive device patented by Tune Tube Ltd, utilising technology from Live Wire's "People Activated Control Systems" (PACS). It is infinitely theme-programmable.



Workstation 3

VTM Jeopardy Gameshow

The off-the-shelf solution to gameshow control: interfacing remote cameras, video graphics, digital FX, scoreboards, sound equipment... saving costs in personnel and studio time.



AHEAD IN VISION

Live Wire are the specialists in High-Tech modular show control for:

- EXHIBITIONS & MUSEUMS
- THEME PARK FEATURES
- TV GAMESHows
- TOURING SYSTEMS

Referred to by RTT as "Future-Proof", the Live Wire modular system, with maximum interface potential, is the new generation in show control. Implemented as a turn-key project by AV-Enger in Belgium it enables studio equipment to be operated and interrogated from a remote nerve centre **anywhere in the world.**



Recent success on Prince's 4 month European and Japanese tour.

UK Office:
Live Wire Systems (UK) Ltd.
The Dart Business Centre, Shimmers Bridge
Dartington, Totnes, Devon TQ9 6JE
Tel: 0803 865882
Fax: 0803 863507

European Office:
N.V. AV-Enger
Audio Visual Engineering
Spiegelstraat 18 - 2800 Mechelen
Belgium
Tel: 32 (0) 15 290351
Fax: 32 (0) 15 290576

ALL THE STANDS AT THE LIGHT AND SOUND SHOW

Olympia 2, London, September 8-11

ABRACADABRA DISCO & KARAOKE SALES & HIRE (G45)

314 Nelson Road, Whitton, Middx TW2 7AH
Tel: 081-898 1127 Fax: 081-898 1126
As the name implies, everything for sale or hire in disco and karaoke systems.

ABSTRACT DESIGN TO LIGHT (G60)

Unit 6, Peckleton Lane Business Park, Peckleton Common,
Leicester LE9 7RN
Tel: (0455) 823188 Fax: (0455) 822287
Manufacturers of effects lighting. Products include newly-designed Clubscan.

AC LIGHTING LTD (F122)

Unit 3, Spearhead Industrial Park, Lane End Road, Sands,
High Wycombe, Bucks HP12 4JG
Tel: (0494) 446000 Fax: (0494) 461024
Major supplier of a full range of lighting equipment from leading international manufacturers including Strong, Jands, Wybron, Space Cannon, etc. etc.

ALDENWORTH ENGINEERING DESIGN LTD (B3)

Red Marsh Drive, Thornton Cleveleys, Lancs FY5 4HR
Tel: (0253) 868152 Fax: (0253) 822173
Manufacturers of Concept and Constructa trussing systems plus custom design and fabrication.

ADB STAGE & STUDIO LIGHTING (F121)

Siemens House, Windmill Road, Sunbury-on-Thames,
Middx TW16 7HS
Tel: (0932) 752994 Fax: (0932) 752969
Lighting and control systems for theatre and television. First UK showing of the Cantor control system.

ADDA SUPER CASES LTD (G40)

PO Box 366, Cambridge CB4 5AX
Tel: (0223) 233101 Fax: (0223) 233080
Supercase range of fibre cases plus customised case service.

AKG (see Turbosound entry)

ALIEN PRODUCTS LTD (G52)

80 Bousley Rise, Ottershaw, Chertsey, Surrey KT16 0LB
Tel: (0932) 872454 Fax: (0932) 872909
Comprehensive lighting product service including Skylight searchlights and associated control.

ALLERMIJ CONTRACT FURNITURE (F131)

Allermuir House, Branch Road, Lower Darwen, Darwen,
Lancs BB3 0PR
Tel: (0254) 682421 Fax: (0254) 673793
Design and manufacture of contract furniture for the leisure market.

AMERICAN LASER/EURO RESEARCH (B27)

Hans-Pinsel Strasse 9-10B, 8013 Haar, Germany
Tel: (089) 464070 Fax: (089) 4603644
New generation of white light lasers and new products for laser animation.

ANYTRONICS LTD (B36)

Unit 5 & 6 Hillside Industrial Estate, London Road, Horndean,
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Tel: (0705) 599410 Fax: (0705) 598723
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ARRI (GB) LTD (F155)

1-3 Airlinks, Spitfire Way, Heston, Middx TW5 9NR
Tel: 081-848 8881 Fax: 081-561 1312
Completely updated range of professional lighting control consoles, the new Reflexion back-up console, plus motorised studio luminaires and control.

AVITEC ELECTRONICS (UK) LTD (G66/67)

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Tel: (0462) 458961 Fax: (0462) 431019
One of the UK's biggest distributors to the trade, Avitec's stand will feature its own products plus equipment from Optikinetics/Trilite, Tannoy, Cerwin Vega, Ramco Panasonic and numerous Italian companies including Genius.

AVOLITES LTD (F83)

184 Park Avenue, London NW10 7XL
Tel: 081-965 8522 Fax: 081-965 0290
Renowned lighting control equipment with the QM Diamond making its debut plus Light-CAD PC-based programming system.

B & K BRAUN GmbH (B33)

Industriest. 1, 7516 Karlsbad, Germany
Tel: (7248) 5909 Fax: (7248) 8218
Varytec intelligent lighting system.

BATMIK LTD (G44/46/70)

Glastonbury Warehouse, Silver Street, Glastonbury, Somerset
Tel: (0458) 33186 Fax: (0458) 35320
A wide range of products on display from this major distributor of lighting and sound equipment now dubbed the 'Italian Connection'.

BOOK BAZAAR (B28)

42 Sydney Street, London SW3 6PS
Tel: 071-352 6810 Fax: 071-351 5728
Your chance to 'switch off' and come for a browse.

CCT LIGHTING LTD (B32a)

Hindle House, Traffic Street, Nottingham NG2 1NE
Tel: (0602) 862722 Fax: (0602) 462546
Full range of luminaires on show. Increased output from Minulette TT and new lens for Starlette pebble 2kW.

CELCO (G42/43)

Hawley Mill, Hawley Road, Dartford, Kent DA2 7SY
Tel: (0322) 282218 Fax: (0322) 282282
The Navigator multi-purpose console is set to make a dramatic debut. Also SummaHTI automated luminaire and Electrosonic's Procube videowall.

CELESTION INTERNATIONAL (F148)

Foxhall Road, Ipswich IP3 8JP
Tel: (0473) 723131 Fax: (0473) 729662

Launch of new BX series loudspeaker chassis and Bullet and Slot tweeters plus live demonstration of products.

CENTONOVE srl (G56)

via Leonardo de Vinci 10, 46043 Castiglione delle Stiviere, Italy
Tel: (376) 355170 Fax: (376) 355170
New supplier of lighting effects equipment for theatre and disco.

CEREBRUM LIGHTING LTD (G47/48/68)

Units 4 & 5 Shannon Commercial Centre, Beverley Way,
New Malden, Surrey KT3 4PT
Tel: 081-949 3171 Fax: 081-949 3649
Wide range of exclusive lighting equipment products from Advanced Lighting Systems, Powerdrive, MA Lighting Technology, Total Fabrications, Amptown and Sunn - all on demo.

CITRONIC LTD (F101)

Halifax Road, Bowerhill, Melksham, Wilts SN12 6UB
Tel: (0225) 705600 Fax: (0225) 709639
Two new additions to the SM Remix range of discotheque mixers: the SM150 and SM250. Demonstration of the SPX101 audio zone controller.

C.L.A.S.S. LTD (F164)

837 Garratt Lane, London SW17 0PG
Tel: 081-944 1400 Fax: 081-944 0141
Full range of disco audio and lighting equipment, with the launch of no less than 11 new products.

CLOUD ELECTRONICS LTD (F73)

140 Staniforth Road, Sheffield, S9 3HF
Tel: (0742) 447051 Fax: (0742) 425462
Manufacturers of wide range of audio equipment. New products this year include the CFX mixer and the CZ zoner.

COURT ACOUSTICS LTD (B32b)

The Studio, PO Box 831, Oakley Green Road, Windsor,
Berks SL4 4EZ
Tel: (0628) 38555 Fax: (0628) 784706
One of the long-serving audio companies in the industry. New range of speakers and electronics, including the CN230 processing crossover.

D&B AUDIOTECHNIK (B14)

Locks Mill, Brewery Lane, Nailsworth, Stroud, Glos GL6 0JQ
Tel: (0453) 835884 Fax: (0453) 834193
Manufacturers of loudspeaker systems. Presentation software for design and system engineering will feature at the Show.

DANCE AID TRUST (B22)

12 Threshers Yard, Kingham, Oxon OX7 6YF
Tel: (0608) 659200 Fax: (0608) 659222
The Trust will be relying on some famous faces to raise funds to support music-related causes.

DESISTI LIGHTING (UK) LTD (F153)

15 Old Market Street, Thetford, Norfolk IP24 2EQ
Tel: (0842) 752909 Fax: (0842) 753746
International suppliers of lighting and grip to the film, TV and concert industries, DeSisti will premiere the new Dedolight range of luminaires.

DHA LIGHTING LTD (F72)

3 Jonathan Street, London, SE11 5NH
Tel: 071-582 3600 Fax: 071-582 4779
PLASA first for the Digital Light Curtain, keeping company with the more familiar pattern and projection gobos.

DISCO & CLUB LEISURE INTERNATIONAL (F134)

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Tel: (0727) 43995 Fax: (0727) 44417
Collect your tickets for the DJ Awards night.

DISCO MIRROR & LICENSED DESIGN (F140)

Waterloo Place, Watson Square, Stockport, SK1 3AZ
Tel: 061-429 7803 Fax: 061-480 8896
BEDA's official magazine plus sister publication EDR.

DJ (F136)

4th Floor, Centro House, Mandela Street, London NW1 0DU
Tel: 071-387 3848 Fax: 071-388 8532
Monthly update for professional and amateur DJs.

DOUGHTY ENGINEERING LTD (B34a)

Crow Arch Lane, Kingwood, Hants BH24 1NZ
Tel: (0425) 478961 Fax: (0425) 474481
New products comprise the Club and Studio lighting stands, the Phobos all-purpose clamp, and a range of scenery fixings and music stands.

DUTCH A & A TRADING BV (B35)

Johanniterlaan 4, 3841 DT Harderwijk, Holland
Tel: (3410) 27100 Fax: (3410) 27468
Manufacturers and importers of loudspeaker systems and associated equipment. Looking to establish UK distributors.

ELECTRO SIGNS LTD (G59)

97 Vallentun Road, Walthamstow, London E17 3JJ
Tel: 081-521 8066 Fax: 081-520 8127
Design, manufacture and installation services for animated neon, fibre optic, LED and plasma discharge effects.

ELECTRONIC LIGHTING AND MUSIC (F171)

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Tel: (0209) 820599 Fax: (0209) 820599
Full range of lighting controllers and effects on show, plus details on supply, install and maintenance service. New budget light chaser.

EUROLIGHT GROUP (F92)

Unit 3, Maple Industrial Estate, Maple Way, Feltham,
Middlesex TW13 7AW
Tel: 081-751 6400 Fax: 081-751 3334
Several new products including Arena lighting console, Micropack dimmer range, and Whisper colour scrollers.

FABTRONIC LIGHTING (S209)

54/56 Tenter Road, Moulton Park Ind Est, Northampton NN3 1AX
Tel: (0604) 790765 Fax: (0604) 492856
Manufacturers of a range of effects lighting, together with custom-built lighting rigs.

FASHION AT WORK (UK) (G54)

57 Wrights Hill, Sheffield S2 4NY
Tel: (0742) 501111 Fax: (0742) 589533
Designer fashion for the nightclub and leisure industry.

FBI ELETTRONICA SPA (B25)

Zona Ind E Mattei, PO Box 104, 62019 Recanati (MC), Italy
Tel: (39) 71 7570421 Fax: (39) 71 7570410
Launch of 'Personal' series of sound reinforcement mixers featuring 15 different models.

FIVE STAR CASES (G59b)

PO Box 36, 10-12 Sandall Road, Wisbech, Cambs PE13 2RT
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Flight cases for all applications, plus custom design service using AutoCAD.

FORMULA SOUND LTD (F137/B)

Ashton Road, Bredbury, Stockport, Cheshire SK6 2SR
Tel: 061-494 5650 Fax: 061-494 5651
Main attraction is the PM-90, successor to the award-winning PM-80 production mixer.

GE THORN/GE TUNGSTRAM (F154)

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The experts for Par 64 lamps and more.

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Design consultancy providing tailored service to the leisure and entertainment industry.

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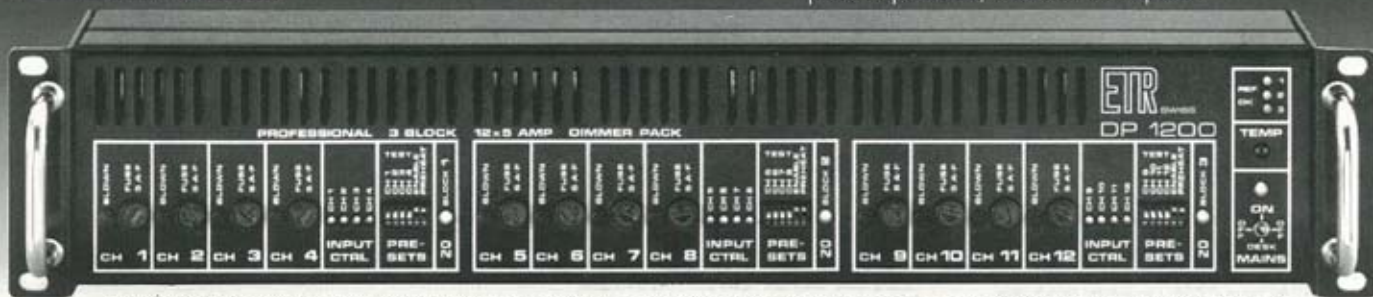
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Twelve 5 amp channels, 2 "U" high, fan cooled, 1 or 3 phase operation, modular back panel



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GLANTRE ENGINEERING LTD (B15)
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 World-wide service in design, supply and installation of lighting, sound and rigging systems for all applications.

GSM UK (G49)
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 Portable, inexpensive laser display systems.

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 Abbey Building, 1 Nestles Avenue, Hayes, Middlesex UB3 4SH
 Tel: 081-848 1387 Fax: 081-848 1135
 Manufacturer of high power xenon projectors for giant images, followspots and skylights.

HARMAN AUDIO LTD (S242)
 1b Mill Street, Slough SL2 5DD
 Tel: (0753) 576911 Fax: (0753) 535306
 Stealing the limelight will be the newly-launched Sound Power 'M' Series.

HARRISON ELECTRONIC LTD (B10/12)
 Unit 3d Bulton End, Harston, Cambs CB2 5NX
 Tel: (0223) 871711 Fax: (0223) 872094
 Harrison promise 'gutshaking' horsepower from their range of amps.

HOWARD EATON LIGHTING LTD (F99)
 Winterlands, Resting Oak Hill, Cooksbridge,

Lewes, East Sussex BN8 4PR
 Tel: (0273) 400670 Fax: (0273) 401052
 Specialist lighting and effects for theatre and industrial presentations, from consultancy and design to manufacture and installation.

INNOVATIVE PRODUCT DESIGN (F181)
 2/10 Gladstone Street, Anstey, Leics LE7 7BT
 Tel: (0533) 357219 Fax: (0533) 340536

HW INTERNATIONAL (F110)
 3-5 Eden Grove, London N7 8EQ
 Tel: 071-607 2717 Fax: 071-609 0295
 Importers and distributors of professional audio products. Famous names include Shure, Carver, Koss, 3G, Hafler and Pro Acoustics.

JAMO UK LTD (B5)
 Jamo House, Heyford Lane, Stowe Hill, Weedon, Northants NN7 4SF
 Tel: (0327) 349449 Fax: (0327) 349130
 Updated versions of the Compact loudspeaker range and current models in Venue products portfolio.

JEM (F88b)
 Vale Road Industrial Estate, Boston Road, Spilsby, Lincs PE23 5HE
 Tel: (0790) 54050 Fax: (0790) 54051
 Full launch of StageFX pyrotechnic system, alongside more familiar Pan Command lighting products and JEM's own Roadie and Fogger smoke machines.

LAMBA plc (F188)
 Albion Mills, Albion Road, St Albans, Herts AL1 5EB
 Tel: (0727) 40527 Fax: (0727) 837811
 Numark and Stanton sole distributors.

KOTO LUMINOUS CORPORATION (F169)
 4/5 Ealing Road, Northolt Village, Middlesex UB5 5HT
 Tel: 081-845 9337 Fax: 081-841 0368
 Manufacturers of tungsten halogen lamps, and compact metal halide daylight colour sources.

LASER SYSTEMS LTD (F156)
 Unit 11, Llantarnam Park, Cwmbran, Gwent NP44 3AX
 Tel: (0633) 838280 Fax: (0633) 838218
 Lasers from the Magnum 9 II to the low cost high power FX400 system.

LASERPOINT COMMUNICATIONS LTD (F141)
 44/45 Clifton Road, Cambridge, CB1 4FD
 Tel: (0223) 212331 Fax: (0223) 214085
 Design, manufacture, sales and rental of laser display and videowall systems, including range of fibre optic and direct-fed laser controllers and effects.

LE MAGAZINE DE LA DISCOTHEQUE (G53)
 11 rue du pas de Roquette, 17640 Vaux/Mer France
 Tel: 46 39 22 22 Fax: 46 39 93 90
 French discotheque magazine.

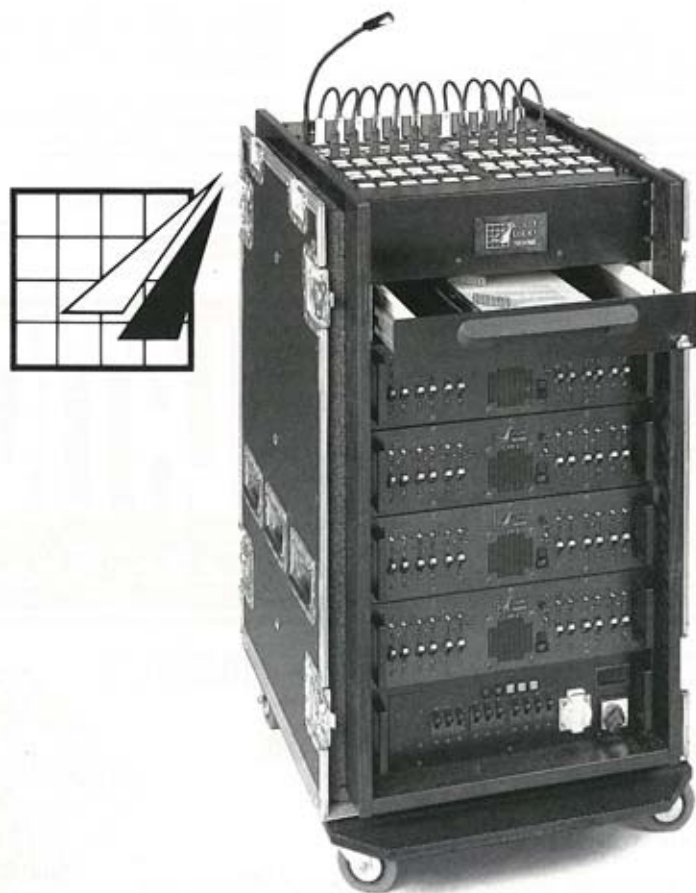
LE MARK TVS (F167)
 Unit 24, Stephenson Road, St Ives, Huntingdon, Cambs PE17 4WJ
 Tel: (0480) 494540 Fax: (0480) 494206
 Self-adhesive equipment and promotional labels, including bar coded 'cable label'.

