

Connections

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Connections

THE ENTERTAINMENT TECHNOLOGY MAGAZINE - JULY 1998 #56 - 6th year of publication

DATELINE INFOCOMM DALLAS, AS THE 'NEW' AV INDUSTRY PUTS ON 20% GROWTH

INFOCOMM '98 shone like a beacon in Dallas last month, as everything AV was on show at the main global industry event.

It was the year of the Flat Panel, and the LCD video projector. Or maybe the year of the shortage of network technicians, or the year of video and data integration. Such is the breadth and strength of the new and evolving AV industry.

The CRT projector is now dead technology, with countless thousands installed around the globe - all set to quietly just fade away, day by day.

DLP projection is coming, but the real stars of InfoComm were LCD projectors. The Digital Mirror Device (DMD) from Texas Industries may be the technology of the near future, but it hasn't quite made it. Yet.

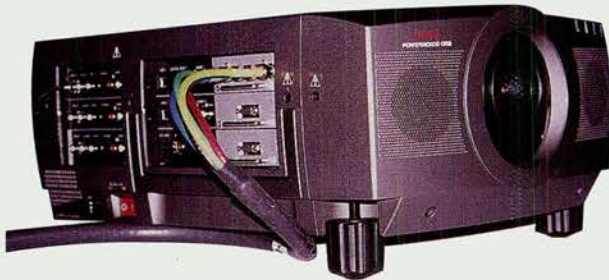
The electronic cinema moved closer to reality with the new Hughes JVC 1LA (Image light Amplifier) 12K projector.

Visitors at Dallas saw the 12k in the projector shootout, and many came away convinced that while traditional film may still have a slight edge in terms of contrast and colour, the huge

Hughes was just about there.

While INFOCOMM is the place where Sory, Barco, NEC, Sharp, Sanyo, Epson and others all battle to sell video projectors, it is also the Ground Zero venue for integration, system control, and even smart building technology.

•More coverage from page 19



Mighty Mini: this 1,700 lumen LCD projector from Eiki, Sanyo and Proxima is the same machine rebadged. Set to replace the CRT fleet in Rental Inventories everywhere. •See 'AV' inside from page 19

Whatever you mix for - film, video or music - you'll be doing it in 5.1 surround very soon

DVD audio spec. finalised

AMSTERDAM: The long awaited audio specification for DVD has arrived in 0.9 form.

DVD Audio will be compatible with the now available DVD Video, confirming that 5.1 surround sound is THE new standard mixing format.

The DVD Audio working group (WG-4) comprises 39 companies including Sony, Philips and Yamaha.

Many issues have been left to the content producers to decide, such as whether DVD au-

dio disks will be offered in straight stereo or surround sound.

What sound technology does the format allow?

All DVD Audio players will support a full complement of front/rear LPCM sampling rate and bit depth combinations including 44.1/88.2/176.4 KHz or 48, 96, 192 KHz - all at either 16, 20 or 24 bit depths. This allows a smooth transition from current recording technology to the widely rec-

ognised new state of the art.

The format also accommodates a number of optional recording technologies including Dolby Digital, DTS and DSSD.

The final version 1.0 specification is due by October.

•DVD spec detailed, p. 46

Carnies & the German Army show the way

By OHS writer
Anthony J. Musik

'By the pricking of my thumbs something wicked this way comes. Ring all the bells both loud and deep, Gods not dead nor doth he sleep'

So goes part of the rhyme of yore used in the Disney film about a infamous travelling circus known as Darkes Carnival. Ruled by the mysterious Mr Darke the show travels from town to small town and does all the spooky things that a name like that conjures up. You know, the stealing of wives and sweethearts and little children running away to join the show - never to be heard from again.

There seems to be still some prejudice about travellers. Hey, any one who has EVER worked a convention or trade show will tell you stories about what normal, average working stiff's are capable of, when they are away from home (just how many arrests on the next days headlines?)

I'm talking about accountants and the dental expo kind of deal and not the classic Rock n' Roll roadie from Wayne's World.

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~Publishers note~

We've tinkered with THE LOOK of your magazine, because it's time for some readers to take another look at what we cover here. While we are not abandoning any area of our coverage, we say that things change in a technology driven world, and we move with it. We happen to know who most of our readers are, via subscriptions, and welcome more (and more) AV trade readers. Clearly the corporate theatre market is enjoying healthy growth without apparent respite.

This month 100 pages.

August edition on sale at newsagents Wed 5th August, mailed to subscribers Friday July 31st.

To subscribe, get your issue faster, and save money against cover price, call 1-800-635-514 now!

Ouch! Workers Compensation premiums may quietly double

The problem with any growing industry such as entertainment technology, is that large industry leverage in the way of trade associations is not always available.

So it is easy for issues to get imposed without much chance of change. Witness the abrupt withdrawal of the VHF wireless microphone spectrum, for example.

Now WorkCover (NSW) have re-rated production crew premiums to the wood working rate of 5.7% - from 2.2 to 2.5% which was previously charged.

An appeal is in progress. Entertainment insurer Ken Killen from AON Risk Services advises all employers, nationally, contact their workers compensation insurers to check if the move will affect them.

SADiE 24/96 DAW

NEW: Studio Audio & Video Ltd have announced the launch of their new digital audio workstation, the SADiE 24 96. The system is capable of 192kHz editing and mixing, full surround sound, and may be configured to provide up to 32 inputs and outputs.

SADiE 24 96 lines up against ProTools 24 in the new mainstream DAW market created when 24 bit I/O became a 'must have' - less than a year ago.

SADiE 24 96 is the latest system in the SADiE digital audio workstation range, and has been designed to be suitable for any audio editing application including film and TV post production, CD mastering, music editing, radio production, telecine transfer, speech editing, education and multimedia.

Based around the Windows PC platform, the SADiE 24 96 cards are controlled by SADiE software. Each SADiE 24 96 PCI card is equipped with 8 inputs

and 8 outputs and can replay 24 tracks of edited 16 bit audio. 20 bit analogue conversion is built into the system and external converters are provided for by AES/EBU digital I/O on every channel.

Support for 24 bit 96kHz and 192kHz audio is standard, making every SADiE 24 96 system DVD-ready. The 8 channels of I/O make the card perfect for surround sound editing and mixing, which is supplied as standard in the SADiE software.

Included in every system is the CAT card, providing a timecode reader/generator and 4 channels of RS422 interface. The supplied Breakout Box 800 includes 8 channels of XLR digital I/O, XLR digital reference input, RS422 9-pin I/O, XLR timecode I/O and 8 channels of unbalanced analogue I/O. The optional Breakout Box 800B adds balanced XLR analogue inputs and outputs. • www.sadie.com or +61 2 9873-3994

WHY?

So WHY the stalker at the Sydney Grease performance last month? Who was it?

PRODUCERS

Is there an accreditation process for Event Producers? There ought to be, given what we hear about the organisational abilities -and competency- of some. Keep the info coming re. this, please.....

YES TAPES

CP Cases (UK) made an incredible find in its store room: seventeen master tapes recorded in 1972 and 1975 by rock legends Yes. Following their touring years between 1968 and 1980, members of Yes emigrated to the US leaving their touring cases with CP for safe keeping.

The master tapes, including live recordings of Yes at the Academy of Music New York, and appearances at Knoxville and Toronto were left undisturbed for 23 years.

During a recent factory clear out, Managing Director, Peter Ross came across the tapes and set upon a mission to return them to their rightful owners.

By coincidence, just weeks after the find, the group were to complete a European reunion tour at the Hammersmith Apollo, providing a golden opportunity for a safe return.

Over two decades later the tapes were returned to the band in two special presentation cases, witnessed by four of CP's original staff who worked regularly on Yes' cases.

SEEKERS TOUR BLUES

Things were a bit stressed when the Seekers tour hit far north Queensland last month. 'Put it this way - the crew are still here' said an operative. Some crew members had considered departing the tour mid-stream. It appears that the performers themselves are not to blame.

email@mail@conpub.com.au

Neumann's "Sound Engineering Contest 1998"

On the occasion of the 70th anniversary this year, Georg Neumann GmbH, Berlin is launching an interesting and entertaining contest for musicians, studio professionals, recording buffs and music fans worldwide.

This elaborately conceived multi-media quiz provides participants an opportunity to test their knowledge about all aspects of studio technology, instruments, acoustics and music.

There are valuable prizes to win: a U 87 Gold Stereo Set - Limited Jubilee Edition (pictured), an M 149 Tube Microphone, the brand new TLM 103 and much more.

The first prize also includes a trip to Berlin to visit Georg Neumann GmbH where the winner will be awarded the prize as part of the official anniversary celebration, in around October of this year.

Along with prizes for "the Top 70 - the seventy best entries



worldwide - all participants automatically qualify to win one of three TLM 193's in a random drawing. So it is definitely worthwhile to participate.

To get a copy of the contest materials on CD-ROM (Mac & PC, German & English), contact your local Neumann distributor, send an e-mail to contest@neumann.com, or fax your request to +49 (30) 41 77 24-50.

The CD-ROM also contains the complete 1998 edition of the Neumann catalog.

If you have a fast Internet access, you can download the Sound Engineering Contest (around 16 megabytes) from the Neumann web site at www.neumann.com and then start it off-line on your computer. It could also be a useful training tool, we think.

Occupational health and safety: Circus shows the way

Continued from page 3

Butcher, Baker Candlestick maker - who cares? People go nuts sometimes!

Yes, carneys (even corporate technicians) have got a bad reputation and just like the Romany gypsies there is an almost automatic human trait or instinct that seem to say "they are not from round these parts, so we must be/are better"

What is the reaction/solution when dealing with 'strangers'?

1. Kill them ... such as the cult of Thuginai which dealt with the ritual killing of strangers, all in the name of the Hindu god Kali. This is where we get the word thug, you get the general idea. (Or, as in 17th century Scotland, just eat them).

2. Send 'em back ...or keep

a really close eye on them ... not quite as severe as instinct # 1.

3. Learn from them. They aren't there supposed to be civilisations out there that are far superior to our own?

Yes, it is the third point that I want to deal with.

I can tell you in three words the way to deal with this basic human problem of prejudice and that is, ed-u-cation.

Yes, and as Shakespeare said, "We trick into learning with a laugh" and I think some of his shows are still playing!

How does this all relate to health and safety in the Entertainment industry?

Well, like all professions there is an us and them view which needs to be overcome. Just look the wasted human energy in inter service rivalry, like Army vs. Navy, Police vs. Fire etc, there is a lot that the various sectors of our industry can learn from each other.

At ENTECH a guy told me the

way he deals with OH&S at his TV network is to have all areas of production involved together from the outset. From conception of the idea to completion. With production designers and technical directors working in sympathy to achieve a common goal, "we didn't have to go up and down ladders all day. That for one makes it safer".

It is all about logistics and planning, and to illustrate with a tie back to the circus travelling bit from before is, that prior to the First World War, the Quartermaster of the Imperial German Army followed Barnham and Bailey's Circus train around the United States in order to examine the roll on roll off aspect of a successful travelling road show.

This study must of given them a few pointers on how to put on a really great war, where people got *killed* for a living. In numbers never before seen.

Talk about OHS efficiency!

ShowSafe Elections August 9th

ShowSafe, the entertainment industry safety association, will elect office holders early next month. The annual general meeting of ShowSafe will be held August 9th, at the premises of the Media, Entertainment and Arts Alliance at 245 Chalmers street, Redfern.

The MEAA have been strong supporters of ShowSafe, as have many production firms, venues, suppliers and Connections Magazine. Using the MEAA as the venue for the AGM doesn't reflect anything other than a practical, central location for the AGM.

All positions are declared open, the meeting commences at 12 noon sharp - and will be followed by a BBQ (supplied), but BYOG.

All interested are welcome.

30 years of entertainment technology '68 - '98

1968 The first demonstration of pulse code modulated digital audio was performed by Japan Broadcasting Corporation. The digital audio era was born.