LEE FILTERS LTD (F166)
 Central Way, Walworth Industrial Estate, Andover, Hants SP10 5AN
 Tel: (0264) 366245 Fax: (0264) 355058
 Full range of filters, plus a giant new Master Swatchbook at 85 - bring your Gold card.

LEISURETEC (F106)
 Unit 15, Portland Road Industrial Units, Kingsway, Luton, Bedfordshire LU4 8HA
 Tel: (0582) 23300 Fax: (0582) 400237
 Distributors of sound, lighting and special effects equipment. Launch of first sole UK agency for Kupo disco lighting products.

LIGHT PROCESSOR/LIGHTFACTOR SALES (F74)
 11 Fairway Drive, Greenford, Middlesex, UB6 8PW
 Tel: 081-575 2288 Fax: 081-575 8678
 Additions to the Q Range of lighting desks and dimmer packs, including the Q24 lighting desk. Products from US High End Systems, including new Emulator.

LIGHTING DIMENSIONS (F125b)
 135 Fifth Avenue, New York, New York 10010, USA



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 Telefax + 40/670 61 59

Tel: (212) 677 5997 Fax: (212) 677 3857
Publishers of Lighting Dimensions and Theatre
Crafts International.

LIGHTING+SOUND INTERNATIONAL (B6)
Look forward to seeing you there!

LIGHTING TECHNOLOGY GROUP (F76/84)
2 Tudor Estate, Abbey Road, Park Royal,
London NW10 7UY
Tel: 081-965 6800 Fax: 081-965 0950
Selection of Xenon and MSR followspots, a new
moving light system from NewSat and an addition
to the Flickering Candle range.

LITE STRUCTURES LTD (B29/30)
Unit 7, Rutland Mills, Tootal Street, Wakefield,
West Yorks WF1 5JN
Tel: (0924) 200622 Fax: (0924) 200504
Looking to appoint distributors for their range of
structural systems, whilst also showing products
from LSC and LMP.

LIVE WIRE SYSTEMS UK LTD (B39)
Dart Business Centre, Shimmers Bridge,
Dartington, Totnes, Devon TQ9 6JE
Tel: (0803) 865882 Fax: (0803) 863507
First-time showing of Modern link for high-tech
modular show control for exhibitions and
museums.

**LONDON ACOUSTICAL DEVELOPMENTS LTD
(G51)**
8 Hartfield Road, Wimbledon, London SW19 3TA
Tel: 081-946 6063 Fax: 081-946 5743
Unveiling of the MEL 90 belt-drive turntable to
add to existing five models.

LMC AUDIO SYSTEMS LTD (B7/B/9)
Unit 10, Acton Vale Industrial Park, Cowley Road,
London W3 7QE
Tel: 081-743 4680 Fax: 081-749 9875
Distributors of audio equipment from Soundcraft,
Beyma, EAW and Crest. LMC will preview eight
new products.

M & M LIGHTING LTD (B2)
110 Gloucester Avenue, London NW1 8JA
Tel: 071-722 4147 Fax: 071-722 3940
Alongside the Rainbow colour changers, new
products include full range of luminaires from
Selecon, and smoke machines from The Smoke
Factory.

MARQUEE AUDIO (F170/182)
Shepperton Film Studios, Studios Road,
Shepperton, Middx TW17 0QD.
Tel: (0932) 566777 Fax: (0932) 656861
Impressive array of new pro-audio products from
Soundcraft, HH, Adams-Smith, BSS and Denon.

MARTIN AUDIO (B37)
19 Lincoln Road, Cresses Ind Estate,
High Wycombe, Bucks HP12 3RD
Tel: (0494) 535312 Fax: (0494) 438669
Comprehensive display of professional
loudspeaker systems from one of the industry's
big guns.

MARTIN PROFESSIONAL (G62)
Mill Hall Business Estate, Aylesford, Kent
Tel: (0622) 790164 Fax: (0622) 790166
The base for Roboscans.

MEMOTECH COMPUTERS LTD (F143)
Unit 8, Thorney Leys, Witney, Oxon OX8 7AU
Tel: (0993) 778691 Fax: (0993) 704728
Launch of 'Video Column', to complement line up
of video technology.

METRO AUDIO (B13)
12 Barnwell Business Park, Cambridge CB5 8UY
Tel: (0223) 413814 Fax: (0223) 415918
The cost-effective Metro Audio communications
system.

MICO LIGHTING LTD (F109)
Troydale Lane, Pudsey, Leeds LS28 9LD
Tel: (0532) 567113 Fax: (0532) 572358
Over 3,500 lamps to choose from ranging from
domestic to special effects for entertainment and
floodlighting.

MODE ELECTRONICS LTD (F126b)
Chelsing Lodge, Tonwell, Ware, Hertfordshire
SG12 0LB
Tel: (0920) 462121 Fax: (0920) 466881
Long-established manufacturers of lighting
control equipment, Mode have recently become
distributors for Ariane of France.

H MORRIS & CO LTD (F161)
Glenmill Works, Campsie Glen, Glasgow
G65 7AP
Tel: (0360) 311555 Fax: (0360) 312025
Furniture for the nightclub industry.

MSL PRO LIGHT & SOUND LTD (F139)
125 Blackstock Road, London N4 2JW
Tel: 071-354 2254 Fax: 071-226 9994
Nightclub sound and lighting equipment supplier.

MULTIFORM LIGHTING (F71)
Bell Lane, Uckfield, East Sussex TN22 1QL
Tel: (0825) 763348 (0825) 763310
First time in the UK for the Mini 6 and Aquarius
6, plus additions to range of integrated and
component lighting control systems.

MUSHROOM LIGHTING SERVICES LTD (F159b)
76 Tenter Road, Moulton Park, Northampton
NN3 1AX
Tel: (0604) 790900 Fax: (0604) 491118
Ranges in hire stock include Slick, Teatro,
Doughty and Clay Paky.

MUSIC CUE LTD (G58)
30 Craven Court, Winwick Quay, Warrington,
Cheshire

Tel: (0925) 234606 Fax: (0925) 234606
Specialist supplier of Music Q karaoke system.

NIGHT OWLS (F88a)
884 Eastern Avenue, Newbury Park, Ilford,
Essex IG2 7HY
Tel: 081-554 3000 Fax: 081-518 5805
Suppliers of promotional material to the nightclub
industry.

NJD ELECTRONICS (G63)
10 Ascot Industrial Estate, Lenton Street,
Sandiacre, Notts
Tel: (0602) 394122 Fax: (0602) 490453
New ranges include switching packs,
loudspeakers, computer chases, and amplifiers. As
you would expect, a massive line-up of new
products.

NORTHERN LIGHTS (G50)
89 Scotforth Road, Lancaster LA1 4SD
Tel: (0524) 845584 Fax: (0524) 845583
Demonstration of the latest products from
Roboscan, Cloud and Wharfedale.

OCLI OPTICAL COATINGS LTD (F77)
Ridge Way, Hillend Industrial Park, Dalgety Bay,
Dunfermline, Fife KY11 5FR
Tel: (0383) 823631 Fax: (0383) 824287
Filter specialists whose mainstay is the Dicro
range.

OHM INDUSTRIES (B1)
Wellington Close, Parkgate, Knutsford, Cheshire
WA16 8XL
Tel: (0565) 654641 Fax: (0565) 755641
UK premiere of High End BR II system, plus all
the regulars from OHM.

OPTEX (F144)
22-26 Victoria Road, New Barnet, Herts SN4 9PF
Tel: 081-441 2199 Fax: 081-449 3646
Suppliers and manufacturers of video and film
equipment and accessories, with new fresnels,
softlights and stereo mixers.

OSRAM LTD (F159a)
P O Box 17, East Lane, Wembley, Middlesex
HA9 7PG
Tel: 081-904 4321 Fax: 091-904 1178
In addition to lighting for stage, screen and
television, Osram have branched into the disco
market with the Halomet special effects range.

OXTON DIGITAL SYSTEMS (F126)
Suckling's Yard, Church Street, Ware,
Herts SG12 9EN
Tel: (0920) 460542 Fax: (0920) 460543
Launch of the CL6-10 dimmer, AUD-IT digital
recording system, and MA8000 amps, plus latest
additions to Databeat CD system.

P & G DRAPES/STAGE ELECTRICAL (F152)
67 Ayres Road, Old Trafford, Manchester
M16 7QN
Tel: 061-226 5858 Fax: 061-232 9510
Specialist drapes to the television, theatre and
entertainment fields, including new fibre optic
'star cloth' plus specialist electrical installation
service.

PANASONIC BUSINESS SYSTEMS (G67)
Panasonic House, Willoughby Road, Bracknell
RG12 8FP
Tel: (0344) 853176 Fax: (0344) 853705
The complete RAMSA range of pro-audio
equipment.

PANI AUSTRIA (F129)
Kandlgasse 12, A-1070 Vienna, Austria
Tel: 43 222 93 24 62 Fax: 43 222 526 42 87
The home of big projection including the new
BPT2 Platinum projector.

PAR OPTI PROJECTS LTD (G55d/e)
Unit 9, The Bell Industrial Estate, Cunnington
Street, Chiswick Park, London W4 5EP
Tel: 081-995 5179 Fax: 081-994 1102
150 things to do with fibre optics.

PEAVEY ELECTRONICS (UK) LTD (G55a/b/c)
Hatton House, Hunters Road, Corby, Northants
NN17 1JE
Tel: (0536) 205520 Fax: (0536) 69029
First timers include two new DJ mixers,
programmable four-way digital crossover, 750W
amplifiers, and speaker enclosures.

PENN FABRICATION LTD (F160)
26 St Johns Estate, St Johns Road, Penn, Bucks
HP10 8HR
Tel: (049-481) 6262 Fax: (049-481) 6074
Newies include Lantern Clamp, and Lantern
Trucking System, featured, along with other
products, in a new catalogue.

PLASA (Professional Lighting & Sound Assn) (B6)
7 Highlight House, St Leonards Road, Eastbourne,
Sussex BN21 3UH
Tel: 0323-410335 Fax: 0323-646905
The trade association for the industry.

PRIMARC (MARKETING) LTD (F145)
121 Loverock Road, Reading, Berks RG3 1DZ
Tel: (0734) 596777 Fax: (0734) 505964
A quarter of a century's experience in the
manufacture and supply of lamps for the
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PROTEK SOUND SYSTEMS (F172)
83 Farlough Road, Newmills, Dungannon,
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Tel: (08687) 47327 Fax: (08687) 47478
Full range of loudspeaker cabinets.

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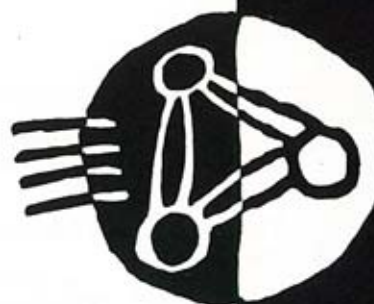
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Henley Road, Cambridge CB1 3EA
Tel: (0223) 66798 Fax: (0223) 460708
First time demonstration of Clay Paky Miniscan and Polycolor, together with Pulsar's updated Masterpiece controller.

RCF ELECTRONICS (UK) LTD (B25)
6 Hornsby Square, Southfield Ind Est, Laindon,
Essex SS15 6SD
Tel: (0268) 415150 Fax: (0268) 541640
Professional loudspeaker components and systems.

REGENT CARPETS (F95)
Windfall House, Appleton Avenue, Pedmore,
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Tel: (0384) 376787 Fax: (0384) 442862
Complete planning and installation service for floor coverings.

ROSCOLAB (F175)
Blanchard Works, Kangley Bridge,
London SE26 5AQ
Tel: 081-659 2300 Fax: 081-659 3153
Recent introductions include the Model 1000 fog machine, the Rosco scroller system, an integrated mural system, and enhancements to the Supergel and Fluorescent ranges.

RYGER ELECTRONICS (S257)
Ryger House, Gladstone St, Langley Mill,
Nottingham NG16 4EN
Tel: (0773) 530325 Fax: (0773) 530855
Four new touch panels, a new 12 channel lighting desk, and a light controller line up on stand.

SAPRO FRANCE (F82)
53 Avenue Carnot BP 55, F94104 Saint Masr
Cedex, France
Tel: (1) 4 89 80 66 Fax: (1) 48 89 03 07
Amongst the line up of motorised disco lighting equipment will be the new Protid, Funky, Moving, and Spinner effects.

SHOW MEETING (F168)
via Filippo Carcano 6, 20149 Milano, Italy
Tel: 2-48193542 Fax: 2-48012300
Monthly professional magazine for the industry.

SHUTTLESOUND LTD (B34b)
4 The Willows Centre, Willow Lane, Mitcham,
Surrey CR4 4NX
Tel: 081-640 9600 Fax: 081-640 0106
New products from Amcron, ElectroVoice, Rane, Samson and Soundtracs on show.

SIB 1992 (F81)
UK Agents: Knights Management Services,
1 Knights Garden, Hailsham, East Sussex
BN27 3JR
Tel: (0323) 442747 Fax: (0323) 840014
Full details on international trade show for the disco and club industries held at Rimini in Italy.

SIEL 1992 (F79)
Bernard Becker Blenheim, 22/24 Rue du President
Wilson, 92300 Levallois-Perret, France
Tel: (33) 1 4756 5063 Fax: (33) 1 4756 1267
A chance to find out more about the Paris-based entertainment technology exhibition, SIEL.

SIMON JERSEY LTD (F176)
Sykeside Drive, Altham Ind Est, Accrington,
Lancs BB5 5YE
Tel: (0282) 75421 Fax: (0282) 71603
Wide range of exclusive design work-wear for the nightclub and leisure industry.

SQUIRE SOUND & LIGHT (F158)
93 Chertsey Road, Woking, Surrey GU21 5XY
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Installation and retail service to the nightclub industry.

STARDREAM AUDIO VISUAL LTD (B23)
Party House, Mowbray Drive, Blackpool,
Lancs FY3 7JR
Tel: (0253) 302602 Fax: (0253) 301000
Distributors for most of major manufacturers in the industry. Most recent addition to the line-up is the Sony pro-audio range.

STRAND LIGHTING LTD (F87)
Grant Way, Off Syon Lane, Isleworth,
Middlesex TW7 5QD
Tel: 081-560 3171 Fax: 081-560 2103
Strand promise a series of new lighting products, but won't reveal more until the Show.

STEELDECK STAGING (F125a)
c/o P L Parsons & Co Ltd, Bapart House,
Kings Cross Freight Depot, York Way, London
N1 0UZ
Tel: 071-833 2031 Fax: 071-278 3403
Industry-standard staging for a variety of venues/applications.

SYLVANIA GTE (F98)
Otley Road, Charlestown, Shipley,
West Yorkshire BD17 7SN
Tel: (0274) 595921 Fax: (0274) 580632
Stand display will feature lamps for a host of venues, with special emphasis on Brite-Arc range.

TARM SLL TECHNIK GmbH (F11B/119)
Roumbacher, Kuette 6-8, D-4630 Bochum 1,
Germany
Tel: (234) 459070 Fax: (234) 43676
Laser technology based upon modular design concept. Make sure you see their live show.

TEATRO SRL (F96/7)
Via Inghilterra, 46042 Castel Goffredo, Mantova,
Italy
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New Tupo range of 1000W lights along with a host of fresnels, PCs, profiles, floods, cyclights and followspots.

THAMES VALLEY DISC JOCKEY ASSOCIATION
(TVDJ) (B24)
9 Headington Drive, Wokingham,
Berks RG11 1XB
Tel: (0734) 771450
Full details about the Association.

THE SOUND DEPARTMENT (B19)
Askev Crescent Workshops, Askev Crescent,
London W12 9DP
Tel: 081-749 2124 Fax: 081-749 8789
Sound installation specialists.

TIRFOR LTD (F184)
Old Lane, Halfway, Sheffield S19 5GZ
Tel: (0742) 482266 Fax: (0742) 475649
Range of manual and powered lighting and pulling equipment, together with load measuring devices.

TOA ELECTRONICS LTD (F120)
Tallon Road, Hutton Industrial Estate, Brentwood,
Essex CM13 1TG
Tel: (0227) 233882 Fax: (0227) 233566
Taking centre stage will be the updated Saori processing system now featuring two new modules.

TRANS TRADE INTERNATIONAL SA (F108)
2 Rue Wallam, L-2715 Luxembourg
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Musical water-light fountains.

TRIFIBRE CONTAINERS (F142)
15 Glenbarr Avenue, Leicester LE4 0AE
Tel: (0533) 538366 Fax: (0533) 533990
Complete collection of disco and flight cases, including new aluminium hybrid case from Triplas.

TURBOSOUND LTD (G69)
Star Road, Partridge Green, West Sussex
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Tel: (0403) 711447 Fax: (0403) 710155
AKG and BSS products rub shoulders with Turbosound's new TXD 60, 80 and 100 compact loudspeakers.

UNITED KINGDOM DISTRIBUTORS (F174)
Rigby Close, Heathcote Industrial Estate,
Leamington Spa, Warwickshire CV34 6TH
Tel: (0926) 314878 Fax: (0926) 883120
Dedicated distribution company for discotheque hardware previewing 10 new effects from ProgramSistem. Plus a little extra in the form of a competition...

VESTAX (EUROPE) LTD (F150)
19 Haslemere Road, Fernhurst, Haslemere,
Surrey GU27 3EA
Tel: (0428) 653117 Fax: (0428) 61021
Wide range of music-related equipment. Look out for new samplers, recorders, CDs and mixers.