1969 The first PCM recorder was prototyped by Nippon Columbia.

1970 Lennard and Strauss battle for market supremacy in Australia with column PA systems.

1975 The SP 40 was the lighting controller of your dreams ~ in theatre, and on the road. Strand release a three preset version with A + B switching.

1980 A new decade dawns, rock shows tour with double 4 way PA's loaded with JBL 2220, 2225 and with 2482 horns and ring radiators.

1982 The Compact Disk player is launched onto the world market.

1989 The BOSE 802 is the best selling pro audio speaker system in Australia.

• These are *random* and *fractured* events from The Connections Archives. Email us your historical highlights or corrections now, to- mail@conpub.com.au or fax to 'Historian', +61 2 9876-5715.



MAJOR TRADE SHOWS



Contemplating a study trip, possibly tax deductible, to any of these overseas shows? Feel free to call the editor if you need further information. Email julius@conpub.com.au, or call +61 2 9876-3530.

- **PALA**, July 17-19, Singapore. Ph +65 227-0688.
- **PLASA 98**, 6 - 9 Sept, London. Call +44 1 323 410-335. web: www.plasa.org.uk
- **AES 105th**, Sept 26-29, San Francisco. Fax +1 212 682-0477. web: www.aes.org
- **REPLitech Asia** Oct 19-22, Singapore. Fax +1 914-328-2020
- **LDI** Nov 13 - 15 '98, Phoenix. Ph +1 212 229-2965 web: www.etecync.net
- **NAMM**, 28-31 Jan 1999, LA. www.namm.com
- **AES 106th**, 13-16 Feb, Munich. Fax +1 212 682-0477. web: www.aes.org
- **REPLitech Europe** 23-26 Feb, Vienna. Fax +1 914-328-2020
- **NAB**, 19 - 22 April, 1999, Vegas, USA. www.nab.com
- **MusikMesse**, 3 - 7 March 1999, Frankfurt. www.messefrankfurt.com
- **PLASA SHANGHAI**, 13 - 15 April 1999. Ph +44 171 370-8231. web: www.eco.co.uk
- **NSCA**, April 27 - May 1, 1999, Nashville. Ph +1 904 273-2760, web: www.nasca.org
- **InfoComm**, June 10-12, 1999, Orlando. Info fax +61 2 9531-6777, www.icia.org
- **SMPTE**, July 13-16 th, 1999, Sydney. Ph. +61 2 9977-0888.
- **LDI** November 19 - 21st, 1999, Orlando. Ph +1 212 229-2965 web: www.etecync.net
- **NAMM**, 3 - 6 Feb 2000, LA. www.namm.com
- **ENTECH 2k**, March 5th - 7th, 2000, Sydney. Fax + 61 2 9876-5715. web: www.conpub.com.au
- **MusikMesse**, March 15- 19th 2000, Frankfurt. www.messefrankfurt.com
- **SIB**, March 26 - 29th, 2000, Rimini, Italy. Ph +39 541 711711. web: www.fierarimini.it
- **NAB**, April 8-13th, 2000, Vegas, USA. www.nab.com
- **NSCA**, April 27 - May 1, 2000, Las Vegas. Ph +1 904 273-2760, web: www.nasca.org
- **LDI**, 20 - 22 October, 2000, Las Vegas. Ph +1 212 229-2965 web: www.etecync.net

Philips upgrades sound at Bruce Stadium

CANBERRA: Philips projects has completed installation of a major sound system at Bruce Stadium - Canberra's premier sporting complex.

Philips designed and installed the 95dB (A) sound system for the eastern and western stands of the stadium, and incorporated the existing "back of house" installation into the new system.

The sound system for each stand consists of 22 speakers mounted on the underside of the roof awning, which have been strategically positioned to provide optimum sound level and clarity.

Sixteen 12-metre high sound poles were installed in strategic locations at each end of the stadium to ensure even distribution of sound to all parts of the seating and amenities areas. Several weatherproof speakers were installed on each of the 16 poles.

The new system has been designed to deliver background music and future EWIS capability, and includes specific speakers and J.L. microphones for open-air concerts, all of which will be controlled from a control room in the western stand.

Philips', Bruce Shelley, said difficulties with ground conditions and existing structures at Bruce Stadium had to be taken into account before the sound poles were installed.

"We could not use concrete plinths to erect the poles," he explained. "However, we were able to overcome the structural engineers' concerns by using chemical anchors for poles which were being installed on existing concrete slabs, and a

newly devised auger type pole footing for poles being installed on natural ground.

Because these methods did not require reinforcing or concrete it reduced the amount of time involved. In addition, the use of the auger footing meant the pole could be erected as soon as the footing was installed.

Philips installed eight hearing impaired loops in designated areas of the stadium to enable hearing impaired patrons to hear both public address systems.

Bruce Stadium is undergoing a major facelift, with the playing surface lowered by three metres to increase seating capacity. Amenities in the Western stand are being improved, while the Eastern stand is having a roof installed.

GAMES STADIUM ON SCHEDULE

KUALA LUMPUR: The Commonwealth Games' audio installation at the new Stadium in Malaysia's capitol is proceeding on schedule.

Total Concept Productions won the tender earlier this year, taking over from the original contractor. The job was already mostly wired, according to CEO, Tony Musico.

TCP have installed an EV speaker system at the venue, with 170 Crown amplifiers on a fibre optic control backbone.

TCP is based in Sydney, with offices in Brisbane, Melbourne, Coffs Hbr and KL.

RESEARCH PREDICTS MINI DISC BOOM FOR HOME ENTERTAINMENT

Forget DVD, newly-released research predicts the next big worldwide trend in home entertainment will be a boom in sales of mini discs, says TDK.

The research forecasts an almost eight-fold growth in global sales of mini discs between 1996 and 2000 - soaring from 35 million units to 275 million.

Japan will set the pace, accounting for 56 per cent of all sales. But a rapid expansion in the popularity of mini discs is expected in Europe over the next two years.

Dennis O'Sullivan, Australian TDK General Manager (Sales and Marketing), says.. "The trend in Japan, Europe and the US is also evident here, with the Australian market growing at 35 per cent annually.

"As new and different brands become available, mini disc re-

orders will become more affordable and the market will grow even more rapidly. Australians traditionally adopt new technology early and mini discs provide an audio medium which is digital, recordable, compact and has no loss in quality over time. This is a major benefit for archiving."

The study, carried out by the Japan Recording-Media Industries Association, indicates that with changing technology, audio cassettes will lose further ground as consumers switch to mini discs and recordable CDs.

It predicts the worldwide fall in demand for audio cassettes, which began in 1994, will gain pace - with an 18 per cent dip in sales to 1500 million units in the four years to 2000. In Japan, the market is forecast to shrink by a massive 49 per cent over the same period.

Singapore Concert Slowdown

By Nazir Keshvani

Given the bleak situation with Southeast Asian economies, it certainly comes as no surprise that the concert scene in Singapore has declined considerably.

Just in the first quarter of this year, a series of high profile concerts have been nixed. More cancellations seem likely.

"I don't think the legends and the big stars are going to come for the next two years," said Mr Michael Roche, director of Lushington Entertainments which has previously brought in Elton John, Eric Clapton and Bob Dylan.

One possible alternative is to scale down the hype. Mr Roche says: "We will try to get the younger bands and alternative acts." They typically draw a crowd of up to 4,000 — enough to fill the Harbour Pavilion.

Ms Colleen Ironside, manager of Frontier Asia Promotions, also points out although alternative bands may have smaller followings than mainstream acts, these are more loyal and dedicated. "These are the teens and 20-somethings who are least likely to be affected by the economy," she said.



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KOSPRO INSTALL INDONESIAN THEATRE

In the midst of the worst economic crisis in thirty years, an Australian company, Kospro International, pulled off a large project in Indonesia.

A division of Kosmic Electronic Industries, Kospro International are based in Perth, Western Australia and have successfully launched themselves on to the South East Asian market.

The **Teater Tanah Airku** in Jakarta, Indonesia is the country's first Performing Arts Centre and was opened in late April by none other than former President Suharto along with Vice President (now President) Habibie.

The theatre is a 1200 seat conventional auditorium with a fly tower and also upper balcony seating. System designer Rob Scott, a Director of KEI and Manager of Kospro Int. used EAW for the main speaker system along with Australian Monitor Amplifiers and ARX Equalisers (see equipment list).

"To undertake such a project in Indonesia was indeed a challenge, but I had great confidence in our abilities and experience. Everyone asks us, 'Did you get paid?' The fact is, we were paid upfront before the equipment left our shores and three weeks before we started on the project - none of our Australian customers are that good!" says Scottie.

"We had already done some Studio installations in Indonesia based around our DSP DAW equipment, but this was quite different and much bigger. However, this is what we do in Australia, so it was just a case of organisation and attention to detail".

Kospro won the contract to supply & install:

- The Main Theatre Audio System;
- Foldback System;
- Theatre Communications System;
- Cast Call/ Program Relay System;
- Foyer and Ancillary BM Systems;
- CCTV System;
- Infra Red HOH System
- Multi Media Digital Audio Workstation System;
- Stage Equipment, Microphones, etc.

Kospro carried out the physical installation with a total of five Australian personnel and were assisted by four Indonesian personnel. The installation team were supervised in Jakarta by Rick Browne. A veteran in the audio industry known for his work at NOVA Sound in Melbourne and Burswood Resort Casino, Perth.

Rick joined Kospro six months prior to the install and it was his first trip to Indonesia.

The crew finished the installation inside the scheduled four weeks.

The theatre is a study in the latest high tech equipment on the market. Apart from 1998 Sound Reinforcement technology, the theatre boasts two massive Lasers (installed by LCI, UK) and the first DSP DAW installed into a Theatre, for automated playback of Multi Media through the Surround Audio System.

KOSPRO are active in Indonesia, Singapore, Thailand, Phillipines, Malaysia, Vietnam as well as Australia.

Tel: KOSPRO +61 8 9242 5999



On Tour with Ms. Minogue, and Led Zeppelin (Page & Plant) caught at the warmup gig in London. Go to page 59

✓ MOVES

• **Pro Music Australia** have relocated to: 12 Enterprise street, Richlands QLD 4077. Phone +61 7 3375-6400, f 3375-6233.

• **Lake DSP** is now at Suite 502, Level 5, 51-55 Mountain street, Ultimo. Call +61 2 9211-3911, fax +61 2 9211-0790.

• **Showcorp** (Sydney) are back in Artarmon, at 32 Punch street,

Artarmon 2064. Call +61 2 9566-9388, fax +61 2 9966-9444.

• **AVLA** (Audio Visual Lighting Australia) has moved to 19 Regal Place, East Perth 6004. Call +61 8 9221-1888, fax 9221-1444.

• **Sylvania Lighting Int** has relocated the Victoria operation, to Riverview Business Park, 87 McCreland st, Footscray 3011. Call +61 3 9689-7833, fax +61 3 9689-5611.

Theatre installation Shopping List

Speakers (FOH & Foldback)

EA W KF300	x 3
EA W SB528	x 2
EA W MK 1594	x 4
EA W UP82	x 6
EA W UP42	x 2
Yamaha 21 15 111	x 4
Yamaha 21 12 11	x 4

Amplifiers

Aust Monitor A M160011	X 9
Aust Monitor AM3002	x 2
Aust Monitor C600	x 2
Aust Monitor C300	X 1

Consoles

Mackie 40/8
Yamaha 03D
Yamaha MC 32/10

Processors

ARX EQ60	x 7
ARXEQ30	X 1
Yamaha SPX 990	X 1
Yamaha Rev 500	x 2
Sabine SDA 102	x 4
EA W MX300i	X 1
A RX Afterburners	x 2
RA NE MX22	X 1

DSP Digital Audio W'station X 1

Talkback

Jands E400 Master Station	X 1
Jands EJ 00 Belt Packs	X 10
TELEX Headsets	X 10

Euilight System

Metro MA-QL 8	X 1
Metro MA -SMA C	X 1

Infra Red System

Sennheiser IR Mono Radiator	x 1
Sennheiser Trans' Boosters	x 2

Sennheiser headsets HD191 x10

CCTV

68cm Panasonic Mon's TC29S9	x 2
34cm Panasonic Mon's TC14E22 x 6	
AVC Video Distribution Amp's	x 2
Panasonic WVCP410 Camera	X 1

Hardware

Custom Racks and Patch Panels manufactured by Jandy Electronics, and Electro Acoustics, Perth.

Never use tape playback systems again.

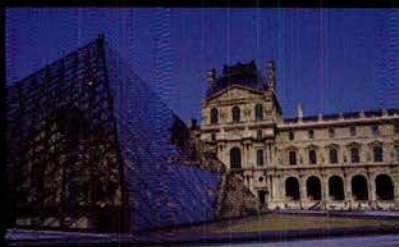


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Write in Reader Service Number: 109



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*Steve Devine holds numerous records for excessive behaviour any of which would be incriminating if detailed here.

** Viagra™ is the registered trademark of Pfizer USA.

Write in Reader Service Number: 186

This will be the most imitated speaker on the market.

Again.

Eighteen years ago, Meyer Sound rocked this industry by introducing the most sophisticated loudspeaker yet--The UPA-1 featuring the first trapezoidal cabinet (US patent # 271,967) and the first professional loudspeaker with dedicated control electronics*. It was eventually imitated by almost every other loudspeaker manufacturer.

Today, the Self-Powered UPA-P radically improves upon its classic predecessor by perfecting every aspect of loudspeaker design: High SPL, low distortion, high efficiency, linear response, precise coverage, consistent performance, and unbeatable convenience.

The new UPA-P is a revolution. Only the progressive thinking and uncompromised engineering of Meyer Sound could produce a system this powerful, this flat, this compact.

Flat phase response +/- 35 degrees from 600Hz to 16 kHz. Great response for a studio monitor, unheard of in a high power PA product... until now.

An integrated, powerful 2-channel amplifier for over 1000W peak power (350 Watts/channel). No amp racks, no complex and costly wiring, less truck and storage space, faster installation time.

133 dB peak SPL at one meter.

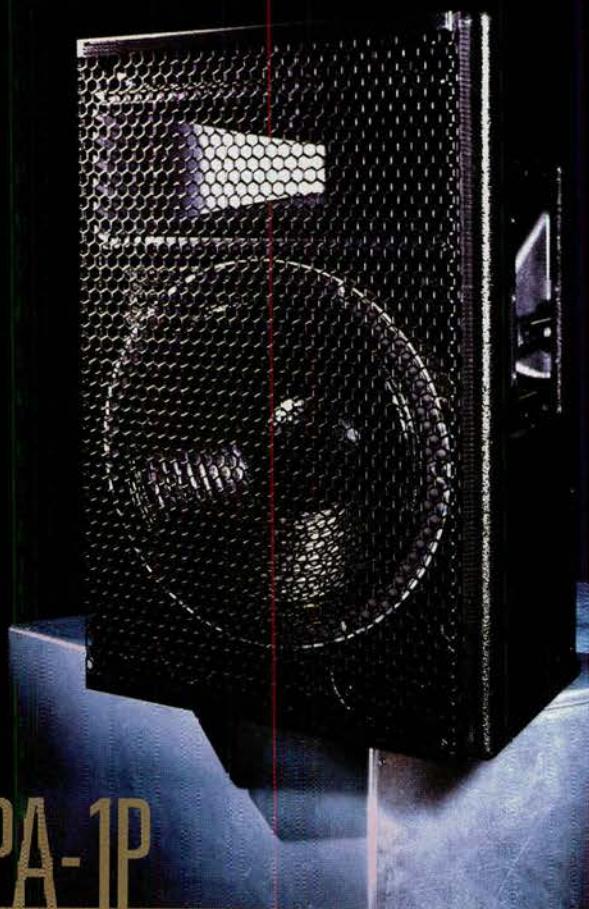
A new constant directivity CQ™ horn, the culmination of years of research in our own anechoic chamber, guarantees the most accurately defined high-frequency coverage (Pat. pend.)

Only 77lbs total weight.

An Intelligent AC™ system that automatically adjusts to the operating AC line voltage from 80 to 265 VAC.

CE and UL Approval.

Do the math. The Self-Powered Ultra Series is surprisingly affordable and costs substantially less than conventionally amplified systems.



UPA-1P

The Self-Powered Ultra Series

*You owe it to yourself
and your business to hear this system.*



Meyer Sound Australia - 4 Gordon Street, Newstead, QLD, Australia 4006 - PO Box 595, Aitken, QLD, Australia 4010 -
Ph: +61 7 3252 4493 - Fax: +61 7 3252 3380 - Email: meycraus@powerup.com.au - Website: <http://www.meyersound.com>

John Meyer holds numerous patents including a low distortion driver/horn combination which is utilized in the UM-1P, and one for the perfectly aligned phase response through crossover (zero-pole crossover) utilized in both the UPA-P and UM-P.

Write in Reader Service Number: 185

Media Matrix system enters 2nd generation

NEW: Media Matrix is the fully integrated audio control system of choice for many contractors in the Asia-Pacific region. Since introduction several years back, it has allowed complex system design to be integrated into 'internal' functions within dedicated 'smart' hardware - avoiding rack upon rack of traditional, analogue audio control equipment.

The one limitation has been that the BOB (Break Out Box) has been restricted to local

operation near the 'mainframe' Media Matrix PC. Designers have gotten around this in many ways, but the mainframe still needed to be located in a central patching room, very near to actual audio connections.

Now Peavey have released a CobraNet HUB option for Media Matrix, which means that network protocol and ethernet cabling can be used between system components.

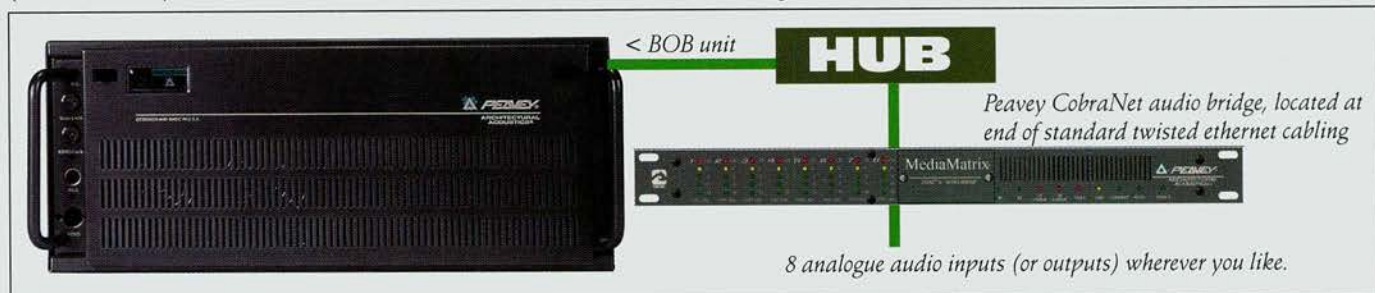
This totally frees up the design possibilities for Media Matrix. In doing this, Peavey

have introduced a new Windows NT network version of their mainframes and BOB's, and the communication protocol is TCP/IP-allowing remote modem access to a system.

Four new mainframes will be released supporting NT networking, and a new software version (3.0) will be required.

• Background on Media Matrix: the idea is that you can configure by PC whatever audio processing you require internally within a mainframe, so you can have 64 discrete channels of processing, EQ, limiting and mixing - with audio connected only once in and once out, to BOB units attached to the mainframe. Saves serious time, hardware and cabling.

Details: Audio Telex Communications, +61 2 9647-1411.



Plug & Play recorder

NEW: This is the answer where easy audio recording is desired, and probably where a quarter inch analogue recorder is to be replaced.

The OTARI DX-5050 is a completely self-contained unit utilising 3.5" Magneto Optical Disk (MOD) technology for up to 60 minutes of 44.1 kHz stereo recording on a single 640Mb disk. These latest generation MO Disks offer a compact, inexpensive recording solution without the reliability and access time problems often associated with tape-based digital recorders.

Importantly, the DX-5050 has true 'instant Start with no audio delay at start-up. In other words, press and play without delay.

No data compression is employed by the DX-5050 and use of the PC-Standard *WAV File data format ensures easy and direct file

exchange with almost all PC or Macintosh-based DAWs via SCSI.

Operation is extremely straight forward with traditional tape transport type controls used for recording & playback. Intuitive Cut & Splice Editing, with Jog/Shuttle Wheel and built-in Monitor Speaker allows rapid compilation of programme material. Once edited, programs can be numbered, named and placed in a Playlist with instant access available via 8 dedicated buttons.

Analogue audio connection is via balanced XLR's whilst AES/EBU & SPDIF (co-axial & optical) digital audio I/O's are also available. In addition, the DX-5060 is fitted with a SCSI port as standard together with both Serial & Parallel ports. Inc tax A\$5,830.

• **Amber Technology (Australia) +61 2 9975-1211.**

EV re-work N/D microphones

NEW: Market leading in many territories and sectors, Electro-Voice's Neodymium microphone range has had a makeover. A new series of seven N/D series microphones is available from A\$279, while three new RE condenser microphones are available from A\$539.

Setting the scene is the new N/D 367 female vocal microphone, (A\$349) the first gender specific microphone we are aware of - but answering a specific performance requirement. Added sensitivity in the 1-2kHz region and a controlled response over 2kHz helps to reproduce the female vocal range without low end boominess.

The mic has a cardioid polar pattern, a dynamic range of 144dB, and a new 'warm grip' handle texture. The response is 30 - 17,000Hz (close) with a bit less low frequency response when further from source.

• EV enquiries: +61 2 9643-3455



Credits

Let Love Rule

Mama Said

Are You Gonna Go My Way

Circus

5

"I cut^{my} latest album 5 entirely in Pro Tools... **no** tape!"

- Lenny Kravitz

Lenny Kravitz refuses to be limited by his creative tools.

"I turned to Pro Tools, because I felt like a kid who needed more crayons to play with. Now anything is possible. I record everything into Pro Tools and have this tremendous palette to work with. It's all album-quality, so I can piece songs together and mix them however I like. There are no boundaries."

Wait a minute: Isn't Lenny, like, an analog guy?

"I can still run sound through my old tube equipment or use Plug-Ins like flange or some weird little filter. Any color that I want, I can get with Pro Tools. It depends on the record I want to make. Pro Tools is the future."

Lenny's finally found a box of crayons as unlimited as his imagination. Isn't it time you had the tools to expand yours?

For more information about Pro Tools and Third-Party Developer products, call 61.2.9568.1711 for a free Pro Tools video, or to schedule a free demo.

www.digidesign.com
www.avid.com



LENNY KRAVITZ, ARTIST | PRODUCER | SONGWRITER



DS-15



Active power



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The new DS-15 Active Power. A high performance sound reinforcement system created by D.A.S. Audio that amazingly simplifies any portable application.

Easy to carry, transport, setup and use, this internally bi-amped system shares the advanced design technology and outstanding sound quality that gives all D.A.S. products the winning feature you depend on... absolute value.