VOLT LOUDSPEAKERS LTD (G57)
Enterprise House, Blyth Road, Hayes,
Middlesex UB3 1DD
Tel: 081-573 4260 Fax: 081-573 4260
First UK showing of the new 15" driver - the R3803, complementing established range of horns and drive units.

VPLT (F78)
VPLT-Sekretariat, Postbox 69 02 69, D-3000
Hannover 61, Germany
Tel: (531) 894391 Fax: (531) 8092937
The Professional Light and Sound Association of Germany.

WHARFEDALE plc (F146)
Sandless Way, Crossgates, Leeds LS15 8AL
Tel: (0532) 601222 Fax: (0532) 600267
Alongside existing Wharfedale and Fane products, the new Force Series will be demo'ed headed by the Force 9 power cabinet.

WHITE LIGHT/MODELBOX (F87)
57 Filmer Road, London SW6 7JF
Tel: 071-731 7021 Fax: 071-371 0806
Modelbox will show their AutoLIGHT and LapLIGHT software, whilst White Light will be talking VSF 90.

WINSTONLEAD CABLES (B18)
Unit 5 Riverside Estate, Anchor & Hope Lane,
Charlton, London SE7 7RY
Tel: 081-858 3335 Fax: 081-305 1803
Not surprisingly, cables of all descriptions feature on stand.

XYLO (B31)
35 Britannia Row, Islington, London N1 8QH
Tel: 071-359 3509 Fax: 071-359 6921
First showing of the Turbine AV multi-media control system.

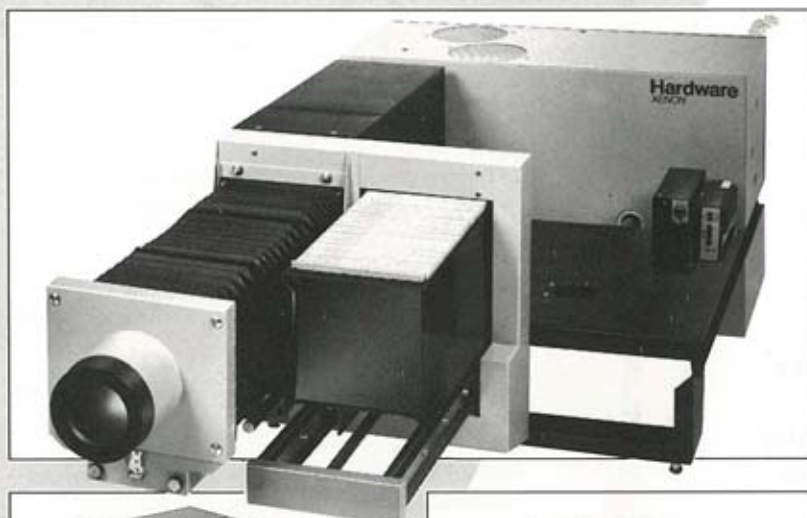
YAMAHA-KEMBLE MUSIC (UK) LTD (F157)
Sherborne Drive, Tilbrook, Milton Keynes
MK7 8BL
Tel: (0908) 366700 Fax: (0908) 368872
Latest releases from Yamaha are a new CD recording system, Club Series speakers and full-range sound reinforcement cabinets.

ZERO 88 LIGHTING LTD (G64/65)
46 Hart Road, St Albans, Herts AL1 1NA
Tel: (0727) 833271 Fax: (0727) 43676
Several new products will be unveiled, but major talking point will be Zero's move to luminaire manufacture.

Hardware Xenon

High power projection

SLIDE PROJECTORS FROM 600 TO 5000 WATTS



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



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



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



▲ **XENON FOLLOW SPOTLIGHTS**
• high quality definition, thanks to 5-element lenses,
• optimized cooling of coloured filters, iris and gobos.

2000 Watts Xenon
Use range from 15 to 150 metres.

5000 Watts Xenon
Use range from 15 to 300 metres.

◀ SKY LIGHTS

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

2000 Watts Xenon
5000 Watts Xenon



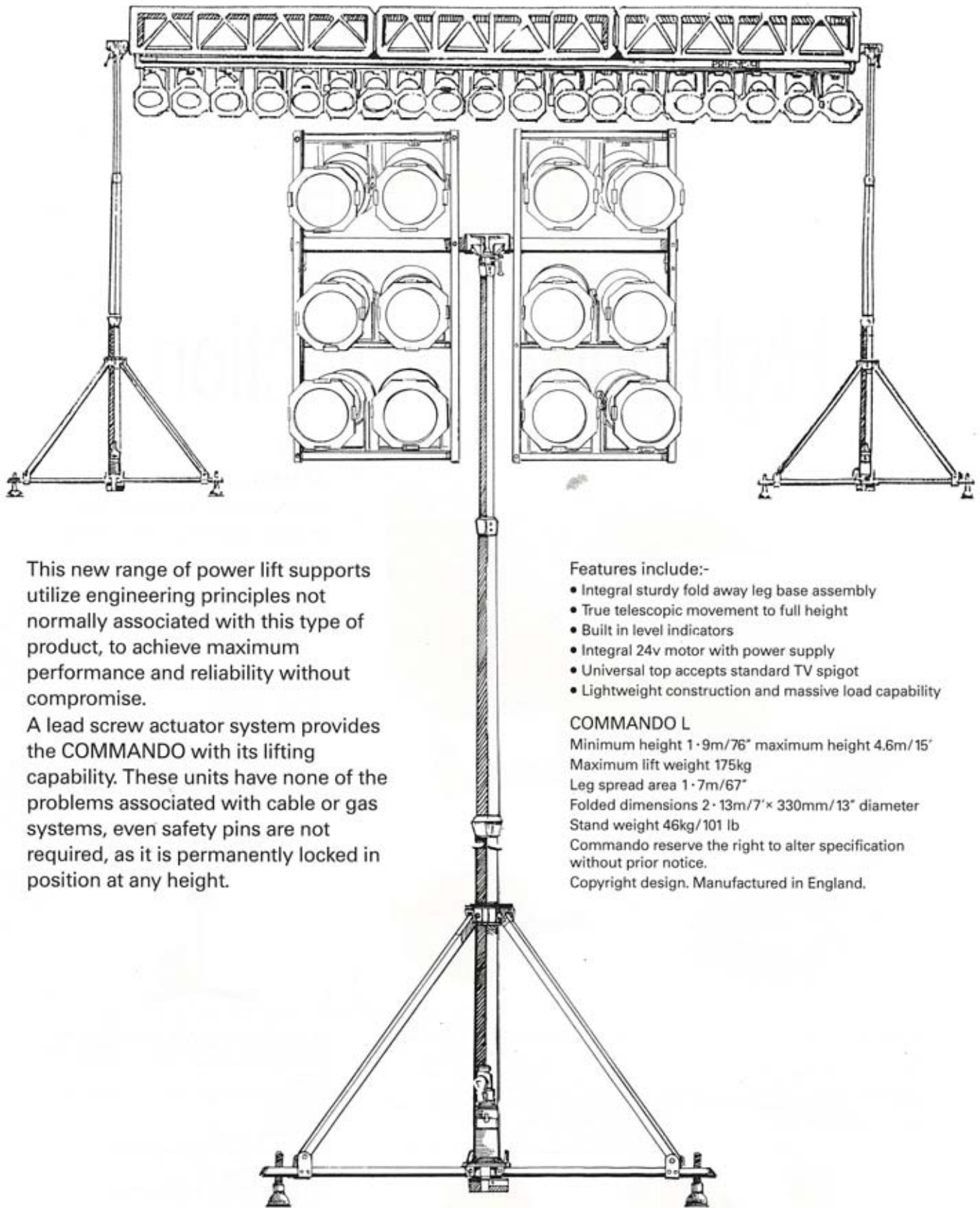
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Hardware Xenon soon to be present in Germany

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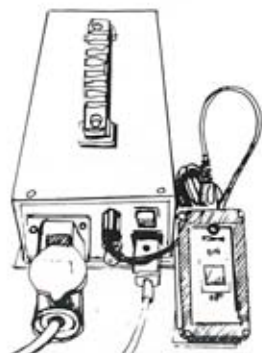
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SOMETHING WORTH HAVING

L+SI special report on the new Chase Leisure Centre performance venue

Cannock in rural Staffordshire probably isn't high on the list of places you would expect to find a 'new' 1200 seat performance venue, but with the opening of the new Chase Leisure Centre, those who are destined to use this new facility will be more than pleasantly surprised.

The project has been on the drawing board for well over three years, and is based on the addition of a multi-function sports hall to the existing swimming pools complex.

Midland Theatre Services' brief was to supply the technical hardware to turn a sports hall into a theatre-style performance centre, and Cannock Chase District Council didn't take the soft option. Their view was that if a performance facility was required then it had better be something worth having, not just a large space with rows of stacking chairs.

Many hours were spent in consultation with the Leisure and Amenities Department (Alan Price and his staff) and the architect (Norman Hutchison of Cannock CDC). Various options were considered and dismissed for providing lighting positions, most because they were in conflict with the 'sports' activities, the main function of the building. The sports hall at least had a small proscenium arch stage, and anything Midland Theatre Services specified needed to complement this.

The stage area is equipped in the standard manner with main house tabs (velours) and electric T60 track, a No 1 lighting bar 12 channel on hand winch, 2 x 4 line hand line sets (mid and up stage) plus borders and legs (bolt on), and a No 2 (upstage lighting bar) 12 outlet, again on a hand winch. Midland Theatre Services specified that a secondary 100 amp supply be made available on stage, for the users who would inevitably bring in those 'little extras.'

Given the small stage area, the council's Leisure and Amenities Department decided that a quantity of staging would be provided to make a forward extension to the stage, and this in fact forms the main part of any normal main stage, being approximately 12 x 6 metres in area.

One factor that was high on the Midland Theatre Services' priority list was that in due course the majority of the lighting system would be required to be used in other similar sports halls within the council's area, and this had a large bearing upon the specification that they put forward.

Midland Theatre Services' Peter Coleman takes up the story: "We have for some time been using the Zero 88 Rackmaster 260 high density dimmer packs in our hire department, and these units have proven to be very reliable, easy to build into a portable form, and are able to accept the Lectriflex 16 pole connector which we also use as standard. These facts plus the major cost saving on a comparable high density rack from one or other of the major manufacturers, led us to specify a 48 x 10 amp dimmer rack. Since the control for this dimmer system was inevitably to be a memory desk we chose the Zero DeMux 48 as the interface to the dimmers, all this being housed within one 19 inch flight-cased equipment rack.

"The main electrical contractor supplied the mains power and distribution to our specification, and also did the bulk of the load output wiring, again to our specifications. The dimmer packs, all being terminated in Lectriflex multipole outlets, were supplied with short Lectriflex cables to take the load output wiring to a multi-way Lectriflex termination box sited next to the dimmer rack and mains supply.

"As part of our spec and supply to the main electrical contractor we supplied six Lectriflex output boxes which were installed at high level



Within a few hours the sports hall becomes a technical facility for performance work.

above the main performance space. These, with the supply of standard Lectriflex multicores, enable each lighting bar to be fed from any one of the dimmer packs within the 48 channel rack. The remainder of the lighting circuits feed the circuits on stage at high and low level."

So far, so good, but within the sports hall fixed lighting bars were out. Midland Theatre Services specified and supplied a 6 x 12 metre 300mm box truss/grid with four ladder beam cross members, this being suspended by 6 x 1 ton Verlinde electric chain hoists with their associated motor control, plus a further 12 metre 300mm box truss and three more 1 ton Verlinde chain hoists. For use on the 12 x 6 grid, were 4 x 6 metre long internally wired lighting bars terminated in Lectriflex multipole outlets, and for use on the single truss another 2 x 6 metre lighting bar was again terminated in Lectriflex outlets. Further Lectriflex cables were supplied to link the lighting bars to the high level multi-way outlet boxes. The grid and single truss were supplied with masking borders, the grid also being capable of taking additional T60 track to form a forward false proscenium arch along with the necessary masking legs and borders.

"We spent a good deal of time with the structural engineers (Donald Rudd & Partners) over the spec, number and position of the suspension points for lifting the grid and truss," continued Peter Coleman, "indeed the size and position of the main roof steels was the determining factor over the size of the grid used. In all we specified 30 suspension points, 15 main points for the chain hoists, and 15 duplicate points for safeties.

"This arrangement of suspension will give the sports hall the ability to use the truss/grid in many different positions to cater for many different activities, from end stage performance to boxing and snooker, where the requirement will be a centre grid."

A mixture of lanterns were supplied; Strand Coda units for the up stage cyc lighting bar, Strand Cantata profiles and fresnels for use on

the grid and forward truss, a pair of Strand Solo CSI follow spots, and the obligatory 18/20 standard Par 64 cans — in all over 40 lanterns which form a good basic pool of equipment. This can be supplemented by equipment from the stock of the nearby Prince of Wales Theatre, also run by the Cannock CDC Leisure and Amenities department.

"We didn't consider control line patching was necessary for this system since for control we supplied a Strand MX 48 which has the built-in facility of electronic patching," said Peter Coleman. "This control desk also has an option on control demux protocol (any one of three actually) so it was ideal for driving the 48 channel dimmer rack with its built-in DeMux 48 unit. The MX is a great board for this type of venue with 2 preset operation, simple and fast set-up of memory states, and a very comprehensive effects package."

In a sports hall the normal discharge lighting is not ideal for house lighting for an auditorium, so an additional nine Strand Nocturne 1000s and barn doors were supplied, being controlled via three Strand UniDim dimmers and a manual control. A front of house control room was created, and the viewing gallery to the hall provides a position for the follow spots.

Sound for the venue falls into two main areas: background music and paging, and performance sound for the hall.

The background music and paging had to tie into the existing system supplied by Midland Theatre Services several years ago, this being a combination of Bose 802 speakers in the two pools and Bose 102 ceiling-mounted line speakers in the changing and other public areas. A further 80 plus Bose 102 speakers driven by five Hill line amps are all controlled via a 12 zone Toa switching network which includes a multiplay CD player. Various special features are also included in the system such as pool-side microphones and music play-back facility for individual areas.

The main hall performance sound also serves as the paging system for the sports hall, this

being six Bose 802 speakers flown at high level on WB6 flying brackets. These are complemented by two Bose 302 bass speakers and four more Bose 802 speakers used at floor level. A total of five Citronic power amps are used to drive the Bose speakers and a pair of JBL G731 monitor wedges for use on stage.

12 microphone tie lines run from the side of stage to the control room where they terminate into an 80-way jack field. The remainder of the processing equipment, Denon cassette machine, Yamaha SPX900 MkII, communications master station, mixer PSU, and AKG TDU7000 digital delay unit, are built into a 19 inch equipment rack. A second 19 inch equipment rack is also provided to contain the power amplifiers and speaker patch field.

"Since we view a project and customer of this nature as important and on-going business we like to make life easy for ourselves, the technicians on site, and anyone else who has to work on the system," explained Peter Coleman. "With this in mind, both of the equipment racks are built into frames which permit them to swivel 90 degrees away from the wall on which they are mounted, giving easy access to the rear of the rack for servicing.

"The choice of sound mixing desk was not difficult as we have over the past year used the Allen & Heath SC+ range of desks in many installations, and also use them in our hire stock. In every case these desks have proved to be excellent in every respect and so we had no hesitation in recommending the 16-4-2 desk with the standard input and output modules. Because of the restrictions of operating from the auditorium control room, we provided link cables to run to the viewing gallery position,

which offers a much better sound operating position. The mixer in and out connections are made via two multicore tails hard-wired into the mixer, and connecting to the equipment rack with multipole connectors."

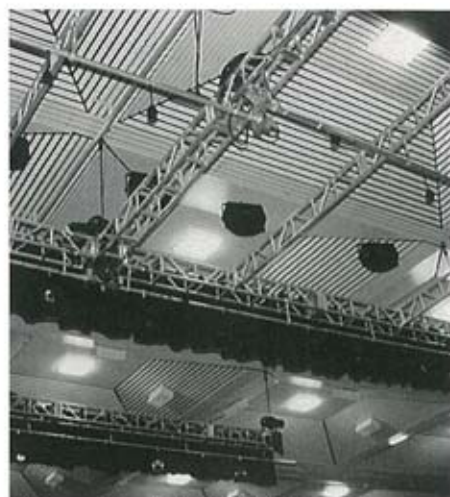
A communications ring is supplied with a small quantity of belt packs and head sets, and a few AKG microphones, stands and cables completed the supply of sound equipment.

The sports complex as a whole is a vast site and has many more things to offer than just the sports hall and swimming pools. A fully equipped fitness room, a bowling green, sauna, golf shop to complement the course right outside, and meeting rooms are just some of the facilities on site.

Both the small training pool and the fitness room also have their own stand-alone lighting and sound systems, while being able to take advantage of the paging and background music system for the rest of the complex.

The latest technology doesn't come cheaply, and Cannock Chase District Council has now spent around £100,000 with Midland Theatre Services on the technical side of the project alone.

"We feel this amount of money confirms the commitment of Cannock CDC to make the leisure centre a major performing venue," was Peter Coleman's summing up of the situation. "It isn't often a multi-function building such as this has the chance to provide a real technical facility for performance work, and we congratulate Cannock CDC Leisure and Amenities department and wish them every success with their new venue. Those involved in live performance work will now have to add Cannock to their list of regular dates."



Close-up of part of the main lighting grid.