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- > Line Volume Control
- > Mic Volume Control
- > Adjustable Mic Gain
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- > Line Out
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- > Ergonomic Handle located at centre of gravity
- > Floor Monitor Position
- > Rigging Points
- > Optional FUN-15A Protection Cover with Cable Collection System
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- > Input Impedance: Line - 20 k Mic - 2 k
- > Sensitivity: Line - 0.75V (-0.28 dBu)
Mic - [3mV, 150mV] (-48 dBu, -14 dBu)
- > Acoustic Frequency Response: 50 Hz to 20 kHz
- > Maximum SPL at 1 metre: 121 dB
- > AC Power Requirements: US - 120V, 50 Hz/60 Hz
Europe/Asia - 230V, 50 Hz/60 Hz
- > Dimensions (H x W x D): 68 x 44.2 x 36 cm
- > Weight: 23.4 kg
- > Low Frequency Power Amplifier: Rated Power 150 W RMS
- > Rated Load Impedance 8 : Rated THD 0.01%
- > High Frequency Power Amplifier: Rated Power 50 W RMS
- > Rated Load Impedance 8 : Rated THD 0.01%

D.A.S.
SOUND PRODUCTS

AVSOUND SLIP INN MARTIN

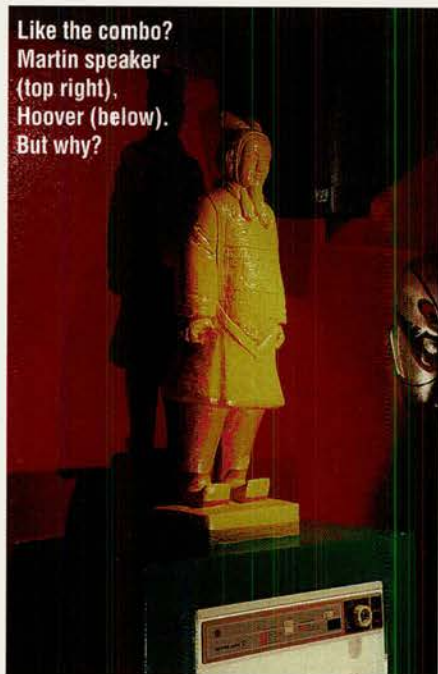
INSTALLATION: Sydney's famous Royal George Hotel on the corner of Sussex and King Streets has been renamed Slip Inn and reinvented with an architectural renovation and technical refit.

The pub features four levels of entertainment with numerous bars, pool room, poker room, dance venues and three restaurants. The restaurant on the Sussex Street level features a unique system of paging when orders are ready. A vibrating pager is given to each patron as they order, they are then free to roam throughout the Slip-Inn in the knowledge that the pager will vibrate when their food is served! True, all true.

Martin Audio Speakers and QSC amplification is featured throughout the complex with a total of 46 EM26, 8" two way speakers, five EM76 12" two way speakers, four EM15 double 5" ICT speakers and 18 MX1500 600w/ch power amplifiers.

Slip Inn owner Justin Hermes chose Martin Audio speakers after reviewing a number of alternatives- 'although we've used the EM26 in some of our other venues, we spent time comparing options. In terms of sound quality, Martin came out on top again - which was a decision well received by the architects as the compactness of these speakers and their general good looks was what they were after.'

Basement 2 on the Slip Road entrance features two very unique dance areas; The Cave and The Chinese Laundry. The Cave is located in an section that was once a storm water channel. Although the water was diverted long ago the old sandstone foundations remain - complete with some very heavily eroded floor and column blocks! In no way assisting the fragile foundations are five EM76's with two WS2 double 1V subwoofers.



Like the combo? Martin speaker (top right), Hoover (below). But why?

The other venue on Basement 2, The Chinese Laundry, features a remarkable collection of Chinese figure statues complete with washing machines and mirrored walls. Fourteen EM26's and three ICT300's generate more than adequate volumes.

Sydney contractor Avsound installed the entire audio system. MD Matthew Kline commented 'consistency across the range was a very important feature for this job. In every location we were able to use a Martin Audio speaker which was consistent in appearance, consistent in capability and consistent in great audio quality. Needless to say everything is powered by QSC MX1500's which for us has redefined reliability in a power amplifier!'

• AV Sound +61 2 9984-2644

dSP ships OMF Connect 2.1

Open Media Framework Interchange with Desktop and Poststation Systems

NEW: dSP (Digital Studio Processing) is now shipping its OMF Connect Version 2.1 software. Available for Windows NT, OMF Connect imports and exports OMFI standard files for the dSP Desktop and Poststation digital audio workstations.

"More and more facilities are receiving projects from a variety of workstations said dSP's David Richards OMF Connect's product manager. "Now post production professionals can integrate file and project formats from OMF compatible equipment in a fast and simple way - off-line to the main editing stage".

"Compatibility was our big reason behind getting the dSP," said Chris Anderson, Chief Engineer, at Sound Techniques Inc., Boston, MA USA. "It's the first system to truly use OMF to it's full capability".

OMF Connect will import and export OMFI tiles to dSP Projects, import WAV and AIF files from DOS or Macintosh disks, and export dSP AudiCS files to WAV or AIF files. It is OMFI version 1.0 and 2.0 compliant.

- dSP (Digital Studio Processing)
- Call 61 2 9667-2292 or www.dspl.com.au

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Adelaide Tel: (08) 8293 8155

E-mail: australia@gearhouse.com

CAD VX2 Dual Valve Condenser Microphone & Optional Digital Interface

NEW: The new CAD VX2 tube microphone features a design architecture that is unique as its appearance. Each side of the extra large condenser capsule has its own independent tube head amp and output amplifier, including separate output transformers.

The dual tube design allows the head amp tube to be optimised for low noise, while the output tube is optimised for driving the transformers and cables. Polar pattern switching is done at the output rather than at the capsule.

The computer optimised design results in a noise floor that is lower than many FET mics, but still has lots of headroom. This is all done without having to resort to a solid state output section that could detract from the true tube sound. The tube circuit has also been optimised for flat phase response and has a bandwidth that extends beyond 100kHz, say CAD.

The new capsule in the VX2 is extremely large with an actual diaphragm diameter of 1.25 inches. The high tension diaphragms are aged, gold spluttered, and made from the newest three micron thick, high strength polymer film. The other capsule components are precision machined, electroless nickel plated brass and stainless steel. Each capsule is hand dampened and assembled in a state-of-the-art clean room facility.

The screen/capsule assembly is easily re-



movable in the field. CAD will further increase the versatility of the VX2 by offering additional capsules which will be tuned and optimised for various recording applications.

You can also get an optional 24-bit digital output module for the VX2 with 32 to 96kHz sampling rates and 120 dB dynamic range. • Around A\$2,000. Australian Audio Supplies, +61 2 4388-4666.

✓ TRAINING

JANDS continue their Industry Nights, held on the first Tuesday of the month in Sydney, to introduce new products and technologies. No entry cost, just walk up to The Globe venue, at 379 King street Newtown.

- **Tuesday 7 July** - Digital mixing with Spirit Digital 328;
- **Tuesday 4th August** - Moving Light control with the Echelon 1k.

Times: 6.30 until 8.30pm, snacks and light refreshments supplied.

OZ EVENT '98 is a two day conference package assembled by IIR, who stage *literally thousands* of conferences each year around the globe on almost any topic.

Supported by the International Special Events Society, Oz Event (conference number MO988) features either a two day full program (A\$1795), a one day workshop (A\$995), or a half day workshop (A\$595).

- The dates: **27 & 28 July**.
- Venue: Forum The Grace Hotel, Sydney.
- Details from IIR, call +61 2 9923-5090, or go look at www.iir.com.au

✓ PEOPLE NEWS

BUNDLE OF JOY DIVISION: Congratulations to **Kent Dayhew** (Trade Sales Manager) of Lightmoves (Sydney) and partner **Ros** who gave birth to baby **April Grace** recently!

LIKEWISE to **Shirley Jensen** and **Murray Rogers** of Zytecraft (Melbourne), who have a new grilchuld youngster called **Taylor!**

MARC HUNTER is the Australian musician fighting cancer who had a very successful benefit concert staged on his behalf recently. A double live CD, and a video are the result.

Many leading musicians appeared at the concert and the result is a reworking of most of Hunter's songs from his time as lead singer for rock group Dragon.

The CD's and the Video are only being sold DIRECT, at A\$19.95 each. Call 1-800-333-888 to order yours and to help Hunter.

NEWS DEPT: Fax: +61 2 9876-5715, Ph +61 2 9876-3530; mail PO Box 439 Epping NSW 2121 Australia, email mail@corpwb.com.au

D.A.S. DS-15 SELF-POWERED LOUDSPEAKER

NEW: The amp is in the box, a trend which Meyer Sound have most successfully mastered this last few years.

The D.A.S. DS-15 Active Power is the materialisation of this concept. A lightweight and practically indestructible polypropylene cabinet configured as a bi-amplified two-way system, incorporating a 150W amplifier for the low frequency transducer and a 50W amplifier for the high frequency driver.

Both high performance audio amplifiers have been designed and manufactured using CAD techniques and high precision surface mount technology.

D.A.S. has designed the low frequency amplifier circuitry to operate in bridge mode, which quadruples the power, as opposed to conventionally lowering the impedance of the low frequency transducer, diminishing speaker performance. A low impedance component is one approach taken by some manufacturers to get more transducer gain with less amplifier power.

Protected against overvoltage, undervoltage, overloads (including shorts to the supplies), thermal runaway, and instantaneous temperature peaks, these amplifiers exhibit low distortion levels and a high end sound quality, says D.A.S.

The proprietary (they build their own) low transducer uses high pressure injection moulded aluminum chassis to minimise magnetic dispersion. A mix of composite fibers and resins are used for the cone, making it extra rigid and resistant to moisture.

Critical for intelligibility, the DS-15 uses a full compression driver that incorporates state-of-the-art winding technologies like an edgewound copper clad aluminium coil spun onto a high temperature Kapton former. The coil assembly is bonded to a pure titanium diaphragm which exhibits superior molecular fatigue immunity than aluminium. The constant directivity horn design ensures uniform coverage and minimum distortion.

• **approx A\$1500, from Magna Systems, call +61 2 9417-1111.**



Screen Sound Awards

SYDNEY: Nominations for the first Screen Sound Guild Awards closed at presstime. The Awards are the first to recognise the craft of sound production within Australia, and will be handed down at Awards night, on Tuesday September 29th.

Categories for TV and Video include Best Achievement in Sound awards for Current Affairs, Lifestyle program, TV Drama, Documentary, Educational or Corporate, and Commercial.

In film sound, categories are for Best Achievement in Sound include Location sound recording and boom operating, Dialog editing/ADR, FX Editing, Foley and Mixing.

The Australian Screen Sound Guild have determined a judging process and criteria for entry and voting, and hope the Awards will become an annual event.

• **Details: ASSG +61 2 9973-1677.**

ON SET NOISE: ASSG REPORTS

The Australian Screen Sound Guild has released findings of a study by AMPS, their UK equivalent organisation.

Of all sources of unwanted noise, Lighting Equipment fan cooling rated worst, followed by buzzing dimmers.

Camera equipment, base camp noise, costumes and other extraneous noises were debated in the report.

Lighting Equipment noise problems were often compounded by lack of instruction to lighting crew, who could switch some ballasted equipment from noisy 'flicker free' to silent synchronous running. Electromagnetic emissions from dimmers were also criticised, with Sound Mixer's urged to use quad-flex type microphone cables, and to take care with cable running near lighting equipment.

AMPS have written to Lighting manufacturers seeking dialogue. More on this later.

Pacific Circle Music conference in October

SYDNEY: Pacific Circle Music is Australia's answer to the genre of International music Conference and festival. Now in its second year, Pacific Circle Music takes place from the 15th - 18th October 1998 at the Old Sydney Harbour Casino on Sydney's harbourfront. Founded by Frontier Touring chief Michael Chugg, the event comprises four programs - Convention, Exhibition, Education and Showcases, and will feature over 200 bands from Australia as well as International acts - all tours in Australia at the time will be connected to the event.

Pacific Circle Music is the new umbrella term for the event, and as such, it aims to attract a wider audience to its Convention program with the introduction of a wide range of "How To" panels (focusing on in-

dustry professions marketing, producing, songwriting, managing etc). The Convention will also play host to four days of Masterclass sessions which will pit the aspiring Australian against an established Australian and International musician for a day-long jam session.

The Pacific Circle Music Exhibition, like the Convention program, will involve the aspirant as well as the established business person. Stalls representing publishing, new media, technology, ticketing and merchandising, Pacific Circle Music will welcome more artistic exhibition pieces, from professional photography to art produced by students and young people.

• **Details from www.pcmc.com.au or call +61 2 9211-1466.**

FINALLY A WAY TO PROVE SHIPPING DAMAGE

Freighting equipment is always risky, some gear (like speakers or video projectors) are extremely susceptible to impact damage which may leave the enclosing roadcase unmarked. To prove such damage has occurred in transit, or get compensation, is often time consuming - and not always possible. Enter **Shockwatch**, a \$4 label which changes colour if an object endures a predetermined impact.