Equipment Schedule for Sports Hall performance

- 1 x 48 channel dimmer rack Zero Rackmaster 260 (custom made) by MTS + 1 x Zero DeMux 48
- 1 x Custom-made din rail enclosure fitted with 8 Lectriflex multipole panel mount outlets
- 8 x 2m Lectriflex cables
- 1 x Strand MX48
- 1 x 12m x 6m lighting truss/grid with 6 x 1 tonne electric Verlinde chain hoist and 6 way control unit
- 1 x 12m single lighting truss supplied with 3 x 1 tonne Verlinde chain hoist
- 3 x 12m truss borders
- 2 x 6m truss borders
- 4 x 1.5m swivel arms
- 1 x Hall T60 overlapped electric track
- 1 x pair of velour house tabs and border
- 2 x 4 line hand line sets
- 1 x 11m x 1m border
- 1 x 11m x 6m (pair) tabs
- 2 x 11m 12 outlet 15 amp internally wired lighting bar
- 2 x 1.5m swivel arms
- 2 x 1.5m x 6m legs
- 2 x 250Kg wall-mounted hand winch
- 4 x 11m 48mm alloy bars
- 6 x 6m 6-outlet internally wired lighting bars with Lectriflex multipole termination box
- 6 x 10m Lectriflex cables
- 6 x Custom-made Lectriflex termination boxes
- 2 x Strand Solo CSI follow spots
- 2 x Strand Solo mechanical dimmer shutter
- 2 x Strand Solo colour magazine
- 6 x Strand Cantata 18-32 1200W profile lanterns
- 6 x Strand Cantata F 1200W fresnel lanterns c/w barn doors
- 4 x Strand Coda 500/3 cyc flood units
- 4 x Strand Nocturne 1000 flood c/w barn doors
- 8 x Strand 20 amp UniDim dimmers and manual control
- 18 x Thomas Par 64
- 10 x Bose 802 loudspeakers
- 2 x Bose 302 loudspeakers
- 2 x Bose 802C systems control units
- 6 x Bose WB6 flying brackets for 802s
- 1 x Citronic PPX1200 power amplifier
- 3 x Citronic PPX900 power amplifier
- 1 x Citronic PPX450 power amplifier
- 2 x JBL G731 stage monitor wedge speakers
- 1 x Allen & Heath 16-4-2 SC+ mixing desk
- 1 x AKG TDU700 digital delay unit
- 1 x Metro Audio CMS1 talk back master station
- 3 x Metro Audio belt pack
- 4 x Tec Pro SMH210 headset
- 1 x Denon DRM500 cassette machine
- 1 x Yamaha SPX900 MkII effects unit
- 2 x Custom-made 19 inch equipment racks on swivel mounts
- 1 x 80 way jack field and patch cords
- 1 x 12 way XLR stage box



A Strand MX provides control for lighting, whilst to its right, an Allen & Heath SC+ mixes the sound. In the background are the Citronic amps and ARG digital delay unit.



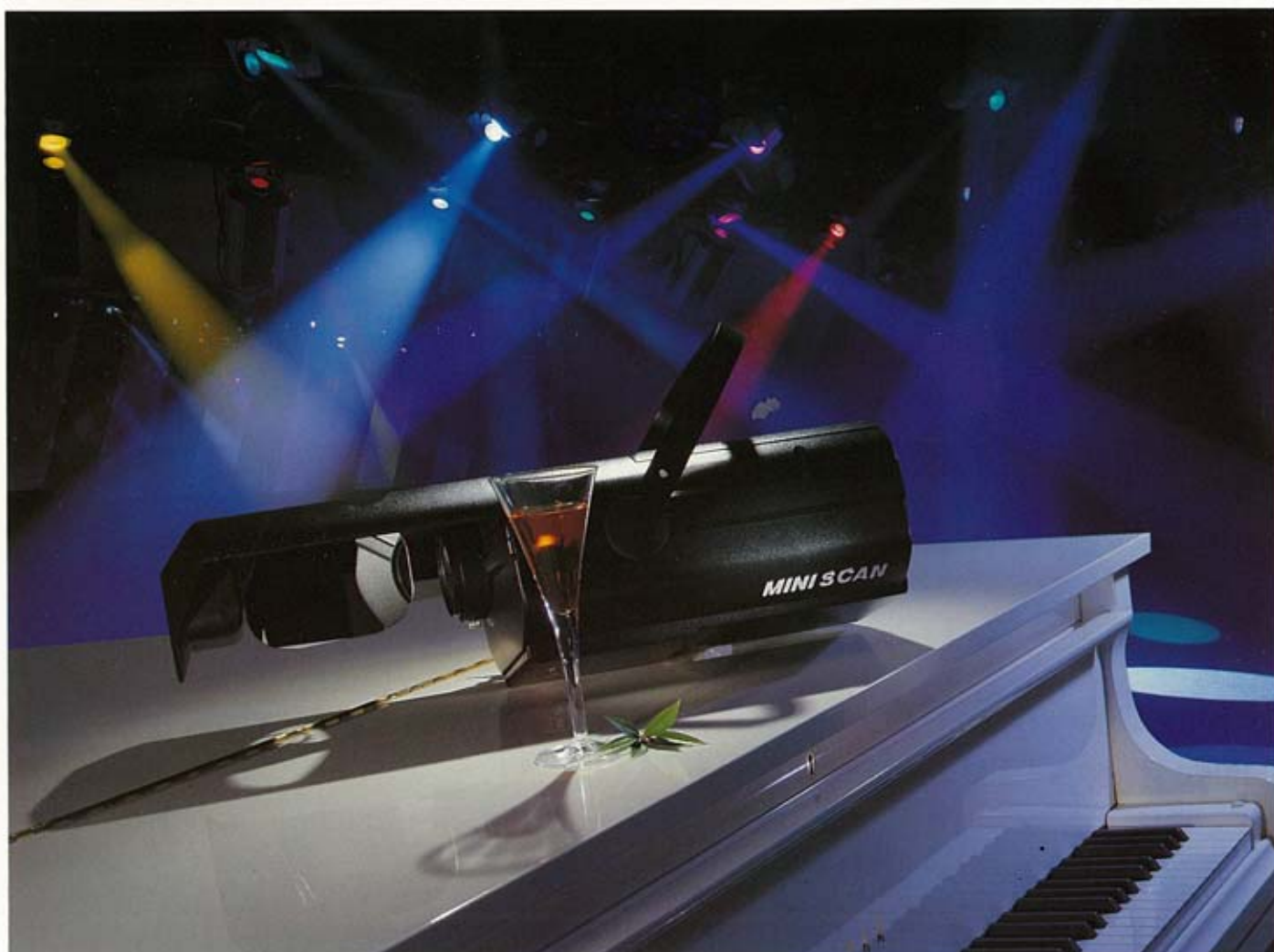
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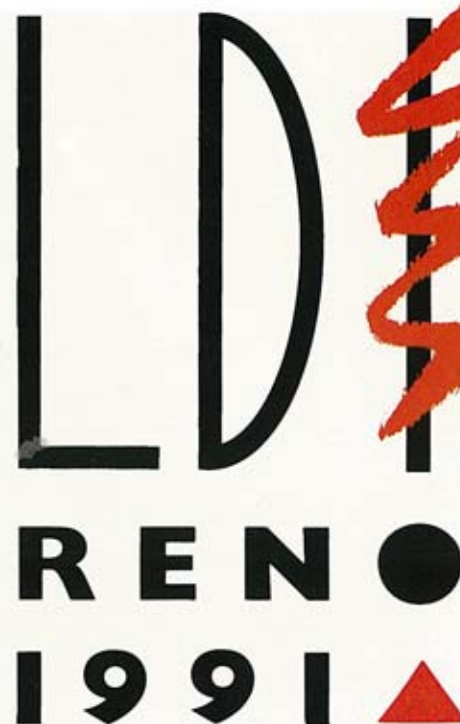
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NO GREY SUITS AT CELCO

As Celco launches a major new product in time for the Light and Sound Show, Tony Gottelier visits the company in its new environment within the Electrosonic Group and gets the low down on Navigator in situ

Over the past ten or so years two companies have developed formidable reputations for producing transmobile lighting boards, while vying with each other for the highly demanding rock 'n' roll and rental market, for which Britain has acquired such an enviable niche position. Of the two, perhaps Avolites seemed the more solid, after all they were the first, with a name framed in the same mahogany trim as the 'dashboards' of their famous control desks and their no-fuss guarantee applicable anywhere in the world. (A comforting thought if you were out on the road with the entire show and tens of thousands of dollars riding on the performance of your control and dimming system.)

By comparison, Celco arrived in the market place with a somewhat 'Johnny Come Lately' label tied firmly round their necks which took some time to shake off. The rock 'n' roll touring business is very conservative, though you wouldn't credit it from the outside, but then obviously you can't take risks with equipment out on the road. However, by dint of sheer hard work, good solid and imaginative products and sheer persistence, Celco managed to get through to a new generation of lighting designers and operators for whom Avo was not necessarily the iconoclast of previous years.

The clever introduction of the 90-way 'all singing, all dancing' Celco Gold, with the solid image invoked by the precious metal of its branding, may have been the move, which more than anything else, broke the mould.

This marketing effort had been ably carried out for them for some years by John Lethbridge's Cerebrum Lighting, for whom Colin Whittaker was responsible for sales. But cleverly, Keith Dale, one of Celco's founding trio along with technophile Matt Deakin, never allowed himself to be far away from the action on the ground. So when the time came to split with Cerebrum, as it inevitably did a couple of years ago, the changeover was swift and incisive and expedited without any 'blood on the carpet'. Colin Whittaker joined Celco as sales director and, together with Keith Dale, they now spearhead the marketing effort.

It was slightly unfortunate in a timing sense, having realised that to carry things forward any further would require investment beyond their capacity, that when Celco looked to Electrosonic to provide the massive technological and financial resources they now required, the announcement coming so close to the recent unfortunate goings-on at Avolites and Carlton Communications, could have given the impression that they were having similar difficulties. "Nothing could be further from the truth," Keith Dale reassured me, "we took an active decision to look for a source of the substantial support which we knew was necessary and Electrosonic provided us with the perfect opportunity without taking away our independence. It is important for people out there to realise that we are the same guys, absolutely nothing has changed in that sense, they will be dealing with exactly the same individuals at the end of the phone or whatever. We are simply in a new situation which will enable us to develop our potential to the full, especially in relation to new product. There will be no grey suits at Celco!"

As Electrosonic has grown in a mere 25 years from a company of two and two part-time people, operating out of a room over a potato store in Greenwich market, into a multi-national business turning over £20m annually, they



We name this new baby Navigator — the Celco team headed by Keith Dale (right), Matt Deakin (centre) and Colin Whittaker (second from left) at the baptism of the new board.

would probably have a greater understanding of Celco's problems than most. I visited the unexpected calm of their splendid new 5,500 square metre purpose-built headquarters facility at Hawley Mill near Dartford in Kent to see for myself the first fruit of this new association, in the shape of two new products to be launched at this year's Light & Sound Show.

First, let me allay the fears to which Keith Dale was referring. Celco are operating as a separate product group within the building so that customers have direct access through the main switchboard to the team. It is at the level of background support in such a set-up that the difference really shows, for the facilities at Hawley Mill are superb and the resources to which Celco now have access are exceptional. As Colin Whittaker told me: "Electrosonic's system of project management is of particular benefit on the sales front which enables us to participate in multi-media situations which we would never have had a look in on before. Also, it will strengthen our export efforts. For example, we have a continuing success in Japan, which Keith and I visited recently on the way to Pro Asia in Singapore. They are eating Golds out there at present, we have sold over 60 to Japan alone." By any standards that's a lot of 90-way desks.

The first of the new products, which Celco

hope will further enhance their market base, is the Navigator. This is a compact DMX512, microprocessor-based, 96 channel into 512 dimmer metre purpose-built headquarters facility at Hawley Mill near Dartford in Kent to see for myself the first fruit of this new association, in the shape of two new products to be launched at this year's Light & Sound Show.

The Navigator is a very smart black-on-black low profile control surface sporting 12 horizontal digi-pots (rotary encoders) essential for multi-channel programming purposes and three others for master programming functions. Those who are hung up on the hands-on tactile qualities of linear faders need not despair, for the performance keyboard provides 12 cueing faders, all with the intelligent Celco 'pulldown' facility and three others for master levels, black-out and step by step sequencing of cues, together with the now de rigeur flash buttons. This performance area is claimed to be unique by the Celco boys in that it features a scrolling keyboard, to enable 9 x 12 (96) complex presets to be accessed by the same faders. Though I was forced to point out that this process is not, actually, an entirely radical concept, the incremental digi-pot which controls this function does provide the opportunity for shifting one channel at a time, which struck me as a particularly useful facility. All of this is greatly assisted by two LCD screens



The unexpected calm of the new Electrosonic headquarters at Hawley Mill provides a fertile atmosphere for future Celco developments.

to the left and right of the board to provide cue-state, preview and positional data.

As with the previously introduced Panorama series, the board operates on the 'latest takes precedence' principle and has the capacity to provide up to 480 memories and 120 cue-assignable sequences with the added advantage of enabling chases to be stored in BPM. The advantages of digital programming and editing are fully realised with 'copy', 'gang' and multiple preset inclusion in cues available. These latter facilities will be particularly useful for plotting automated luminaires, such as the Summa HTI distributed by Celco, for inclusion in a cue. As any lighting designer knows, this is generally a brain shrinking task of such tedium as to give even the most level-headed operator, even of dedicated desks such as Artisan, the screaming ab dabs.

A further advance in tackling this problem will be future-available slot in 'smart' cards which will enable the digital personality of the board to be changed to suit non-DMX512 drivers such as Lightpaint, Color Mag and Coemar, as well as quirky DMX512 types such as Summa and Intellabeam.

Navigator is another of the new generation of desks to provide MIDI in, out and through, largely with multiple board linking in mind. Since Matt Deakin sits on the committee considering the MIDI standard as applied to lighting control, it will be interesting to see how successful this is out in the field.

However, despite all these facilities, I suspect that the most telling feature of all as far as the market place is concerned will be the price, which at £2,500 list in the UK, or only £26 per channel, brings a new era of realism to the cost of programmable lighting control.

Of no less interest, to me at least since I have a current need in that area, is the new digital 36 channel DMX512 Transmitter/Receiver which will, presumably, end Celco's dependence on the Arri Connexion and provide competition in the marketplace to the LSC Linklight. Based on the principle that only the channels in use are sent or refreshed within the DMX time-frame, no buffer or extender boxes are required for

distances of at least 1 kilometre on the same transmission line. As units can be daisy-chained, up to 512 channels of demultiplexing and 180 of multiplexing are made available but with the advantage, because of the low channel per unit count, of being able to place them in the rig in the most convenient locations. Again, this item is competitively priced.

The high levels of technology and sustainability as are obviously required by the demands of rock 'n' roll in these days of mega tours, vast concerts and huge events require a substantial financial and technical resource. The considerable risks involved in both the

development and subsequent maintenance of that technology while on the road, throw up the need for a global support structure and organisation only available within a large Group operating in sympathetic market conditions. Equally important, though, is the maintenance of independent and creative thought in an area which is closer to art than technology and where the performance technology is solely a tool of the art.

Hopefully for Celco, their new association with Electrosonic will offer the best of all possible worlds, solving all these problems at a stroke.



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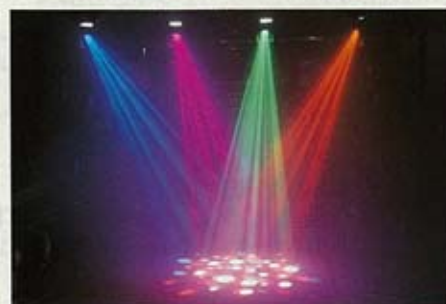
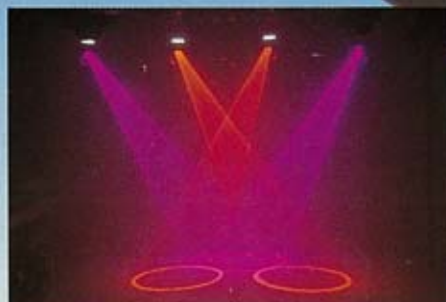
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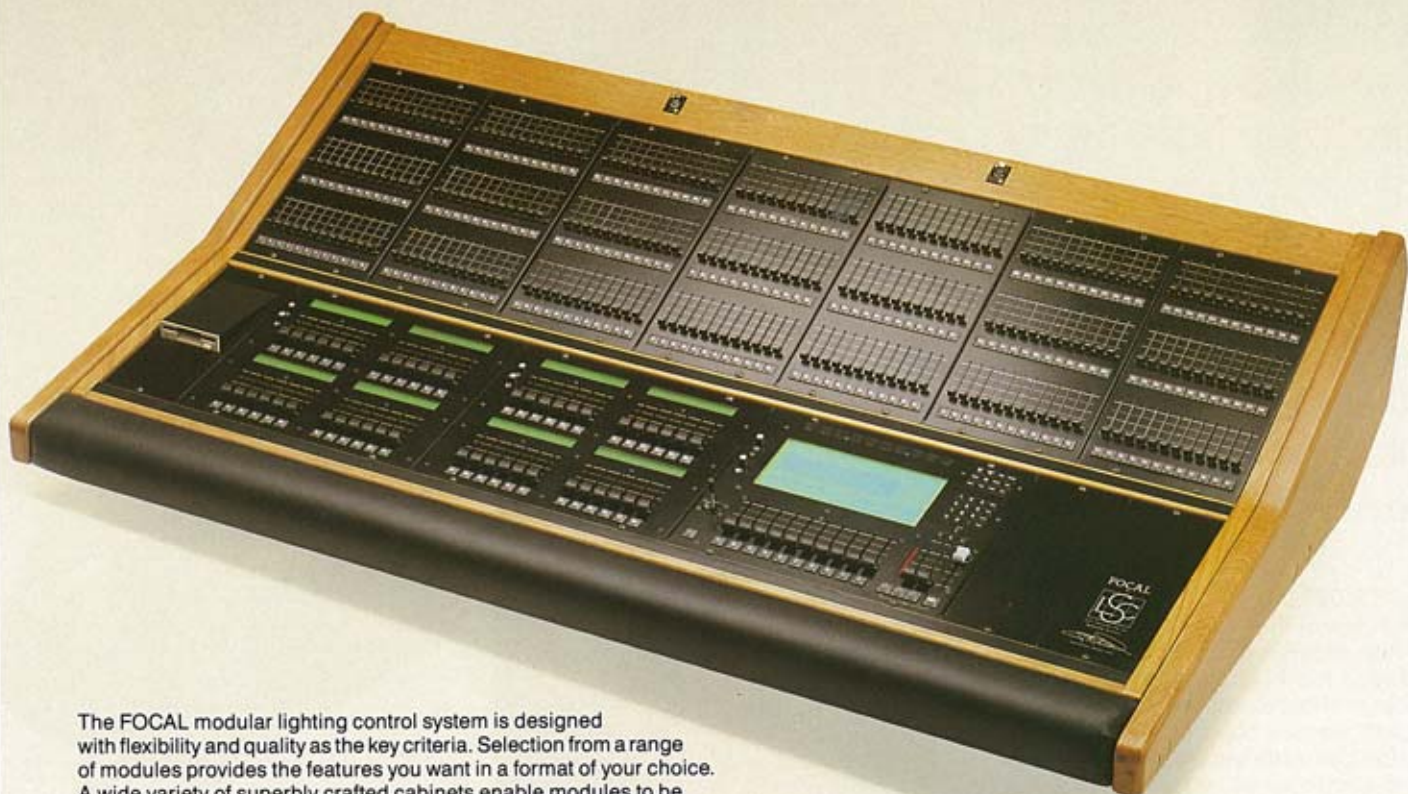
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PAVAROTTI IN THE PARK

Mike Lethby provides the background to the sound behind the Tenor's Anniversary Celebration



Despite the efforts of a British summer down-pour, Sound Hire's latest show with Luciano Pavarotti — the spectacular two-hour Pavarotti in the Park concert — won widespread acclaim as both an artistic and technical success.