'A Shockwatch label alerts handling personnel that a shipment is being monitored', says John Scott from Shockwatch Pty Ltd. The label colour changes from clear to red following a chemical reaction caused by an impact. It is tamper proof, and unaffected by normal movement and road shock. A companion Tiltwatch label is available for shipments which must travel one way up.

• **Details from Shockwatch Pty Ltd +61 7 5534-6956.**

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The Control Contractor Series. Quite possibly the most significant advance in sound contractor's tools since the fishtape.



Lightly textured exterior surfaces and HIPS material provide excellent paintability, to adapt speakers to any decor.



Newly designed brackets allow speakers to be arrayed up to 360° with no high frequency overlap, thanks to precise 90° x 90° dispersion horns.



Weather resistance is maximized with features like screened port tubes and WeatherEdge™, our seamless weatherproof woofer surround.



JBL's patent-pending Invisiball™ mounting system revolutionizes ease-of-installation, greatly reducing installation time.



CONTROL 23

Delivers crisp, articulate sonic quality in a compact model; ideal for limited spaces; 50W; 225Hz-20kHz frequency range.



CONTROL 25

Features mid-range size, power and performance; 150W; two-way; 5.25" low frequency transducer with a horn-loaded 3/4" titanium-coated tweeter; 150Hz-20kHz frequency range.



CONTROL 28

Offers the highest power, performance, bandwidth and sensitivity available; 175W; two-way; 8-inch low frequency transducer; 1" titanium-coated tweeter; 100Hz-20kHz frequency range.



CONTROL SB-2

Slot loading vented bandpass subwoofer with dual voice-coil 10" bass transducer; tuned to complement all full-range Control Contractor Series systems.

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INFOCOMM 1998

AV, an industry in transit

SPECIAL ICIA CONVENTION REPORT BY JULIUS GRAFTON

DALLAS: While the Corporate Theatre market in the USA alone is worth an estimated US\$6 billion each year, it alone doesn't actually drive INFOCOMM.

AV or audio visual is also called multimedia, or it was before the computer trade snagged the name. But it also includes system integration, and INFOCOMM is full of control products and concepts.

You may think of a video wall as a retail tool or a presentation device. In fact that technology is found in high technology control rooms, as are video projectors.

I was told that the 'corporate theatre' market only accounted for a quarter of sales at INFOCOMM, so this would mean that those technologies shown there amount to a somewhat mega market.

It's a trade exhibition with a powerful support programme. The trade show floor stretches off into the distance with big names like Sony, Toshiba, Sanyo, AMX, Crestron, Barco and NEC all staging very, very substantial displays.

Commitment is the thing. As a student of how trade shows work around the world, I've yet to find a show that matches INFOCOMM as a package. The picture below provides some clues: plush carpet in the lobby, custom decor pieces, big signage, manageable crowd density.

These are all part of the 'black art' of professional trade show management, but in the case of ICIA, the non profit trade organisa-

tion who operate INFOCOMM, they put back plenty. Which benefits the visitors, which in turn benefits the exhibitors.

You find vision products there, the most obvious being video projectors in every shape and iteration. The 'Shootout' is a famous event where almost every video projector is grouped together in a darkened hall the size of a jumbo hanger, and fed the same signal.

In the 'low rent' (or cheaper LCD projector) hall, the screens stretch off into the distance, offering differing hues and contrast. Colour tolerances are easy to compare, less simple is the actual ANSI lumen output - it is measured and posted on the ICIA website - but side by side, it is actually hard to discern which is brighter than what.

More power to the ICIA.

This show is a venue where you can browse quality exhibits for three days, attend exhibitor functions, and if necessary find a seat and a coffee without hassle.

These people understand how delicate their market position could be, and so they work hard to maintain and build it.

I can only compare with another show I recently attended where the chairman called a press conference to congratulate himself and his acolytes, who all nodded and 'heard' into their cocktails and canapes, oblivious to their shrinking place in the world.

At INFOCOMM you've got emerging technologies, and the experts on hand to help explain them. That's what it's all about.



www.conpub.com.au July '98

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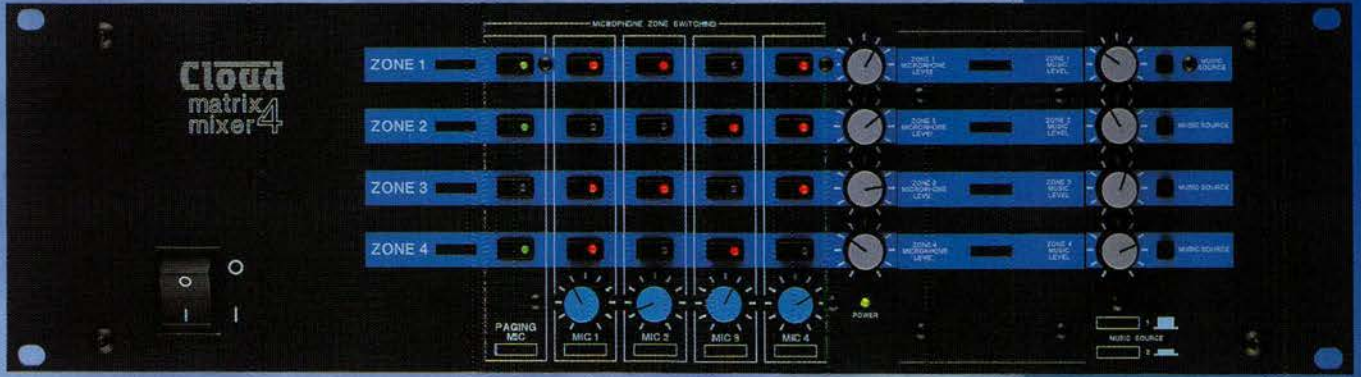
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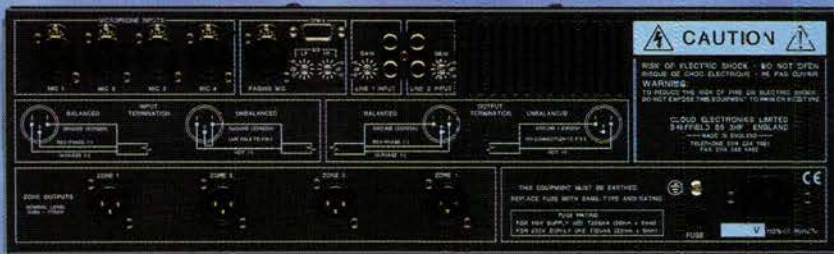


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What you get



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The Projection Smorgasboard

By Michael Hassett

DALLAS: Hughes-JVC positioned a 12kw ILA device as a replacement for film projection in cinemas.

This was done very effectively with the source being generated from a High Definition source. They were showing excerpts from Titanic, Jurassic Park and 5th Element as transfers from 70mm to HD, as well as recordings that were acquired using HD cameras.

The imagery was amazing - particularly the HD stuff, I have not seen levels of Black on black that has so much detail and contrast. The sound was DTS with Meyer suppling the Grunt.

Overall I would prefer to view movies in this way rather than putting up with the jittery images from film. The definition and detail were there along with a very bright image. Two thumbs up for the potential of digital projection in cinemas.

Projector shoot out

As expected a vast array of LCD devices based upon XGA chips, a number of 3 chip DLP devices and a new offering by Hughes made up the compact arena.

There was a sneak preview of Barco's future mid range device.

As I was on the hunt for a device to fit our mid range and main market needs I paid no more than a passing glance at the new large venue offerings. It appears that all the major manufacturers are heading for the top end 5,000 lumens- and at A\$100k plus, big is not necessarily beautiful. Ever heard the term: better faster, cheaper - think about it.

Digital Projections came out with 3 new devices. The 7GV, 5GV and 3GV, all based upon the TI XGA 3 chip, performance was impressive in video, and DATA very adequate at 1024 x 768 - but as with the previous chips, it is recommended to use only the native resolution XGA as the scaling up or down isn't great. Switching between sources was less than acceptable, and pricing (particularly due to the dodgy Aussie Buck) was on the high side, from \$68k to \$120k US.

Barco had no moves on the Reality series, just some enhancement in colour balance.

Sony had nothing to add to their stable except in the low end with a very cute tiny little LCD thing.

Electrohome brought out two

(continues over)

2km cable run with Fibrevision

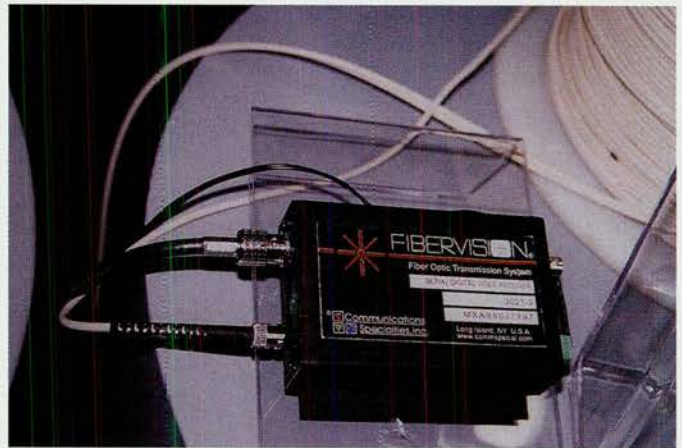
NEW: Communications Specialties showed the Fibrevision Serial Digital (SDI) Video Transmission System at INFOCOMM.

Ideal for integration into a huge range of applications, including broadcasting, videoconferencing and video production, Fibrevision SDI Video Transmission System equalizes the SDI input and provides two (2) re-clocked SDI outputs at the receiver, in accordance with SMPTE 259M, 293M and other similar digital video standards, with speeds up to more than 360 Mb/s.

Consisting of a transmitter and receiver (each priced at about A\$2500), this system is designed for use with multimode optical fiber. Fibrevision SDI Video Transmission System supports distances up to 2 km with no degradation of signal. The system is adjustment free and built-in regulators allow both the transmitter and receiver to operate from low voltage, unregulated DC power sources, providing unparalleled versatility.

"With the evolution of new video standards comes the need for reliable transmission of SDI signals over great distances," explain John Lopinto, President and CEO of CSI. "Fibrevision SDI Video Transmission System meets the challenges of this new era by providing a high quality, affordable, solution for the transmission of serial digital video."

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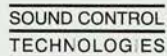
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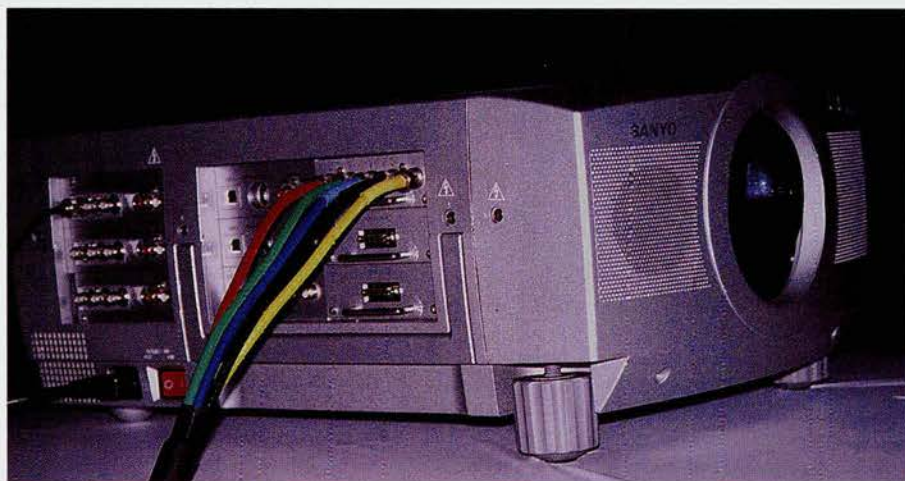
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Write in Reader Service Number: 139

interesting offerings but again concentrating on the large arena market. Their couse de gras, their piesta resistance is, wait for it, THE ROADIE, marketing guru's these guys!

Based upon the TI XGA DLP running at 5,000 lumens we are away for again a 3 figure sum. This unit is fully package ready for the road, complete with bumper bars and hanging points all wrapped up in a very nice flight case - hey: were they orange day glow safety wheels I saw?

It suffers from the same scaling problem as all TI (DLP) devices in Data, but Electrohome have still not got it right with being able to have a video and a data image fitting the same size screen. This has been a software problem from the very first Vista



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The company everyone else uses



pro series and with going through the market research to develop the Roadie someone should have thought about how it should work, 10 points for construction, 5 points on operation and - 10 for the name.

Hughes, I generally ignored but their new little LCD / ILA hybrid looked very sweet at 1000 lumens. Compact size, smooth video performance and very good XGA Data - it is supposed to do a lot more resolution but I will wait until I get one to play with to comment further.

SANYO have rebadged a device for Proxima and Eiki (above) and this is certainly something to look out for. Native XGA, very good video performance, 2 x composite or component or S inputs and 2 x Data. This things has BNC connectors on it, a wired remote and 1500 lumens of performance.

This was proudly sitting in the big boys shootout between a The Roadie and a Digital 7GV - and let me tell you, there was no: 6 times the difference, cause that's where they price difference is as they are running at about \$16k US.

This machine has great potential but has a slight problem with switching as you have to toggle through all the inputs to get to the one you want. Some designer did not think it was necessary to have random access through the remote but it is wired as well as Infrared.

You cannot go say from video 1 straight to data 2 you have to go through video 3, data 1 and back again.

Oh one other thing - you can't invert hang it, you must put it on a cradle, as inverting causes the thing to overheat and shut off.

•Michael runs Technical Direction Co, a Sydney based AV firm who operate Barco Reality projectors amongst others.



(I SING)

DO ONE THING.



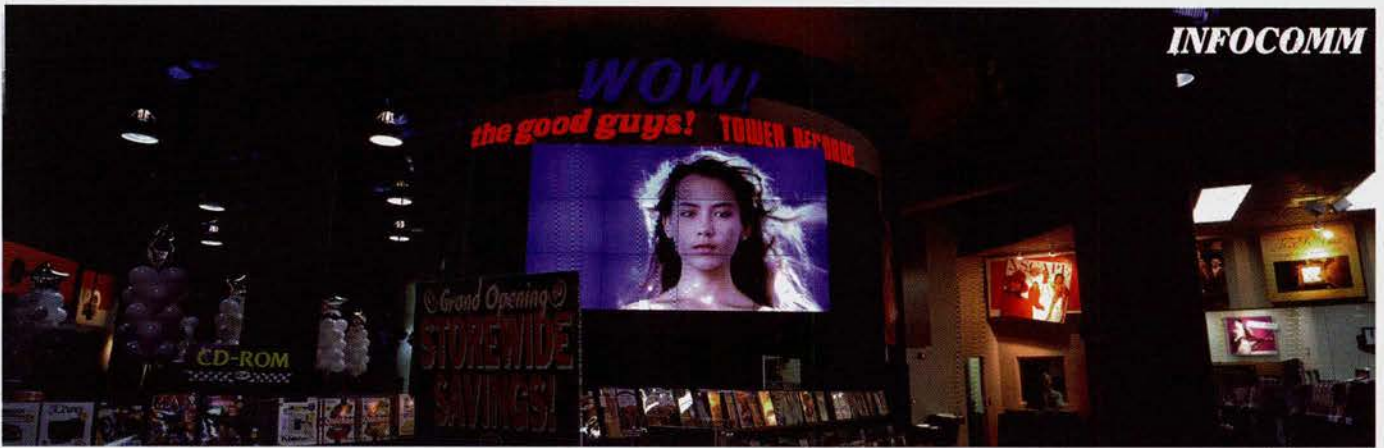
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Write in Reader Service Number: 128



IMTECH typify the leading edge of videowall technology. The wall above was installed at a Wow! store in Glendale, CA, and is the first full high definition television (HDTV) 16:9 videowall in a retail store in the USA. IMTECH also supplied the control electronics, including multi laser disk players and advertisement inserting software.

TeleVoter Audience Voting system

This shows how broad the AV business actually is. A TeleVoter software update is now available for Windows NT and Windows 98. The TeleVoter update includes a "Quiz show Wizard" and some new Tally and new graphics features. The critical differences between TeleVoter is the really nice software that runs under applications like Power Point (rather than other systems where you have to get a specialist programmer to write the questions).

Also with TeleVoter you can have up to 4000 wireless keypads per control unit rather than 200 or so with other systems, they say.

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Flat Panel PDP Displays are here

Plasma Display panels have well and truly arrived, if INFOCOMM is a bellwether. Fujitsu have released a new 'series four' glass with an improved contrast ratio of 400:1.

Other manufacturers like Eiki, NEC and Philips are using the Fujitsu glass, and so the latest generation of 16:9 flat wall panels are all way ahead of the previous models using the 70:1 glass.

In the USA at least, Pioneer have been selling a 4:3 ratio product, with a 150:1 contrast ratio while Mitsubishi have apparently hit a production limit of 400 units per month.

Price is the issue, and Fujitsu are driving the market by virtue of controlling much of the raw material. Panels are currently costing more than mid range LCD projectors.

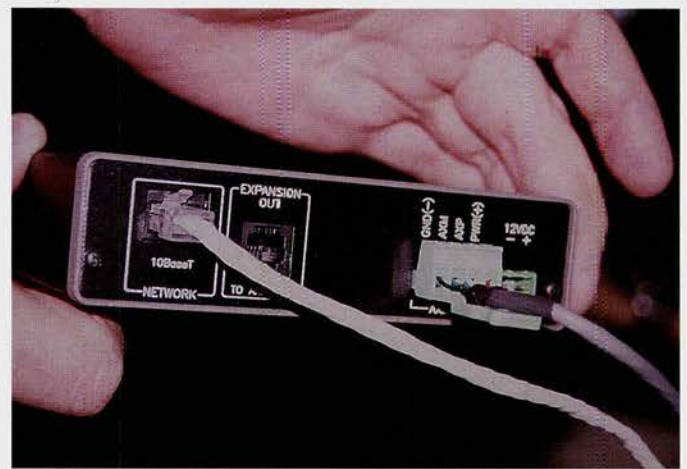
-Buck Freeman

AMX Ethernet Gateway

DALLAS - AMX Corporation announces the introduction of the AXB-NET Ethernet Gateway, the world's first network/Internet link for advanced control systems. Providing a 10 base-T network connection, the AXB-NET uses TCP/IP protocol to distribute systems control via AMX AXlink over a local area network (LAN), wide area network (WAN), or the Internet.

Australasian AMX distributor Kevin Chatfield (*hands pictured*) showed me the AXB-NET in Dallas, it will be available next month.

AMX AXCESS systems use the versatile AXlink data bus, capable of managing up to 255 devices, and supporting cabling runs up to 3,000 feet. With the AXB-NET, systems can now be extended across multiple buildings, between cities, or around the world. The central system would use a single AXB-NET as a TCP/IP Server, linking to an Ethernet network via its 10BaseT connection. Each remote site



would use an AXB-NET as a Client, communicating to the Server unit over the network. A server AXB-NET can support up to 16 remote client AXB-NET sites at the same time. WAN- and Internet-linked applications will need a full-time TCP/IP gateway to connect remote LANs.

AMX Director of Engineering Ron Barber explains, "While the AXB-NET is a new product, we have extensive experience with network connectivity, and TCP/IP has been a common solution for linking multi-building AMX Synergy systems. Based on feedback from our dealers, we wanted to include integrated network TCP/IP operation as an option, without losing the benefits of local AXlink operation. AXlink has been a superior, flexible control network for many years and most of our dealers have a great deal of experience with the ins and outs of AXlink wiring. By creating the AXB-NET, we have the best of both worlds-advanced, long-distance network connectivity and proven, high-speed local AXlink control."

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Write in Reader Service Number: 130

Interactive Audio Visual Displays

By Norbert Schmiedeberg

The 90's have become a decade of interactivity. For many applications we hear request for 'some sort of interactive multimedia' display. Often however these type of displays, centred around a single computer, lead to frustration all around and in particular by would-be-users, who have to wait until the person behind the keyboard have completed their exercise.

Many designers have not considered that it is possible to create interactive AV displays using low cost media, such as 35mm slides to great effect. Modern control systems, which allow the program segments to be carried within the control unit can be connected to viewer response systems and therefore give the audience the desired interactivity.

How does that work?

Assume you have a story to tell, but would like to give the audience the opportunity to choose a different ending. Using any number of slide projectors, preferably P-Bus controllable units, you create the program and load it into the system memory or on to a PCMCIA card. At a certain point you pose a question to the audience, offering, say, 3 options.

Depending on the majority selection, the system will call up the relevant show segment, select the sound track from a CD and complete the presentation. If no one response, the show finishes with a predetermined close.

Compared to a few years ago, these type of shows can be produced at much lower cost and the 35mm slide medium puts it into the realm of lower budget productions.

Interactive display options, may also be ideal for exhibitions and trade displays, competitions and they are fantastic for education and entertainment, since not only the visual element can be controlled, but sound effects and lighting and the trigger of displays can form part of the display.

For more information contact Norbert Schmiedeberg +61 2 9477 5709

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ASIA PACIFIC MEMBERS FEATURED AT INFOCOMM

By Brett Bower

INFOCOMM International in Dallas attracted over 25,000 attendees this year, from all over the globe. I had serious work to do manning the ICIA booth, explaining the many benefits of being a member of ICIA to visitors and promoting INFOCOMM ASIA, held in Singapore in September next year.

INFOCOMM always attracts a huge interest from overseas delegates and there is always a good number of Australian, Asian and New Zealanders at the show.

This year was no exception. The International Reception on the second night provided a wonderful opportunity to meet ICIA members from around the world.

Guests included **Alan Hay** from Haycom Staging, **Gary Hackett** of Staging Connections and **Michael Hasset** of Technical Direction along with **Peter Blackmore** from AVDEC.

The International Committee meeting chaired by Gary Hackett of Staging Connections, saw a strong aussie showing with **Peter Worth** from AVD

and **James Cunningham** from AVA offer support for the formation of an Australian Advisory Committee for ICIA.

This committee will assist steering future ICIA activities in Australia and the region.

If you are a techno geek and would like to see the results of the 'Projector Shootout' and other technology an-

nouncements made at the show, check out the ICIA web site at www.icia.org

INFOCOMM always comes with lots of industry parties, including the AMX party on Friday night. Special guests included the Dallas Cowboy Cheerleaders and other fine entertainment including racing Armadillos. As you do when in Texas!

- ICIA will host an **industry conference** in Singapore on 14 September this year. The conference will report on past business successes and forecast future trends and opportunities for the audio-video industry in the Asia Pacific region.

Industry experts from major video manufacturers, dealers and distributors from Hong Kong, Philippines, Singapore, Indonesia, Malaysia, Taiwan and Australia will offer their insight to the future of the AV industry in each country.

- Brett Bower, ICIA International Marketing & Membership Representative Pacific Rim Region



Peter Blackmore (AVDEC), Gary Hackett (Staging Connections), Brett Bower, Alan Hay (Haycom Staging), and Michael Hasset (Technical Direction).

Electrosonic Systems were exhibiting at InfoComm to find distributors for their Australian made Lectrum brand lecturns. **Claire Waddingham** and **Trevor Buck** are pictured (below, left). **HirePoint** (Sydney) had a busy booth (below) to promote their Windows 98/NT rental tracking software. The interest was intense, probably generated by the fact HirePoint is 32 bit code, rather than a DOS shell or based on Win 3.11. HirePoint report doing many demonstrations for Australian and regional rental production companies at InfoComm, many of whom thought HirePoint was a US origin product.