For once, the popular press and opera critics were virtually unanimous in their praise for an event which had been widely hyped beforehand, but which actually took place in unexpectedly difficult conditions for both performers and the production teams.

"The voice did indeed seem to bounce off the low clouds and fill the whole of Hyde Park," reported *The Independent*. Perhaps reflecting the task of conveying Pavarotti's powerful and lyrical voice in such a huge space — the ideal of simply reinforcing natural sound and yet spreading it to a huge audience — their reviewer observed that near the front it succeeded "even when amplified to absurd proportions," and that "the further from the stage, the better the sound and view seemed to become". By the standards of normal press reaction to amplified opera, Pavarotti in the Park emerged triumphant from the rain.

The Concept

The show, which took place on July 30th, was the largest free concert staged in

London's Hyde Park since the Rolling Stones' famous 1969 show, even though the torrential rain halved the expected audience attendance to around 125,000.

Billed as a 'Royal 30th Anniversary Celebration Free Concert' — marking Pavarotti's 30 years as a top classical performer — the repertoire followed his familiar format of operatic 'greatest hits' and a selection of less well-known pieces, embracing 20 arias in a two-hour show. Accompanying the 'Maestro' were the 82-piece Philharmonic Orchestra and a 120-strong Philharmonic choir. To convey the scope of Pavarotti's performance to the whole of Hyde Park, there was a 20m wide, 200-tonne Greek theatre-style stage set, designed by Fisher Park and lit by FLA with lighting director Peter Sinclair (whose next date, he said, was a show with AC/DC). And as well as Sound Hire's PA system, there were video relays through three Star Vision screens.

In the £145-a-seat VIP enclosure (for which tickets were reportedly changing hands at up to £450 before the show) invited guests included the Prince and Princess of Wales, Prime Minister John Major and Neil Kinnock. They all democratically shared the drenching when Harvey Goldsmith asked everyone to fold their umbrellas to give those behind a better view.

The Sound

Richard Lienard's Sound Hire of Sutton, England designed and installed the Meyer Sound PA system used for Pavarotti in The Park. Sound Hire has provided sound reinforcement for all the Maestro's large shows over the past years. The company's expertise in the specialist and highly demanding field of 'amplified classics' concerts also includes major productions of Aida and Jose Carreras.

Sound Hire's crew consisted of Jerry Eade, Richard Lienard, Tony Reece (rigging PA), Colin Partridge (in charge of amplifiers and patching), Chris Ekers (who set up the delays with Tom Ashby) and two riggers.

Jerry Eade explained that in designing the PA and determining sound levels, they initially approached the concert as a normal, large classical event. Meaning an emphasis on sound reinforcement, rather than an 'amplified sound'. "But," he elaborated, "things got more complicated as the show unfolded and the rain poured down. The ambient noise was phenomenal, so we really had to push the system. It was a lot louder than we'd normally run it — around 95dB-100dB at the desk, whereas we'd normally expect around 75-80dB on average."

Covering the huge site entailed a complex solution. The 270m x 170m area nearest the



The sound equipment line-up for the event included a Meyer PA system, together with Crest amplification.



All photos: Nik Milner.

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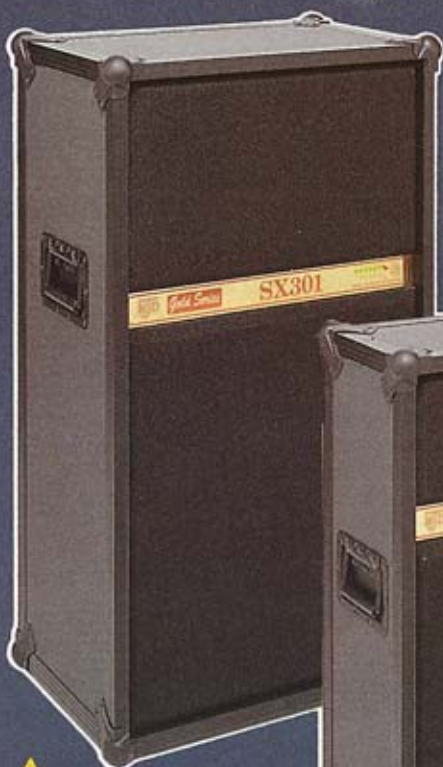
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stage was covered using three clusters of Meyer cabinets – all flown from three massive cranes whose jibs reached over from behind the stage. The centre (vocal) clusters comprised of four MSL-10A cabinets, four MSL-3s, four UPA-1A downfills and two 650-R2 subwoofers.

Filling for the VIP seats at the very front were a central pair of 'vocal' UPA-1As and two UM-1As on either side of the proscenium arch. On the stage itself, Pavarotti was provided with his own compact monitoring system consisting of four UM-1As, two carrying his vocals alone, the other pair with additional reverb to give him some sense of 'hall acoustic' otherwise lacking in the open air.

Three delay towers conveyed the concert to the multitudes listening rapturously in the rain. The first pair, 125m from the stage, consisted of two MSL-10As a side. Like the FOH clusters, they were once again flown from cranes. Finally, for most distant listeners standing where the park slopes gently away and out of sight to the north, a 'distant relay' system (with accompanying Star Vision screen) incorporated a further 12 MSL-3s.

Amplification was a combination of Meyer MS-10A amplifiers for the MSL-10As and Crest amps for the MSL-3s, in-fill speakers and monitors.

Jerry Eade explained that a constant check on sound levels was maintained throughout the show, "especially at the farthest delay, which had to be a lot louder than the main system: we stationed extra crew around the site equipped with walkie-talkies." Their job was to relay information back to the mixing desk as to how the weather and other factors were affecting the sound.

In fact, the downpour affected the audience more than the PA system. The Meyer MSL-3 and MSL-10A are both fully weather-proofed designs. Each cabinet is built from high grade marine ply, faced with a metal mesh grille and a fine gauze screen, and has waterproof cones. Additionally, the MSL-10As' case feature internal heaters and fans to ensure the enclosures run cool in summer and warm in winter. All these measures – and the deeply recessed horn drivers – make the chances of water penetration almost zero.

Covering an audience of this size with so few clusters, Richard Lienard says, would have been impossible without the MSL-10As. Sound Hire is the sole PA hire firm in Europe with the high 'Q' (long throw/narrow dispersion) MSL-10As, of which he says; "They throw so far it's unbelievable."

Another crucial technique was the flying of PA clusters from cranes, an idea which Sound Hire adopted to avoid the eyesore of PA towers



Sound Hire used massive cranes to fly the PA clusters.



The Greek style stage was designed by Fisher Park who also designed for The Stones, Tina Turner and The Berlin Wall.



Though the weather may have disappointed the crowds, the sound equipment (right) didn't let them down.

— and which allowed (in Hyde Park) a 20m high flying position, higher than the stage roof. The crane's other major benefit was in cluster positioning and alignment — which could be fine-tuned pre-show on the spot, using a radio link to each crane driver. Richard Lienard again: "With Pavarotti sound is the most important consideration, and this helps us to do the job even better. I'm only surprised no-one else has done it before."

With each crane having a 130-tonne capacity, but only carrying some 4.2 tonnes, even at maximum extension the production team were satisfied as to their safety and stability.

At the end of this very wet but successful day — the heavens truly opened when Pavarotti took the stage — Sound Hire also faced loading out straight after the show. Richard Lienard confessed: "I've never been so wet in my life. We finally got it all out by 5am. We're considering ordering wet suits for the next shows!"



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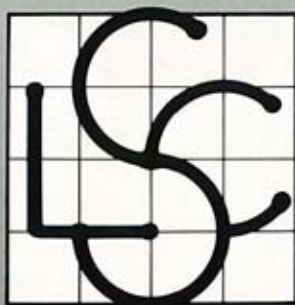
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MONSTERS '91

Ben Duncan makes a rendezvous at Donington Park for the sole UK date of the Monsters of Rock pan-European tour

This year's Monsters of Rock festival at Donington Park motor racing circuit, just south of Nottingham, England was the 11th since it began in 1980. Attracting a capacity crowd of some 72,000 and headlined (for the third time) by AC/DC, the production was bigger than ever before. Although very much a British institution, Donington had, over the years, become much envied by heavy metal fans throughout Europe. It was this factor that prompted promoters MCP to expand the original one-off concert to a full-blown European tour. Running for the first time in 1990, this year's Monsters of Rock European tour covered 23 shows in 16 countries, playing to over one million people.

From an audio standpoint, the Monsters tour represented an excellent example of transatlantic co-operation both operationally and in terms of the sound equipment being used. Timing and size of the concerts demanded that the sound companies involved had really to focus on getting extremely good sound quality and levels from a quick-to-rig and compact system.

Show production and tour logistics were on a huge scale. Production rehearsals utilised one of the massive ex-airship hangers at Cardington, near Bedford (in the UK) and took place late in July. At the same time, one of three completely separate stage assemblies, built to leap-frog across Europe, was being constructed (all with scaffolding hired from Germany!) in Denmark, and another in Poland for the first two dates of the tour. The Cardington stage was moved to the Midlands site in the week prior to the concert. Donington was the third date, and barely 48 hours before Black Crowes kicked-off the set, the sound, lights and crew of 100+ had been in Poland (miraculously the gear had survived Poland's infamously bumpy roads), and the next stop, two days hence, would be Budapest, capital of Hungary.

Production

In the summer of 1990, AC/DC announced their return to the major concert circuit and would begin with a tour of US arenas, followed by a

European tour in 1991. dB Sound of Chicago, USA, were appointed sound contractors. It was during the six-week long European leg of the tour, earlier this year, that it was announced that AC/DC were to headline the 'Monsters' tour. Again dB pitched for, and won, the contract to provide the sound system. dB Sound have used the ElectroVoice MT (Manifold) system for some years now and this was to be the basis for the Monsters set up. However, not enough boxes were available from their own stock, so SSE Hire of Birmingham, UK, were contracted to supply the remainder of the system. SSE started purchasing their system back in 1988 after hearing one of dB's early MT-based tours (Prince '88 World Tour). A relationship between the two companies has existed since then and this is closer than ever with the two companies now standardised on loudspeakers (EV MT) and amplifiers (Crest Audio). Indeed, transatlantic co-operation and standardisation of system design is an increasing trend — the M.S.I./Britannia Row relationship being another good example. This is an obvious way for medium-sized rental companies to compete with the 'giants' like Clair Bros and Showco. In the event, just over one third of the system was supplied from the States, and the rest came from SSE and one or two other European MT users.

The production brief from AC/DC for 'Monsters' was simple, as the band and its FOH engineer already knew the system: "The same only a lot more of it . . . which must be evenly distributed throughout the venue." Stipulations included 'only one amplifier type may be used in each frequency band throughout the whole (FOH) system'. This is less easy than it sounds; when Britannia Row Productions, Turbosound and Iron Maiden joined forces to assemble the biggest system at the time, at Donington in 1988 (see L+SI, October 1988), it seemed that every make of pro power amplifier known had to be roped-in from across Europe to drive it. Since different makes have differing sensitivities, output powers, and sonic qualities, problems galore can arise. It certainly does nothing to

make such a complex production any easier.

Another stipulation was 'maximum care must be paid to system packaging to enable rapid assembly and dismantling'. The significance is that while multiple stage and lighting grids could 'leap frog' across Europe, the speakers and the PA couldn't, because the stock required for three systems of the kind employed just doesn't exist, or is too scattered to viably hire-in. Creating even the one system involved meticulous planning to ensure the right bits came together at the right time, from the two continents, and that they'd work together first time, considering their differing AC power requirements. Heavy Metal relies heavily on spectacle, and with most of the bands playing outdoors in daylight, their reliance on dramatic lighting and special effects would be diminished, making the sound system's qualities all the more important.

FOH Mixing

Looking at the FOH system plan (lower part of fig 1), the headlining AC/DC and Metallica each had a TAC SR9000, with two Yamaha PM3000s (part of dB's stock) used for the three support acts. SSE's Steve Dando expounded on one of the less publicised benefits of their long-term investment in TAC/Amek consoles. "The first one we bought was involved in a truck crash; an artic went over on its side, but the desk needed only minor repairs and we're still using it . . . plus the bands' engineers invariably like them." AC/DC's engineer Robbie McGrath, had his dB-supplied console arranged to the left of the mix position with drive and FX racks in the traditional floor mounted position surrounding him right and left. However, Metallica's engineer Mick Hughes had come up with a rather original approach for both the mounting of his FX and his monitoring needs. The FX were fitted into specially designed over-bridge racks mounted on top of the SSE-supplied SR9000's meter bridge, and in further custom racks to the right end mounted atop the SR9000 24 channel extender (giving 64 channels in total for a four piece band!). Not usually seen outside of



Night sets in, and the band plays on . . .

All photos: Nik Milner.

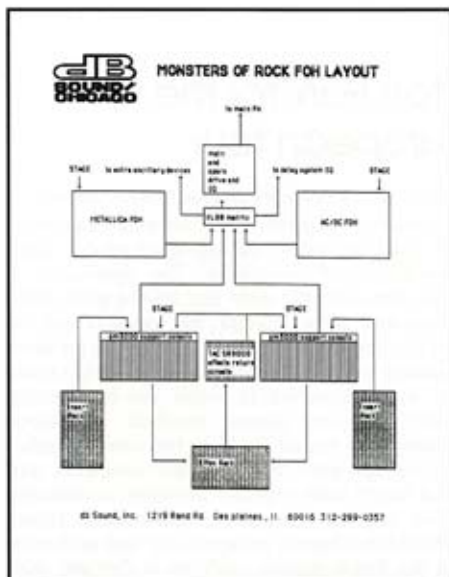


Fig. 1.

studios, this is an obvious way to help the busy engineer spot a gate that's not triggering, or compressor overdrive. Metallica's mix monitoring was through a pair of EV Deltamax DML-1152 cabinets, normally seen hung above dance-floors! Figure 2 shows dB Sound's own racks, with capacious tool drawers. The two companies' combined equipment was broadly similar, majoring on AMS, BSS, dBx Lexicon and Yamaha gear, the A-Z of FX. Meanwhile, quality

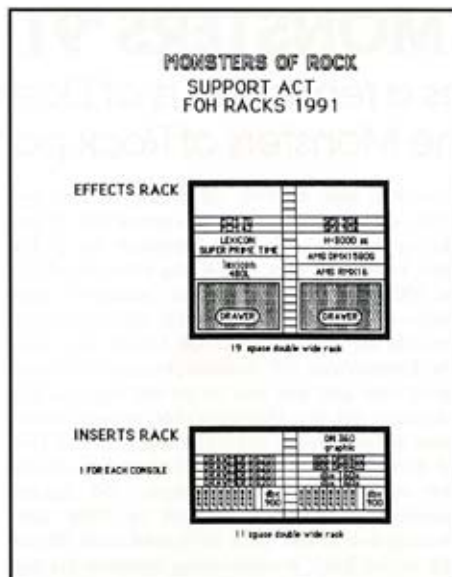


Fig. 2.

of the sound at the mix position was enhanced by not having a 10' high solid steel fence in front, as has been the norm in past years. The output of all the consoles was fed into the Midas XL88 which is an 8 input, 8 output signal matrix unit, ideal for this sort of production. The unit takes the stereo output mixes from the four consoles, which are then fed at appropriate levels to the six outputs: FOH left and right

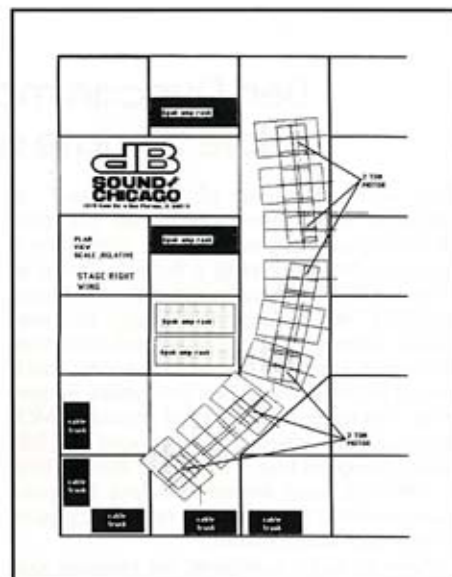


Fig. 3.

Frontfill left and right
Delay towers (2) and downfield delay (1)

This allowed Scott Pike, the overall system engineer, to have complete control of the output feeds without getting in the way of the balance engineer. The main FOH output feeds were controlled by KT graphic equalisers, feeding customised EV MTX-4 crossovers, fed in turn into dBx 160x comp-limiters. The chain finally reaches the amplifiers after being buffered with BSS Audio's MSR-604 splitter racks modified for increased headroom. These were being used to transformer-isolate amplifiers working on two different three phase supply voltages (for safety and hum-free operation), as well as drive large numbers of Crest inputs in parallel without distress.

Sound levels were being monitored at the FOH position and in front of the stage, by Jim Griffiths and John Staunton, representing consulting engineers Travers-Morgan, who'd been brought in to ensure that the sound levels set by the licence were complied with. Unlike many other festivals, the issue wasn't nuisance to the local population, but protecting the ears of fans and employees. Breaching the limits set by the Health & Safety could result in a criminal prosecution (with a £2,000 fine), and would leave the promoter without a licence, meaning no more festival. Last year, Travers-Morgan had been engaged to monitor the SPLs purely to get an idea of what to expect, and a maximum LAEQ (integrated over 1 minute) of 104dB had been set. In many ways, the authorities were being very reasonable, considering it was 'A'



The PA hang.