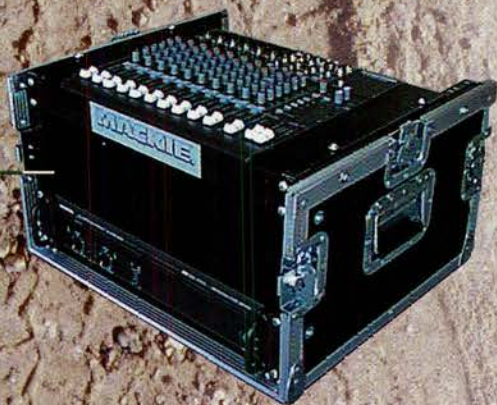
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MS1202-VLZ 12x2 Mic/Line Mixer

Talk about a classic. The Mackie MS1202-VLZ has recorded symphonies and audiophile acoustic guitar albums. It's in the stage & studio racks of performers as diverse as Ian Anderson, Jean-Luc Ponty, Nine Inch Nails. It's gathered news on location for CNN, recorded sound for feature films and provided head-phone mixes for platinum albums. It's worked day in and day out at video facilities, radio stations, and MIDI project studios. Talk about a classic!



MS1402-VLZ 14x2 Mic/Line Mixer

Mackie's MicroSeries 1402-VLZ features 6 mic/line inputs and 4 stereo line inputs. It delivers high headroom and ultra low noise, thanks to its VLZ very low impedance architecture, first introduced on Mackie's acclaimed 8-Bus consoles. And it's just as rugged, with all-steel construction, thru-hole-plated fibre-glass circuit boards, gold-plated interconnects and sealed rotary controls. The Mackie MS1402-VLZ is a distinguished sibling.



CR1604-VLZ 16x4x1 Mic/Line Mixer

The CR1604-VLZ is packed with a 5-year 'wish list' of the most requested features. First introduced in 1990, the CR-1604 literally defined the modern compact mixer in terms of features and sonic quality. It's been used on more world tours, more network TV shows and commercials, more feature films and more major-label albums than any other compact mixer.



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There were good mixers around before Mackie started making them. They just cost too much. Until now a really good reliable amp was by definition expensive. Just as Mackie's mixers redefined the mixer market by combining high performance and great value, Mackie's FR Series amplifiers set a new benchmark for sound reinforcement amplifier value. In terms of specs, features, durability and build quality the M•1400 is a "money is no object" amplifier. Yet in terms of "watts per dollar" it is far better value than comparably priced stripped down models. Features include 1400 Watts into 4 ohms bridged, 700+700 Watts into 2 ohms stereo, Built-in electronic subwoofer crossover, sweepable low cut filters, Sweepable CD horn compensation & 'Air' EQ, Subsonics stabiliser, Constant T-design cooling, Audiophile Sound Quality, plus a whole lot more as well. (\$1795 RRP) ...most of all, let your ears be the guide. You'll pick the Mackie M1400.



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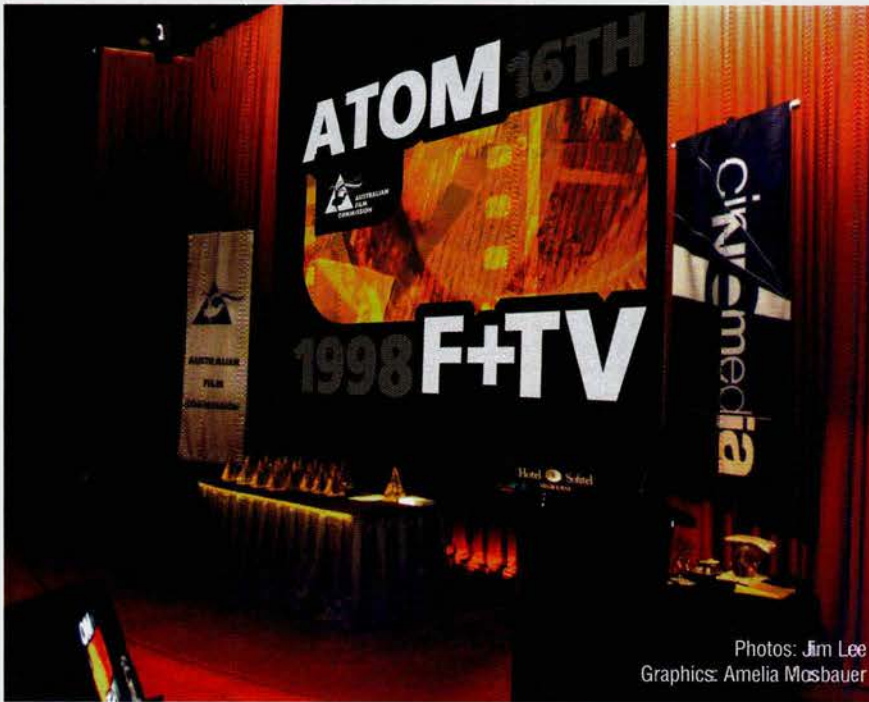
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MS1202-VLZ • MS1402-VLZ • CR1604-VLZ • M1400 • MACPAC



Photos: Jim Lee
Graphics: Amelia Mosbauer

PRODUCTION: '98 ATOM AWARDS

There is no more demanding audience for a presentation than the film and television production community and that is who Michael Borthwick, technical producer of the 1998 ATOM Film and Television Awards faced as guests filled the auditorium of Melbourne's Sofitel Hotel for the 16th annual occasion of this highly regarded industry awards evening.

The ATOM awards are regarded as an essential part of Australia's screen culture industry providing a forum for peer review and acknowledgment of outstanding educational, corporate and broadcast film and TV production. They are also open to student and independent productions which would not normally be included in other industry award ceremonies.

ATOM do not have a lavish budget for the production of the Awards and choosing an auditorium enables advantage to be taken of the in-house lighting, sound and projection equipment and the cinema style setting provides the optimal environment for screening the work of nominees and winners in each of the 17 categories.

In addition to the technical design of the delivery system an important part of Michael's role is coordinating amongst the production sponsors, equipment hire companies, the venue's in-house AV crew and the client.

ATOM receives sponsorship in the form of production assistance from organisations like media training facility Open Channel in Melbourne who provide video editing facilities.

"The sponsors who provide production resources are not necessarily familiar with the issues of creating media for a live event but my role is to ensure that ATOM receives maximum value from the sponsors efforts," said Michael. "All text and animation that appears on screen is created and delivered using Macromedia Director running off a Mac. I vision mixed this show myself on an MX50 and used Dataton Trax to help manage the large number of Betacam tape rolls. I like having things automated so I can concentrate on the rhythm of the show without worrying about tape transport and also be able to attend to the audio and lighting operators and stage manager".

"It is important that the MC establishes a rhythm at an awards night and this can only happen if the presentation is seamless."

Michael runs S-video throughout the system. "Every show I've done using in-house projection the AV crew have had to pull cable to

the projector to accommodate S-video signals but the difference is clear if you perform an AB comparison of Y/C versus composite."

Michael's background is different from many people who are working in the corporate event area. He undertook a two and a half year Certificate in Video Production at Collingwood TAFE.

"As well as gaining a solid grounding in the creative and production aspects the course had a strong technical emphasis, said Michael. "We started with the absolute basics such as tuning a receiver/monitor through to designing and system timing a multi-camera studio."

This training combined with 13 years computer experience made him an obvious choice to join a Melbourne based multimedia company rolling out an ambitious project in Malaysia.

"I found my technical knowledge of video and show control indispensable in designing and building multimedia systems which incorporated networked touchscreen interactive kiosks, laserdisc players, video cameras and video projection installations using mirrors fabricated on site," Michael told me.

"My approach to events is informed by my training in video production and my experience working for multimedia companies - I like to configure the system and operate/direct like a live multi-cam OB but with sources that include computer presentations in addition to videotape and live cameras".

A multimedia industry background gives an appreciation of the broader context in which a show is developed and performed.

"Graphic designers typically work on CRT monitors and are often disappointed in the way their work appears once projected," explained Michael. "Having an understanding of the characteristics of various display devices allows a brief to be developed that ensure a better result for everyone.

"For example if the computer output is scan converted rather than direct camera projection then there are overscan and interlace issues. Will highly saturated computer graphics record well to tape? If the show is being recorded for ultimate delivery on CD ROM or the web the camera operators and vision mixer need to be directed with this goal in mind.

"I enjoy the technical side of designing systems for events and installations but equally I enjoy directing vision for a show. Live event work excites me because it happens in real-time. You need to plan thoroughly and keep a cool head, but the payoff is the feedback from the audience and the client - it's

quite different from shipping a CD ROM or launching a web site."

Michael has recently returned from a study tour in the U.S. looking at state-of-the-art installations in museums and theme parks.

"The highlight was a technical tour of the new Apollo/Saturn V gallery at the Kennedy Space Center in Florida where superb projection, slow control and effects are used to re-create a Saturn launch as experienced from the launch control center which is fitted out with the original 60's vintage consoles."

Michael sees events and multimedia becoming increasingly integrated. "Before CD ROM came along and the term 'multimedia' was appropriated by the manufacturers of multimedia PC's, the term multimedia meant an audio-visual show or performance using synchronised vision, sound and lighting. I think in the future these two approaches will become increasingly integrated and I've teamed with a group of hardware and software engineers to offer Internet broadcasting of events that producers can package for their clients. This will enable corporate event producers to offer their clients a real value add by bringing a potentially global audience to view (and possibly interact) with an event in real time."

Michael can be contacted on 0418 345 800 or holden@netspace.net.au

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SHOWS WE'VE SEEN LATELY A PUNTER'S PERSPECTIVE

C'EST MAGIQUE:

The LIDO is perhaps the most famous 'traditional' cabaret in the world. Paris isn't necessarily a great place for tourists, I think they would prefer anyone who doesn't speak French keep right away. But at the LIDO (avenue Champs-Elysees) the show guide and commentary are bilingual.

LIDO De Paris has it all - 64 'Bluebell' Girls, 617 costumes, water, ice, fire and evasive drink waiters. The C'est Magique review, which has been running since end 1994, is probably not unlike their previous show- or the next!

The formula is colour and movement, and it leans very heavily on entertainment technology. The band are just there for the occasional fill, otherwise everything is replay, including most of the vocals.

You'd expect a seat at the LIDO to cost a bit, they range from \$100 for show only, through to about \$330 for meal and transfers. The show runs just under two hours and keeps the interest.

For an idea of the layout, visit the ShowRoom at Sydney's Star City Casino, where the trust stage has hoists capable of raising a swimming pool or an ice rink. Like LIDO, the ShowRoom has the PA back near the proscenium which is just fine for playback but no so good for live reinforcement.

Some of the staging effects in C'est Magique are almost staggering. More predictable is the finale with waterfalls, fountains and stairs rising through it all. They move 23,000 litres of water per minute. Try that!

The Lighting has every contemporary device represented, from Cyberlights to Lasers - which at one point scan dangerously through the audience.

Staging, automation, audio, costumes, babes, hunks, the smell of greasepaint, the roar of the crowd. If in France, be sure to see it - despite the cost.

Oh, and as we departed at 11.30, the place was reset for a midnight show! • Bookings +33 40 76 56 10 or through your travel agent.



Theatre Backstage News

Compiled by Jacqueline Molloy & Andy Ciddor

Clippings

◆ It's often said that Australia has the finest politicians that money can buy, but now in the Northern Territory you can also rent Parliament House as a venue. The foyer, halls and Members' Lounge are all available at standard rates and whilst the actual Parliamentary Chamber is not listed, it was recently made available for sessions of the Meetings Industry Association's conference. Anyone out there fancy staging a production of *Julius Caesar* in the perfect venue?

◆ Performing arts organisations throughout Australia are frantically trying to evaluate the impact of a Value Added Tax or GST on their futures. The current sales tax exempt status of many companies will disappear along with the abolition of sales tax, leaving them to face a substantial increase in the cost of all goods and services required to mount productions. A report commissioned by the Australia Council on the impact of tax reforms on the arts has been withheld by the Minister for Communications and the Arts, which is probably a broad hint as to the content of its findings.