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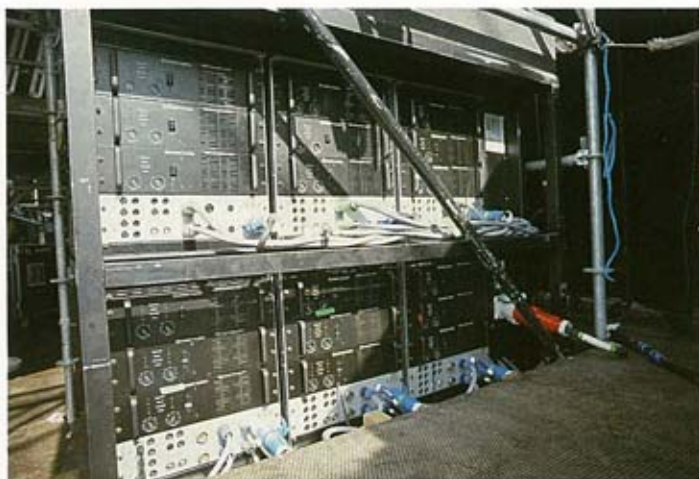
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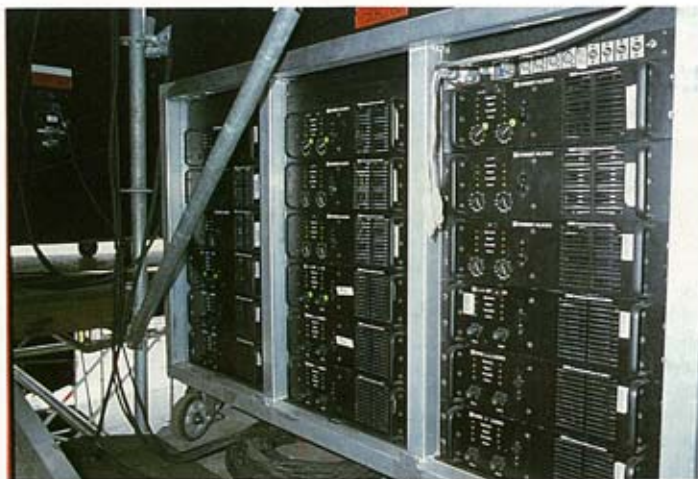
On Stage

As is increasingly the norm with today's major show productions, the emphasis on streamlining and speed extends to changing-over the sets. To help keep the stage clear for the bands and their busy crews (as well as clearing sightlines for the tens of thousands of paying customers who find themselves off-axis to the stage), the monitor amps were mounted under the stage, with the six wedge monitors being placed in a cluster, on a lowered section at the front of stage centre. A wrap-around walkway was provided above the stage for the video and film crews, and special effects. Controlling equipment clutter was more important than usual, as the show required no less than three monitor consoles, all Midas XL3 for the headline, and support acts respectively. A mixture of SSE's older stock of Carver and Amcron amps were being used for the monitor system.

The band's equipment 'flow' was highly organised. The trucks unload onto a scissors lift, the backline is then unpacked. Each part is pre-rigged on dollies, which are immediately ready to be wheeled onto the stage and take only a few moments to plug-in. When finished with, the dollies could be folded-up in a concertina, finally exiting on the other side of the stage, avoiding collisions with the next, incoming backline. As a result, the sets could be changed over in 15 minutes. Lighting comprised over 80 Vari*Lite's covering the stage, and a further 80 outfront, plus two lighting towers 150 yards off each stage wing, to illuminate the crowd as a video was being shot of the performance.

Amplification and Speakers Outfront

Prior to the tour, it was clear that amplification rationalisation would be necessary to fulfil the system specification; at the time, dB were already using Crest while SSE were using a combination of Amcron (Crown) and Carver units. At this point the choice of amplifier was not just a question of how to reassemble the combined stocks of SSE and dB amplifiers into a form that would satisfy the tour spec, a relatively low-cost option; rather it was felt that this should be the beginning of true and optimum system integration between the two companies. With this in mind Chris Beale of SSE flew over to dB's premises in Chicago, and listening tests were carried out to determine the best option. After trying different permutations of existing amplifiers, most other leading brands were auditioned. In the end Crest Audio's 8001 model was chosen to power all of dB Sound and SSE's MT systems. Standardising on one model also meant benefits simplifying spares and operational needs. Thus the main FOH system came to be powered with 144 US-made Crest 8001, officially (and conservatively) rated at 1225 W/ch into 4 ohms. They're more than averagely



dB Sound's rack line-up.

compact at 3u rack height and have built a reputation for reliability and sounding good in all frequency ranges. Having made the decision – albeit rather late in the day as the tour was scheduled to go into production within six weeks! – the onus then fell on SSE to purchase the requisite number of amplifiers, 84 in total. Crest, in combination with LMC Audio systems, their UK distributor, pulled out all the stops and managed to custom-build and ship the amplifiers in time to catch the dB container in the UK. LMC then arranged for John Adeleke, their Crest specialist to be on hand throughout the unpacking and fitting procedure to ensure that deadlines could be met. In addition, dB Sound required an additional 20 8001s to fulfil their increasing touring commitments in the US.

One of the biggest problems of US/European joint rental ventures, where equipment shuttles across the Atlantic, is the need for giant transformers (affectionately known as 'pigs') to effect a wholesale change in mains voltage across 'n' kiloWatts worth of racks. Only a minority of amplifiers are readily switchable between 'high' mains (220-240v) that's universal in Europe and Australia, and the lower voltage juice (110-115v) of North America and many Asiatic countries. The reason is mainly one of cost, as the switching arrangement has to be heavy duty for today's multi-kW amplifiers. Commonly such switching is hidden under the cover to make it tamper proof, but de-lidding 50+ amplifiers every time they cross the ocean is too much trouble. SSE's and dB's co-operation has amounted to a lateral solution in both companies having all their Crest amplifiers fitted with custom transformers which have both 115

and 240v taps available by selecting one of two cores in a specially fitted 4 core mains cable.

The outcome is that both companies' rental stock can be globally adjusted in seconds for US or European operation, from a single pair of terminals. Plus all their stock is immediately interchangeable, adapting automatically to the rack supply voltage, so only one set of spares need be carried. At the same time, the two companies' racks were operated from their native mains voltages. This makes sense because US and UK grounding practices are different, and with three phase powering, hence up to 415v between phases, it's a good idea not to have to lift any grounds to overcome hum-loops. Chris Beale adds: "All of this was only made feasible with Crest's help in pulling out all the stops to meet our tight schedule."

To facilitate speedy rigging, Jake Berry AC/DC's production manager, had suggested that all the amps were mounted in groups of pre-wired 'stadium' racks. SSE and dB differ slightly in their chosen method of providing this arrangement. SSE have opted for a 'modular' design although the outcome, in terms of amplifiers/space, is about the same as dB's. SSE fit three Crest 8001s into each small 13u rack frame 'module'. Also included is a 3u patch panel incorporating individual and master inputs, three separate stereo outputs and mains input and a 1u blanking plate which can be removed if a signal processing device is required. Six of these 'modules' are then mounted into a master frame, the 'six pack' itself, containing master wiring and power connections. Each 'six pack' is powered with three phase supply and weighs about two tons! This may sound like a lot, but



Yamaha, TAC/Amek, and Midas combine for a mixing tour de force.

the master racks have been made the same physical dimensions as four MT cabinets, and are mounted on sturdy transport dollies for ease of movement. For smaller tours, the individual modules can, by removing a few bolts, easily be slipped out and mounted in more compact sleeves. dB's racks are broadly similar but, because the nature of touring in the USA means that much larger systems are touring almost constantly, dB favour a straightforward arrangement of three stacks of six Crest 8001s. For speed, the loudspeaker multicores leading to the speaker arrays flown above are pre-loomed and drawn out of cable trays on top of the 'six pack' racks (figure 3). As the cabinets are hoisted, the multicores even play out to their correct patch length. Each wing employed just four racks and they require only four AC cables and four signal cables to hook them up; the speaker multicores are already connected! Other than rigging speed, the advantage is less clutter.

Each side of the PA comprised 84 MT4 cabinets, split 50/50 between MTH-4 (the HF cab) and MTL-4 (the LF). Usually such a large system would be primarily hoisted, dragged and stacked onto tiers of decking in the PA wings. Instead, virtually the whole system was flown. The small number of seated MTL-4 cabinets were placed underneath the flying part, and the boards on which they were resting was purposely decoupled from the stage, to enhance sonics and reduce feedback potential. The ease and simplicity with which the MT4 system can be flown is one of its strongest assets, and the ability to then aim each cabinet independently is a major factor in the sonic performance outfront, as well as minimising the extent to which the sound escapes from the side. John Penn told me: "Because virtually the whole system is flown, it



Crest 8001 amps above SSE input/output panels.

is also substantially faster to rig, as jams don't occur, waiting to lift each cabinet onto the appropriate deck." The system is flown nine cabinets wide and eight deep on the inside, reducing to six on the outside. Because of the stage's exceptional width, the crowd up-front wouldn't hear the main PA, so 16 cabinets of EV's new MT2 system were arranged in front of the stage for 'front-fill' coverage.

The MTH-4s were specially fitted with DH2A HF drivers. These not only sound better, but enable the high-mid/HF crossover point to be shifted to 10kHz, making the MT4s compatible with the smaller MT2 used for front-fill, which would then sound the same, all fed from identically configured crossovers. It's interesting to note that dB Sound were intensively involved with 'Beta testing' the MT4 system for EV when the product was originally designed some six years ago, and by noting the EQ used for diverse shows and venues, the crossover's integral EQ has been progressively refined over the years to attain an optimum response with minimum adjustment. The MT4s

array angles were arrived at using EV's own Hang 10 programme.

The delay-tower systems comprised 16 flown cabinets of MT4, again half of them LF. They were driven by three Crest 8001s (HF) and six 6001s on MF and LF. The delay signal is a separate feed, driven from a BSS TCS-803 DDL, together with separate EQ (Klark Teknik) and BSS FDS-360 crossovers, customised for use with the MT. An additional down field delay was needed at Donington, because of the asymmetric shape of the site. The additional PA had its own delay unit, EQ and crossovers, and comprised 32 MT cabinets (split 50/50 again), but was otherwise identical.

The Day

Three years ago Donington Park hit the headlines when two fans were squashed to death in a good natured crush at the front of the arena. Subsequently, a 100 feet pier has been built out front of the stage centre. Staffed by the show security officials, it splits up the left and right crowds, and vastly improves the access for rescue. The same walk-way connects with the low-walled 'security zone' along the front of the stage, with rapid exit to backstage ambulances via two tunnels under the stage. In addition, a video wall had been set up stage left, to help discourage the more distant elements of the crowd from surging towards the stage, with two more video screens in the stage wings.

England's climate has been confused by the current peak in sun-spot activity, but mid-August is a fair bet for dry, sunny weather and the day was substantially fine. Even so, a light shower fell at midday, simultaneous with bright sunshine! By the time the second band had started at 3pm, a strong breeze had built up from the east. This was a thermal current, dragged in from the North Sea by the hot air rising above England's core. It always starts in the mid afternoon, and the sound, however good, inevitably suffers. In an ideal world, a promoter seeking to optimise sound outdoors would need to split and program, with bands playing in the morning, and then after dark, when the air is still.

The sound of a high class PA depends a lot on who's driving it and the air speed and humidity. Multiple acts outdoors are one of the few places where a PA's sound quality can be truly assessed, after listening to the mixes by the different engineers. For the first set, when it was hot, breezy and dry, I found the sound a little distorted and lacking in detail on bass guitar and in the midrange, during complex passages, though it was all round pleasurable, and had an awesome kick in the bass. As evening drew near, the clarity improved greatly and both Metallica and AC/DC sounded good and loud from a variety of vantage points.



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EVER-READY TO CLAIM THE HIGH GROUND

Though based in a low country, L+SI discovered that Ever Radio Violette and their glamorous lady president are aiming at a higher plane

For many years, Brussels originated Ever Radio Violette have been a major distributor of British entertainment lighting products in Europe. In the March issue of L+SI we made the mistake of running a news story which was somewhat inaccurate in the way it described the intricate relationship between the distributor and some of its suppliers, namely Coemar and High End Systems (LightWave Research). Worse, in trying to make the piece more readable we used the description 'Ever Radio the old radio Violette,' old, that is, in the context of 'used to be known as' or in the way that one might refer to an 'old' friend.

Nobody who knows the company will be surprised to hear, that barely was the ink dry on the issue, when the inevitable letter arrived bearing the signature of ERV's proud chairperson, Gaby Everaert. "You mention Old Radio Violette," she penned, "from which comment some readers might conclude that Old Radio Violette is in terminal decline . . . although Radio Violette was established in 1946, which pre-dates probably all our European mainland competitors, we wish to assure your readers that we are still going strong." As a case of double entendre, it reminds one of the famous telegram from an English journalist to Cary Grant enquiring as to the Hollywood legend's age: "How old Cary Grant?" to which Grant ingeniously responded, "Cary Grant well stop how you?"

The question of her age, incidentally, is one which discretion forbids mention about any woman, except to say that Gaby Everaert is 'une femme d'un certain age' and an extremely glamorous lady at that. If her looks betray her age so does her capacity for hard work; she is only just now considering having a fax installed to enable her to work from home and still attends one of her two offices daily. Her energy and enthusiasm seem boundless and she displays that strength of will



Madame Gaby Everaert, Ever Radio's president.

which only women of great character possess. No wonder she is the chairperson of the Belgian Association of Professional and Business Women.

The enterprise, which was founded in the Rue de la Violette in Brussels in 1946 by Gaby Everaert's second husband Leon, was a very different operation from the one we see today. Both the original location and the first product go some way towards explaining, what to

our Anglo Saxon ears seem like a strange assortment of names, for Leon Everaert's intention was to make radios, which after the war must have looked like a growth business — until, that is, the big capital moved in and names such as Philips and Siemens appeared on the scene.

Sensing the beginning of the end of his ambitions as a private radio entrepreneur, (but operating on the fringe of the entertainment business with electronic product) and not being a man who gave in easily, Everaert set about building an early strobe using a giant parabolic reflector borrowed from an electric heater. It obviously worked for, from then on, Ever Radio Violette became the centre for entertainment lighting in Belgium.

By the 70s, by which time he had met and married Gaby, a specialist in employment and social welfare law, he had established a thriving business and perceived an opportunity for expansion by taking on additional product lines in the form of the innovative new lighting products which were emanating at that time, principally from the UK. Optikinetics and Pulsar were two of the original suppliers, and as Monsieur Everaert came from an earlier generation, he treated them all as if he were a benevolent father, alternatively berating them for infringements of territorial agreements and at the same time encouraging them to do things in a particular way commercially. The stories are legion, for Leon Everaert

was a big man in every sense and ran his business with a mixture of the iron fist and the velvet glove. A tough character, who knew what he wanted, and usually got it by a mixture of charm and persuasion.

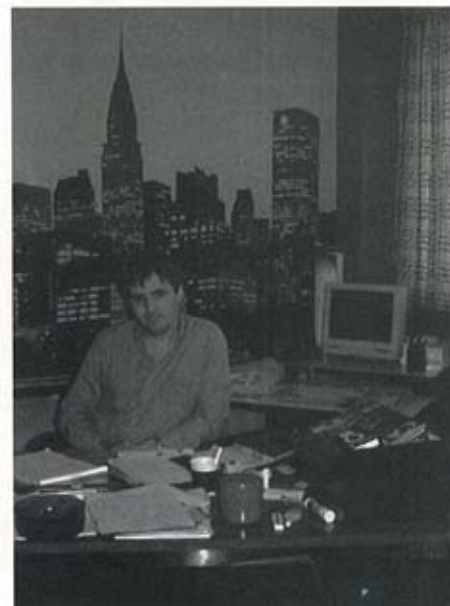
These same characteristics, which became intrinsic to the philosophy of the business operation, were a legacy which he was to pass on to his successors when, in 1978, he died of a heart attack. Nowadays, Ever Radio Violette



Alain Fayaux, step-son of founder Leon Everaert.



Philip Desreux, High Light's sales manager.



Commercial director of ERV France, Yvan Peard.

is more than ably run by the combined team of Gaby Everaert, and her son from her first marriage, Alain Fayaux, a regular visitor to all international shows. Together, they took the business, which by now handled Le Maitre and Coemar, even further forward in 1981 by establishing a separate company in France with offices in Valenciennes, just across the Belgian border.

This company, trading under the Coemar-France banner and partly owned by Bruno Dedoro, is run commercially by charming Frenchman Yvan Peard under the direction of Alain Fayaux, and has established a network of distribution points for the Italian product throughout France. It also sells products from some of the British suppliers previously mentioned, where there is no clash with an existing distributor. For example, Optikinetics have appointed S.A. Ever Radio Violette France, to give the business its full registered title, as its sole French outlet.

More recently and somewhat more controversially, following a hiccup over the production of electronics for the Coemar Robot, Gaby and Alain decided to compete for the distribution of High End Systems' products in France. Having beaten long established competitor Collins to the draw during tense negotiations at last year's LDI, apparently with the blessing of Coemar's Bruno Dedoro, the instrument used for this purpose is a new company called S.A.R.L. High Light Systems. (This method of disguising the source of a competitive product is not widely understood in the UK but seems to be generally accepted in Europe where, for example through their wholly-owned associate TAS, Coemar continue to use it as a method to reach horizontal sectors within the same market.) The products distributed by High Light, which operates under the High End Systems France banner from the same premises as



The trade counter in Ever Radio's new headquarters in Rue Ribaucourt, Brussels.

Valenciennes, are ably marketed by Philip Desreux, another young Frenchman whose enthusiasm for this American equipment seems boundless. Indeed, during L+SI's visit Philip was proudly telling Gaby Everaert and anyone else who cared to listen, that they had taken record orders for Intellabeams during the past month. Good news for High End who, like all manufacturers of entertainment technology this year, must be feeling the effects of the recession.

Inevitably, interest will focus on the impact on the French home market of TAS's Scimitar, a budget-priced automated luminaire to be own-

branded by Collins, and Coemar's identical product Samurai which will be sold by ERV. Certain winners in this context are Zero 88 who, emulating the Pulsar/Clay Paky deal, will make the electronics for both models.

Whatever may be the outcome of this commercial tussle, the stage is set for a future of considerable excitement for the house which Leon Everaert built in the Rue de la Violette, and which continues to thrive today in the Rue de Ribaucourt under the enthusiastic stewardship of its mother-and-son team. A family business through and through and an 'old' friend in the industry to boot.

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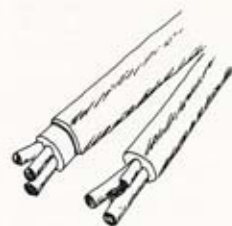


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ALL'S WELL THAT ENDS WELL

Ruth Rossington visits The Other Place in Stratford

Mention the name Stratford, and one immediately conjures up images of Shakespeare, twee cottages, open top buses on guided tours, and tea towels paying testimony to the great genius of the master of the written word himself. However, if you delve behind the facade, there's another more serious, more permanent side to Stratford that finds its roots, ironically, in the same ground as the commercial and exploitive carnival that seems settled on the banks of the Avon. The theatres in Stratford give the place a sort of gravitas, and rightly so — the arts provision is executed with such a high standard of professionalism that it is an industry in itself. The Royal Shakespeare Theatre, The Swan and The Other Place add a distinct weight to the town, which would otherwise be in grave danger of being reduced to its basic common denominator — the pound.

In the design of The Other Place mark II, the RSC were keen to create an environment which retained the spirit and modesty of the original venue which was closed after 25 years for safety reasons two years ago. The architectural design for The Other Place II was the concept of Michael Reardon, who also designed the highly successful Swan Theatre.

Those expecting an architectural muscle flex will find little to satisfy them in the building. Reardon admits that he shelved his first sketches because they were too rooted in the traditional forms of architecture. He was very keen to ensure that the theatre should not become a cygnet living within the shadow of the Swan. Instead, he opted to work within the framework dictated by the original The Other Place. "I wanted to create the atmosphere of the original theatre without facsimilating its faults," he explained. "The Other Place II is a very simple building; intimacy and improvisation are the key to its success. I decided not to view it as an audience house, but as an actor's workshop."

In putting together his design, Reardon deliberately retained the exact groundplan of the original, but slightly increased the audience capacity to 260 seats in all. A simple square auditorium is ribboned with an upper gallery. The design is modern, but without the appearance of being so. There is no foyer as



The Other Place 'version two' in Stratford.

such, and the layout makes no concession to contemporary values concerning theatre design. The whole thing has a familiar feel to it, there's nothing overpowering or demanding about the place, and this is mainly down to its emphasis on simplicity.

Budgeted at £1.6 million, it's no wonder that it was a work-like project, which left little room for extravagances. There's no artistic snobbery either. During intervals, traditionally the time when the audience exercise their talents of criticism, and when actors swap tales about the audience, they are expected to mix together in the converted barn adjoining the theatre. And who knows what new drama might emerge from this melting pot.

Physically and technically, the theatre is well-equipped even though there's no flytower to house the stage mechanisms (its associated equipment would have pushed costs well above the apportioned spend anyway). Throughout its history, most of the equipment has been either begged, stolen or borrowed from the main house or touring stock. In rooms flanking the first floor gallery all the technical wizardry is to

be found. The main control room overlooking the auditorium houses a 96 channel Berkey Colortran board, which is a legacy of the original The Other Place, as is most of the present technical equipment. On the dimmer front there are 168 2.5k Green Ginger dimmers, together with six 5k Green Ginger wall racks. Around the auditorium, there are 196 outlets and 30 switched ACs to allow the use of smoke machines or strobes as the drama dictates.

One piece of technical equipment new to the theatre is the ARRI software patch which patches the 96 channels of the board to the 175 dimmers. Although perhaps 'over-qualified' for the Berkey board it will come into its own should the Berkey retire with a long-service medal, and a new lighting board be necessary in the months, or even years, to come.

The lighting in the auditorium is again from the old The Other Place and is a mixture of lanterns, with Strand Patt 23s, 123s, 223s, and some Sil 30s, together with a few CCT lanterns, forming the bulk of the inventory. Most of the lanterns have been repainted by the technical staff on site, with a small handful finding their

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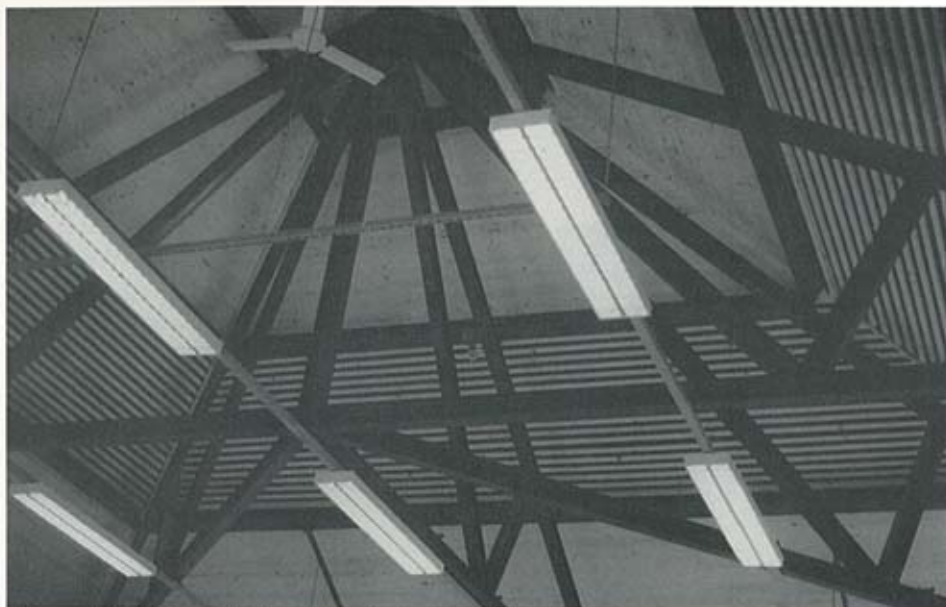
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Above, and right, the red-brick, pine-panelled interiors of the rehearsal rooms.

way to Joanne Taylor and Ark Light for a more rigorous refurbishment. At the present time, there are no plans to add to the lighting stock.

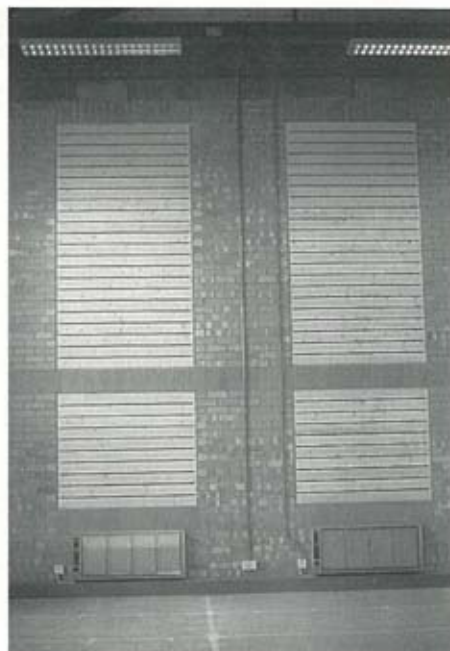
The sound situation is similar. Most of the provision from the original theatre is in storage, and by all accounts on its last legs, so the technical staff are looking at the possibility of new sound equipment to replace that which is no longer serviceable. In preparation for this, and with an eye on the future, all the cabling has been installed on a permanent footing. For the moment, sound equipment-wise, the theatre is looking to use the RSC/BT touring sound rig.

The fully air-conditioned auditorium has flexible seating and an increased capacity as already mentioned. Improvements have been made to the backstage areas including the

addition of two new rehearsal facilities at the rear of the theatre, one of which is large enough to rehearse plays for *The Swan*.

Summing up, *The Other Place II* is well-provisioned and designed for its users; it's simple and straightforward. And so it should be. After all, its *raison d'être* is as a flexible space that can become a forcing-ground for new talent and also serve as a home for training projects and workshops, whilst retaining an experimental feel.

The Other Place II opened recently with an adaptation of *The Blue Angel* by Trevor Nunn's independent touring company. Trevor Nunn himself directs this new version by Pam Gems of Heinrich Mann's novel *Professor Unrat Oder das Ende Eines Tyrannen*.



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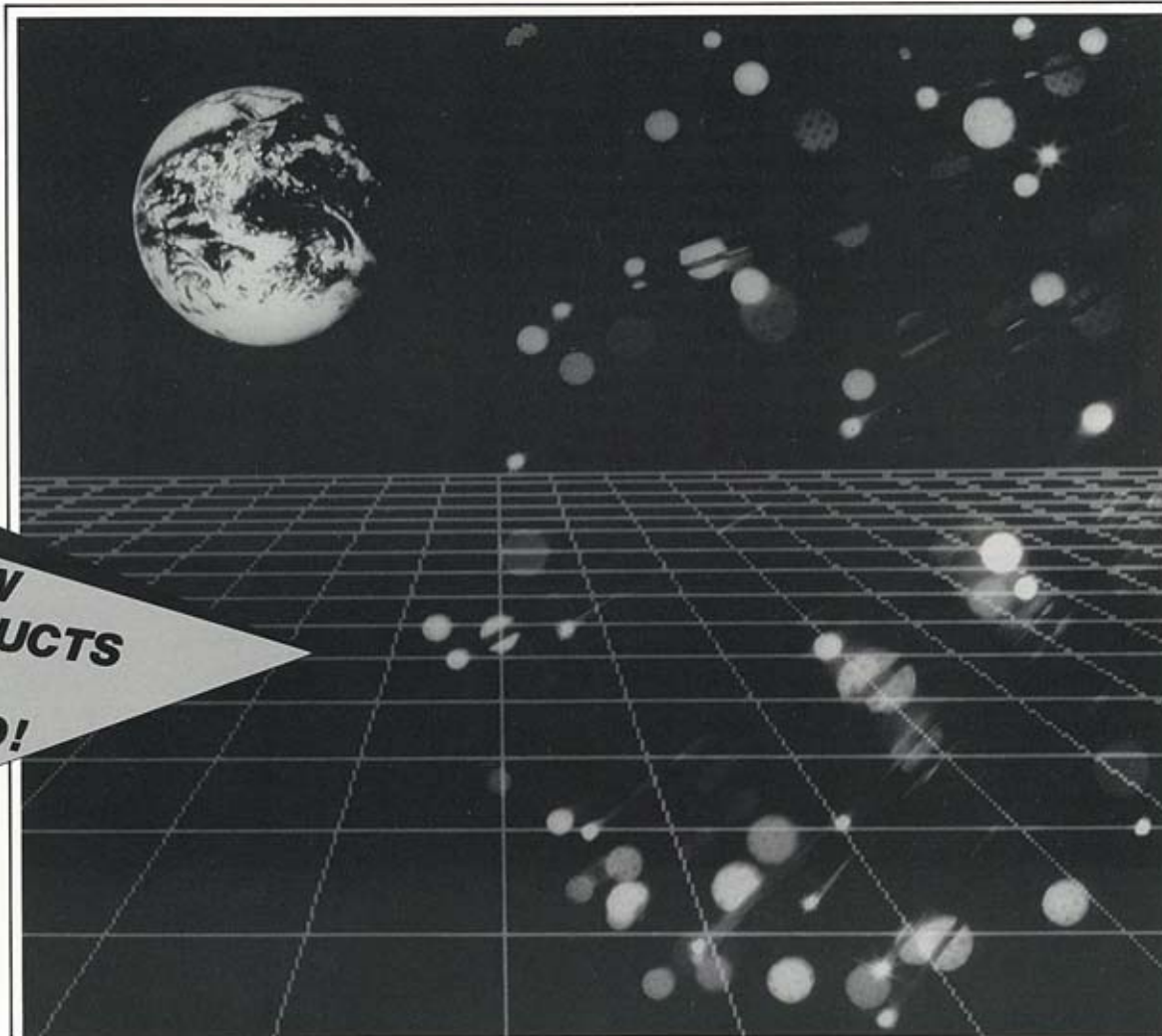
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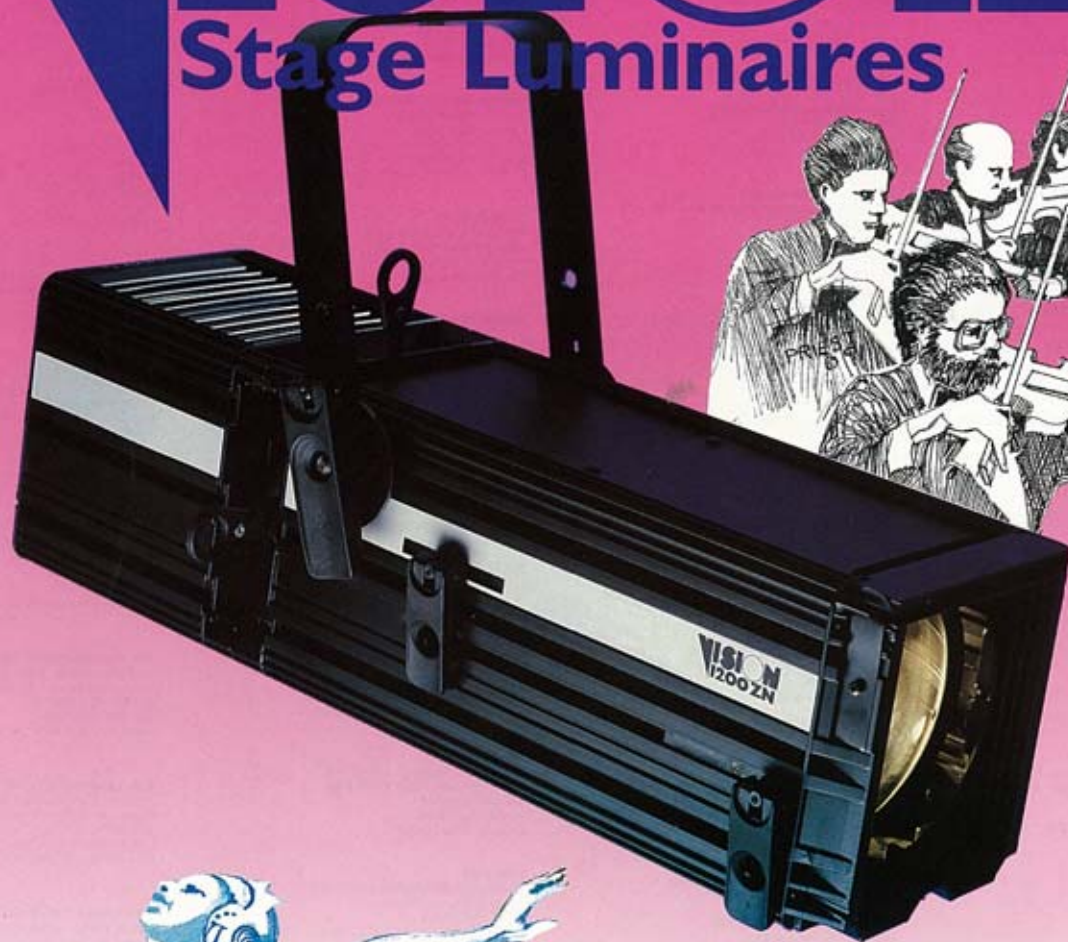
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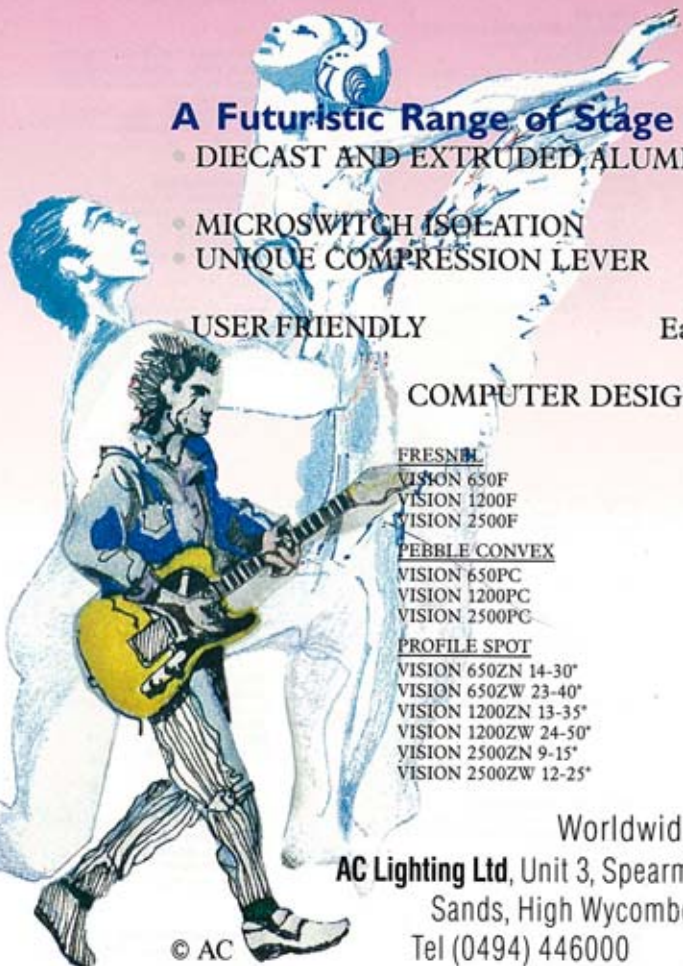
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Dire Straits Bray Studios

LD: Chas Herrington

I first interviewed Chas Herrington several years ago when he designed the lighting for the Nelson Mandela show at Wembley Stadium where Dire Straits were headlining. Since then, Chas has been busy working for a variety of acts such as Boz Scaggs, The Steve Miller Band and, most recently, ELO. Other events he has worked on include the CBS/Sony Anniversary at The Big Egg in Tokyo and a show for Billy Joel. More recently, Chas has started designing installations for nightclubs and discos, including one in Bali. And if all that wasn't enough, he was also involved in the design for the last Tears for Fears tour. However, this is now a matter of litigation and involves a breach of contract dispute which he'd rather not air.

Last November, Chas flew to London from his home in Los Angeles to meet Dire Straits and their management. They decided on the scale of the stage and rig, but left the design of the lighting system totally to Chas. The set was born out of a combination of ideas from Paul Cummings, one of the managers, and the band themselves. Once the original drawings were completed, the lighting system was based

around them. Chas feels that they fit together well, although he hasn't as much depth as he would have liked, and, of course, once you start getting into deep stages you lose tickets in the house. It was important for Chas to have a system where he could move the lighting equipment around to achieve various different looks. He prefers most of the movement to be done in the black-out to add an element of surprise to the show. As a consequence, he has employed a tracking and motor management system complete with computer control.

"As you might expect, these things have their teething problems," admitted Chas. "I think we are definitely winning and once we get out on the road we'll fine tune it. One of the things we wanted to do was to have a MIDI interface between the Vari*Lite's and the tracking, whereby we could press a cue on the Vari*Lite board and have either a motor move or the tracking move. Basically, we wanted to control the move by MIDI to MIDI code from the MIDI interface on the Vari*Lite board. Then we ran into a problem regarding liability. Should you have a guy up on the truss who might get knocked off by somebody pressing a button on the Vari*Lite board? With insurance rates escalating, Vari-Lite US advised us that we couldn't do it that way. I think that we have got around the problem by 'flip-flopping' the

software so that now, again through MIDI but in reverse, the tracking starts to move and a MIDI code is sent out at a certain point along this move to trigger, for example, a light.

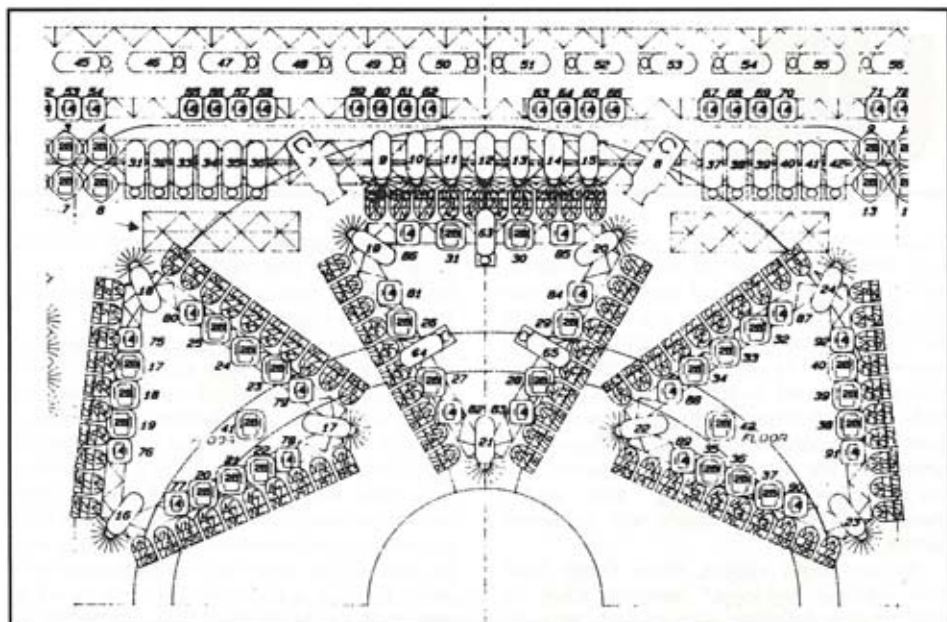
The other problem is accuracy. Getting an eight light trolley to stop at exactly the right point when it's moving and controlling ramping speed is difficult. Acceleration and deceleration of something that heavy causes a grid to sway around a hell of a lot. It's a big problem but I think we're getting there. It depends how quickly you want something to move. We have one song where we move them around quite a lot, and we get some sway even though we're pretty high up with the mother grid which is tied up to the house steel here. I think it'll be exaggerated more when you've got a lot of chain above. There are also small things, such as when you run the trollies over a join in the trussing and it's slightly uneven, you get a jump. It's not a difficult system to put up as it's very clean. Unfortunately, because we require a mother grid everywhere that causes another two hours of bolting very heavy duty gauge trussing."

On the rig there are 92 Vari*Lite's (42 VL2bs and 50 VL4s), 63 Intellabeams, 48 Emulators, 8 Lycian HMI 1200 short-throw followspots, 4 2K Xenon Super Troupers and a few par cans to the sides of the stage. Chas was keen to use the Intellabeams because he finds them



No less than 92 Vari*Lite's are involved on the Dire Straits rig.

Photos: Alan Drewrey.



Chas Herrington's lighting schematic for Dire Straits.

incredibly bright and very different to Vari*Lite's. All of the spots, Xenons and Lycians, have glass dichroic filters which Chas had specially made up because he finds the colour so intensely beautiful. Obviously, there may be problems with touring glass but so far they have been fine.

Chas is particularly proud of the reveal that he has designed for the band. On the mother grid there are three giant drainage pipes which hold three silk triangles which lower, stretch across and pin down on the stage. Out the back there is a 58 kilo weight on a pulley system. On the cue the weight is released along with the pins holding the triangles to the

stage, and the whole lot shoots up into the air. As these triangles do not mask everything there is also a more traditional kabuki behind. The three triangular moving trusses have ordinary muslin stretched across them.

The control end is quite interesting in that Chas is running a lot of the show through a Macintosh which he finds extremely good, although he describes running a show off an extended keyboard as 'weird'.

"The difficulty of having this amount of technology is that you have to deal with the fundamentals — you have to design a song to look beautiful — and also worry about the moving stuff," explained Chas. "I think that the

show will grow. What people will see in the first couple of shows will be different. It's not going to whizz around like a Pink Floyd show because it's not that kind of band. I like being able to move stuff in the black-out so people don't really know how the effect was achieved, but they do know that it's different. The really wonderful thing about this rig is the variety it gives. Even months into the tour I think that I'll be looking at scenes and thinking 'Wow, that's really different.' The time to start fine tuning is when I get out on the road. We're very fortunate in that respect because the first leg of the tour consists of gigs that play the same venue for about five days at a time so I'll have plenty of time to do my work.

"I'm going to be with the whole tour. I've worked with these guys for so long that both they and I wouldn't have it any other way. I love working for them and I enjoy touring. I'm not sure when the tour finishes, although it's now booking through to 1993. The only thing with touring that long is that there are other things I want to do. I love designing and I love getting shows out there. Quite often an awkward situation arises when people say they don't want you just to design it, they want you to operate it as well, because that's part of the feel.

"I don't think I'll be tempted to change the design during the tour even with the teething problems that we've had. I still think I'll be hard pushed to come up with anything that would be better than what we already have."

Chas' job has been made even more difficult by the band's decision to have a set list of over 30 songs from which they can choose to vary the show. Programming is time consuming enough with such an unconventional system and such a large number of songs cuts down the amount of time Chas can allocate to

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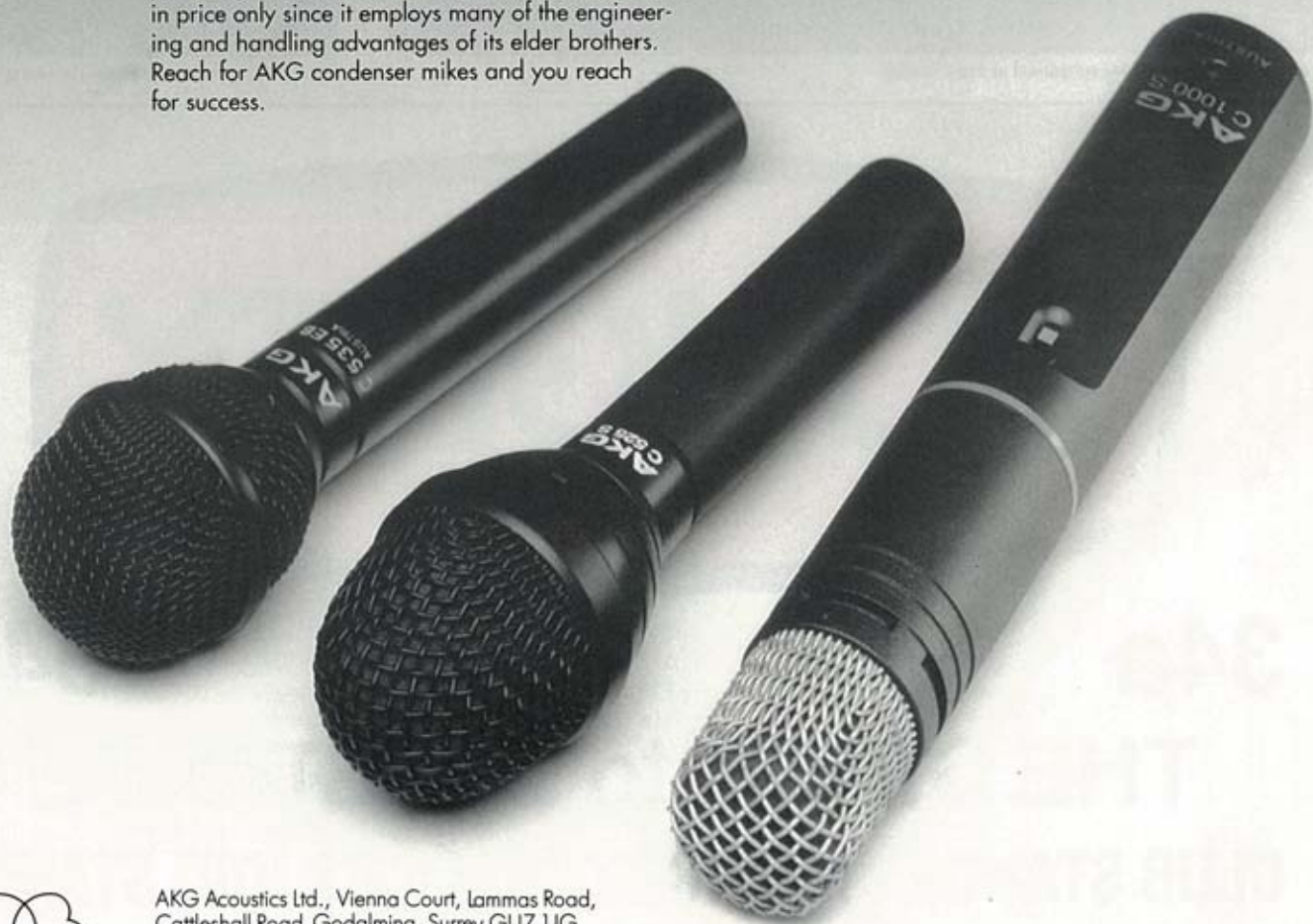
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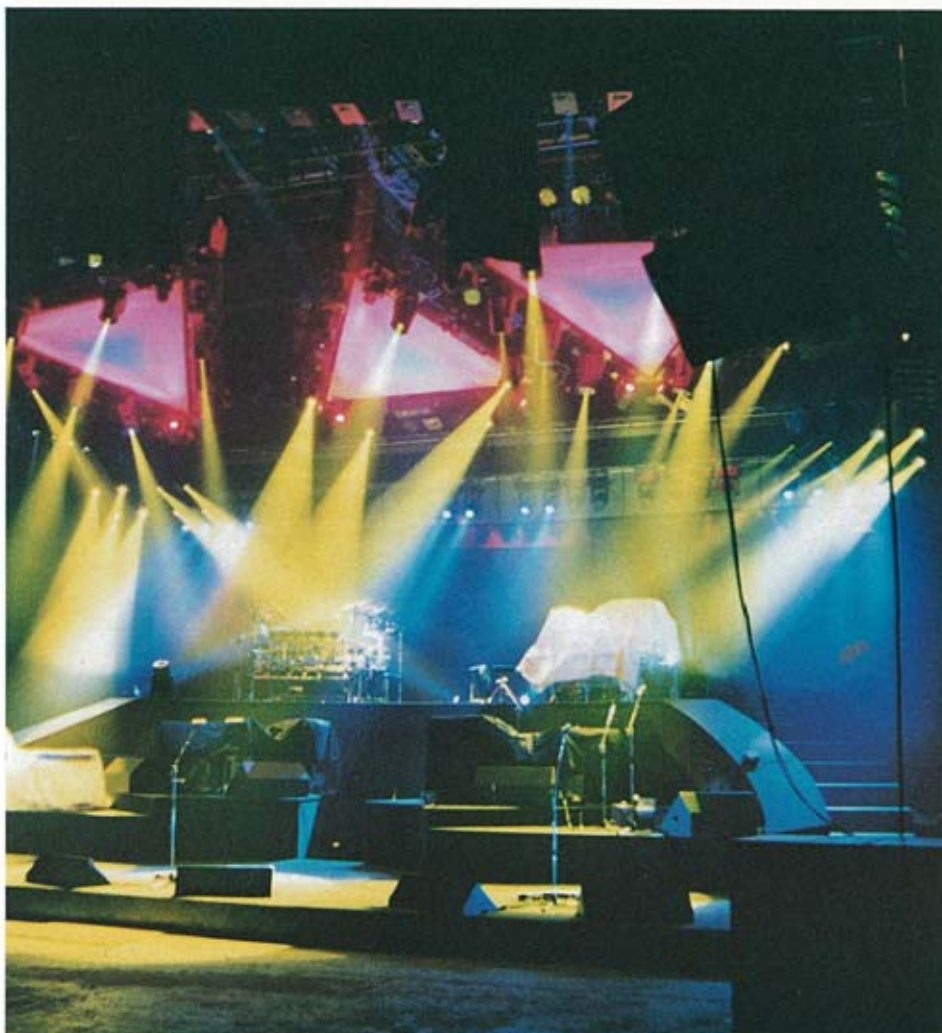
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Various lighting states are rehearsed at Bray Studios.

each one during rehearsals.

"I think the lighting industry today is really making a lot of headway. I'm glad to see there's a lot of new technology being used, sensibly and more adventurously. I'd like to see systems come down in terms of bulk. For example, this mother grid, an 8ft section weighs 90 kilos so you have to break it down every day. The rig weighs 16-17 tonnes and when you're putting that kind of weight in the air you can't mess around. I've tried to use different technologies and melt them together. I think it's working successfully although I just wish it was smaller.

"I think that I might sound a little bit negative about some of this but I think it's very important to try and push technology. We are doing that and that's why we've had our problems. I think it will grow into something wonderful."

Crew

Vari*Lite programmer: John Sinden
 Vari*Lite technicians: Telson James, John Wynne, Richard Worsfold
 Crew boss: Tad Inferrera
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Close-up on one of the three silk triangles.

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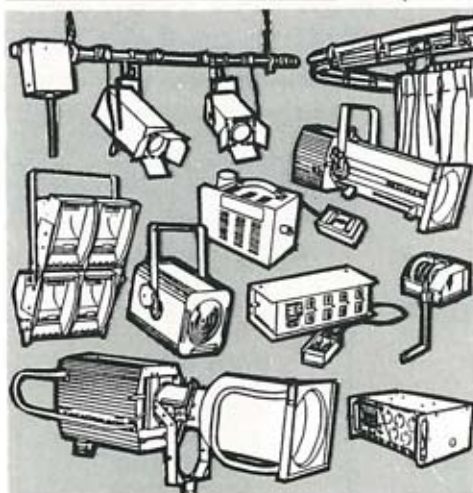
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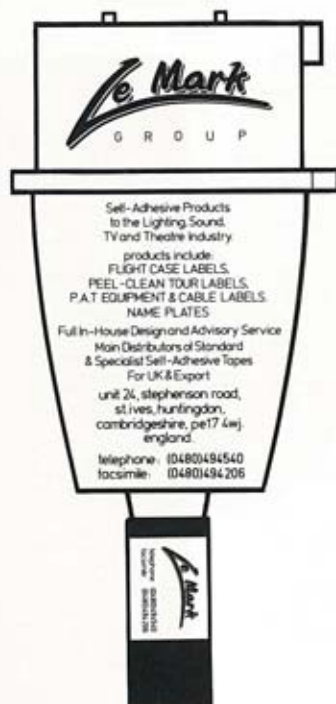
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VIEWPOINT

Simon Boyd on Show Business

Over the past eight short months since the appointment of Philbeach Events Limited as organisers of PLASA's annual Light and Sound Show, I've had to take a crash course on learning the industry. Like any other, it has its own special flavour and its own characters and characteristics, and I've still much to learn.

It hasn't been an easy process against the background of a deep recession, but I am happy to say that the task has been a highly pleasurable one. Despite the economic gloom, there's a big creative buzz about the lighting and sound industry, particularly as it is so closely related to live entertainment and show business.

But we have to remember that show business is still a business and the PLASA Show, as with any exhibition, is there as a forum for business activity, and the ultimate aim of all taking part is to develop the industry, and at the same time fatten the order books.

You will be able to read elsewhere in this issue the tremendous range of products and services that exhibitors will be showing at the Light and Sound Show, in many cases for the first time in the UK. Some of the company names will also be new with exhibitors such as G E Thom Lamps Ltd and Ludwig Pani of Vienna making their first appearance.

For all the companies taking part, the Show is a major investment both in time and, of course, money. The outcome may well be crucial to their future.

An exhibition is a unique forum within the promotional mix and provides completely different opportunities from those possible through advertising, public relations or direct mail. For suppliers it is a chance to meet potential new customers on neutral ground, to launch new products to the market and gauge buyer reaction, to discuss key issues facing the industry and consider how the company can respond, and to develop and enhance relationships with existing customers. For all this to be possible however, careful planning is needed well in advance to ensure that before the Show best use is made of the promotional opportunities, that during the show the key objectives in taking part are met, and that follow up after the Show is both professional and efficient.

Only after all three aspects are thought through can a company be confident that they are spending their money wisely.

For buyers there is also an investment to be made in attending this Showcase event, but again the opportunities are unique. It provides a chance to see new products and services all under one roof and to compare the capabilities and prices of products. It enables them to contribute to the discussion about the current and future needs of the industry and of course to enjoy the social side of the Show.

Again, careful planning is needed to make sure they get all the information possible from their visit.

You may feel in reading this piece that I'm getting on my soap-box and 'teaching Granny how to suck eggs', but you'd be amazed at how many people take

part in exhibitions 'on a wing and a prayer'. For every company approaching the Show in a professional and business-like manner there is another who gets there more by luck than judgement. All the more extraordinary when you consider the scale of the investment and what rests on it.

For us as organisers the planning process began on the day of our appointment and we are here to safeguard the considerable financial commitment made by PLASA, its members, and the exhibitors. We have worked hard to ensure that we present an exhibition of which the industry can be justifiably proud and I would like to thank the members of the PLASA Committee who meet every month to consider the proposals we have made on key issues such as promotion, sound control, build-up and breakdown procedures, etc. Their commitment has been invaluable as has the staff at PLASA's offices in Eastbourne who have put up so well with our needs to learn about the industry in such a short spell of time. It would not be fair for me to single out individuals, but I would particularly like to thank Kevin Hopcroft and John Offord.

I hope that whether you're exhibiting or visiting this year's PLASA Light and Sound Show you will find it an enjoyable and rewarding experience. For our part the Show has already been great fun to be involved with and we are looking forward to meeting many more of you at Olympia.

Please do call in and say hello. We may well be suffering from a case of first-night nerves, but we are always interested to hear your views. Remember the Show is a major investment for everyone and in the final analysis Show business must always be good business.

We wish you every success.



Simon Boyd.

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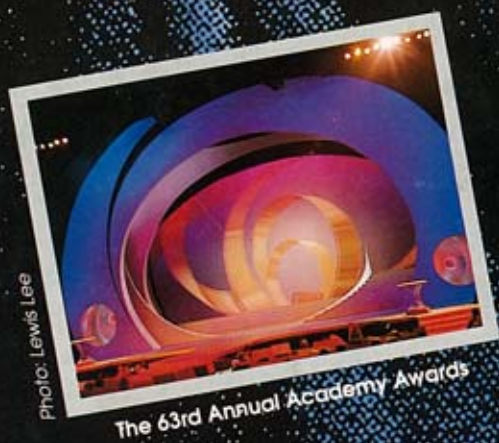


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The 63rd Annual Academy Awards



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The Arsenio Hall Show



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The American Music Awards



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