◆ When Adelaide Festival Centre first opened its doors for business in 1973 it had the distinction of being Australia's first performing arts centre. This year it celebrates its 25th Anniversary with special performances and a public exhibition of theatre memorabilia showcasing historical items of interest. The celebrations will include the release of a book and film to commemorate the centre's history and a concert that will feature many of the performers who have trodden the boards over the years.

◆ La Boite premiers a new play *X-Stacey* by AWGIE award winning writer Margery Forde in Brisbane on July 14th. The play deals with youth culture and steps inside the world of dance parties, techno music, DJs and designer drugs and is based on true stories researched by Forde. The production will be directed by La Boite artistic director, Sue Rider with sets by Kate Stewart, lighting by Andrew Meadows and sound by Michael Bouwman.

New Venues

◆ Queensland Performing Arts Trust's Executive Manager - Production: Richard Stuart (great title Richard) reports that Production Unit staff are champing at the bit, waiting to get their hands on their new 860 seat venue: The Optus Playhouse. Hand-over is scheduled for August 1st with the premiere production: QTC's *Marriage of Figaro* opening on September 2nd as part of the Brisbane Festival. The Optus Playhouse

stage has a 12 x 9m proscenium opening, a stage width of 38m wall to wall and a depth of 25m from forestage to rear stage. The forestage consists of three lifts, each of which can be set at pit, seating or stage level, allowing for an orchestra pit of up to 50 seats.

There are 80 counterweight line sets over the stage and a further five over the forestage area in addition to two panorama battens and a motorised winch track for lighting ladders on each side of the stage. An ETC Ob-session II lighting desk will drive over 700 Bytesize dimmers controlling ETC Source 4 profiles and Pars, Selecon Fresnels and PC spots and the inevitable Quartzcolor Iris and Pallas cyclorama lighting. At presstime tenders were still out for the paging, communications, A/V and sound systems. This venue and the two associated 150 seat Rehearsal Studios are certainly deserving of a closer look and Connections will be covering them in much more detail in future issues.

◆ We should soon be learning which of the proposals for the redevelopment of the Sydney Luna Park site has been successful. Several of the proposals included projects which would have a direct impact on the entertainment industry but the most interesting one was the joint Edgley and Metro Theatre concept: a two thousand seat circus space for human circus performers. This would be an interesting turn about in the fortunes of circus in Australia as the last permanent circus structure in the country, Worth's Circus, was demolished in the early sixties to make way for the Victorian Arts Centre.

◆ The six thousand seat Wollongong Entertainment Centre is due to open with Bob Dylan in concert on September 5 despite a shortfall in funds for final fitout. Aside from the slightly undersized car-park (40 bays for 6,000 patrons) there is still some concern as to the source of funding for such luxuries as bleacher seats and a basketball floor for Illawarra Hawks home games - and sound and lighting equipment.

◆ The ACT has a new theatre with the May 16th grand opening of the Canberra Playhouse which replaced the previous 300 seat theatre of the same name. In keeping with theatrical tradition the first performer to speak on the stage recited an ode dedicated to the theatre. The intimate auditorium seats 622 with a proscenium width of 14m, a height ranging from 5.5m to 7.5m and the flexibility of being configured as either a proscenium arch or thrust stage. Sound and lighting contractor for the Playhouse was ACT company Sound Advice Australia. There were a scant nine days between completion of the theatre fit-out and the opening of the first show: Bangarra Dance Theatre's *Fish*, which gave the space a thorough try-out before the official opening.

◆ Please fax information to +61 8 9227 8190 or email to News@kilowatt.com.au

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Connections

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* Reader survey 1998 by publisher

SOLIDTUBE from AKG

Sid Kidman evaluates the SOLIDTUBE valve condenser microphone

SOLIDTUBE is exactly how the AKG SOLIDTUBE valve condenser microphone looks.

The "goodies", namely the diaphragm, valve, and associated circuitry are contained in a die cast metal cylinder weighing in at 920gms, and standing 219mm tall. The top 126mm contains the acoustic chamber and has a diameter of 63mm, while the lower section is 57mm in diameter. 25mm up from the base is a raised SOLIDTUBE decal. This arrangement securely locks the mic into its anti-shock mount cradle. This is good design, and safe.

The acoustic chamber section is mostly given over to metal mesh, the top screen being 50mm in diameter and the front and back screens being 80 x 62mm.

There is a fine inner mesh backing behind the outer structural mesh. The casing and grill are sprayed with a very pale gold metal flaked semi luster enamel, which is quite soft, and which could scratch easily.

Just below the front grill is a small cardioid symbol, and the junction of upper and lower parts are demarcated with a maroon plastic ring. Immediately below this ring on the lower part, at the left side is the 0 / -20 dB switch, whilst in the front is an 18mm square ruby colored plastic window, with the AKG logo printed on it. This window looks good, and allows the heating element in the valve to be viewed when powered up - obviously a useful function.

The base contains a six pin (gold plated) XLR connector, for power and audio, the words "made in Austria", the serial number, a screw mounting for attaching direct to a mic stand (AKG suggest as a last resort), and three screws which affix the outer can to the internal chassis.

WE GO INSIDE

An internal inspection reveals a lot about just how AKG have achieved an apparent objective, which (I believe) is to supply a mic which will cater to the 'valve loving fraternity', at a price which would appear affordable. AKG have a long history of supplying quality equipment to the audio market, but not at cheap prices.

From the outset, the three screws which hold the sub-frame to the can, are not custom pieces, but of the mass variety which hold plastic toys together; definitely not in the "Roller" category. They already showed signs of head burring, just from factory assembly. Never mind - they will cost little to replace. The plastic/nylon chassis also has the appearance of a low cost extrusion. The circuit board soldering, whilst apparently hand done, seemed skimpy, and a tad dry, and the dB switch was of the inexpensive variety readily available at Dick Smith.

However, to balance this, the circuitry components are of high tolerance and/or good quality, which is probably what counts. The valve sits firmly in its socket, with a rubberized holder preventing movement. To cap the internals off, there is a beautiful 25mm diameter diaphragm.

The active membrane appears to be gold sputtered, but once again, the plastic capsule backing has that mass produced look. The suspension of the capsule is both robust, and delicate, meaning it is an effective isolator. The acoustic chamber has a 4mm (approximately) plastic foam lining, and a rubber foam sealing ring to isolate it from the electronic section.

The floor of the acoustic chamber is a low conical shape.



GO INSIDE

A\$1849.00 is the recommended retail price of the SOLIDTUBE. For this, you get the mic, complete with an anti-shock mount cradle, a very conspicuous yellow 'studio-Popfilter', a 10m audio/power cable, the power supply which has a 100Hz low cut switch, and its power cable. The elastic suspension in the anti-shock mount cradle is quite rigid, and would not totally compensate for a floor which was transmitting vibration.

This all comes in a neatly foamed out aluminium case - as usually offered with this type of purchase. Also included is a manual, including instructions for replacing the valve, and a table of specs, which are not published in this report, but which should be reviewed at point of purchase.

Generalized frequency response and polar response curves are printed, ie: there are no discrete response curves for the individual mic, but the manual claims adherence within +/- 2.5 dB to the published graphs.

Why would I want to spend \$ 1849.00 on this mic? The answer is simple. Basically it is a valve mic, and it does have 'the valve sound', and name brand valve mics generally sell at twice or more this price. It is quite possible to mimic the response of a valve circuit with FET circuitry, but mostly it is not done, because in the common vernacular; "you can't beat the real thing". Frequently described as 'warm', the fact is humans commonly find the valve sound identifiable and pleasing. AKG, in recognizing this, have spotted a niche in the market for such a budget built product. So, yes.

SOUNDS LIKE....

Now, to the sampling of SOLIDTUBE. I conducted some tests with pure tones at 2kHz, 4kHz, 8kHz, and 16kHz, with the mic at angles of 0, 90, and 180 degrees.

The relative levels of dBV achieved were in agreement with

those levels predicted by the graphed responses published. It is interesting to note the peaking characteristic, 180 degrees off axis at 8kHz.

This peak is quite broad. It means that although the mic is cardioid in the lower frequencies, it is tending to approach figure of 8 response commencing above 4kHz. This may be quite deliberate by design. It means that there should be good room response; ie. if an acoustic guitar were to be recorded in a live section of a studio, with the mic placed at say 1m, then the body of the live area would add significantly to the recorded sound.

Some very expensive mics are tailored to such specialized responses, and some studios consider the expense worth while, because, after the player, it all begins at the mic.

Next, was a quick test with maximum level gain to see how much noise there was from the SOLIDTUBE and its power supply. It made no significant audible difference to the accumulated noise floor, as expected, considering the quoted noise specs. Various percussive type sounds were recorded, along with acoustic guitar, voice, hand claps, and other sources, to explore the mic's range and characteristics.

Sources were moved around to discover changes in timbre, and a number of general observations were made. The SOLIDTUBE is a pretty tactile mic, (sensitivity quoted at 20mV/ Pascal at or above -34dBV re. 1V/Pa.) and if a stinging snare is needed in the recording, it will do the job. The cheap-sh pad switch (like a Dick Smith one) on the left side had better not fail, because many an op amp at many an input is going to collapse under the onslaught of a close tambourine or hand clap.

It convincingly covered a broad selection of sound sources. In particular, I predict it would be quite nice on a grand piano. It is forgiving of inexpert placement, evident in the recording of the acoustic guitar.

SID'S WRAP

The home studio operator may be tempted to lash out the dollar bills on it to discover a real workhorse piece of equipment, and be totally pleased with the ensuing recordings.

At the other end of the studio business, serious owners may consider a trade off against capital investment saved, a serious consideration in these financially competitive times.

Certain revered name mics are lovely to have, but like a fine tuned racing car needs a champion driver, these mics need an experienced engineer to finesse their use.

These tests are by no means exhaustive, but the SOLIDTUBE is accurate, and from what I have heard, I believe it would perform well in high dB SPL fields, such as electric guitar through a quad stack at full cry. Its sound is reasonably transparent, but all good mics have some subtle coloration - why else do people choose valves?

Whilst I have my quibbles about the manufacturing standards, it delivers the goods in the sound department, and the SOLIDTUBE gets the thumbs up, largely influenced of course by the price factor. If you're in the market, be sure to give it some consideration.

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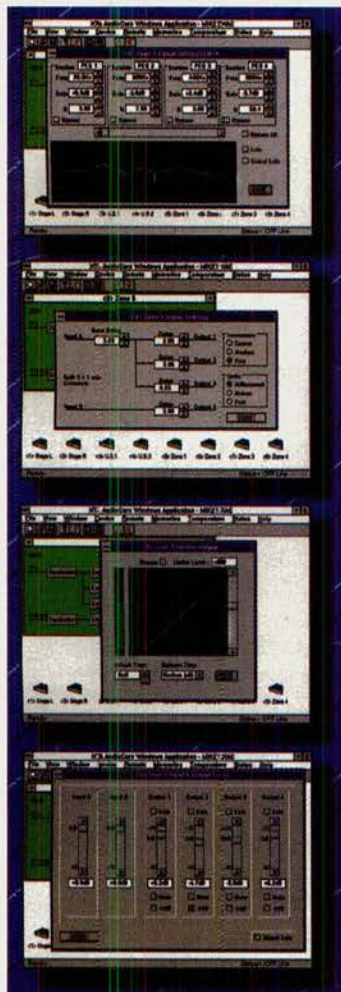
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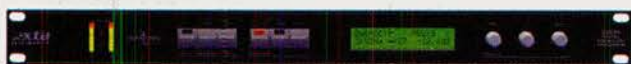
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SB-1 SOUNDBEAM

Julius Grafton investigates a new technology from Meyer Sound

This is an interesting device, from Meyer Sound. The SB-1 parabolic sound beam is an ultra tight dispersion PA device, unique in the world. In true Meyer Sound fashion, founder John Meyer has very carefully articulated a problem - long, long throw of sound - and provided a solution.

The debut installation was an indoor 40,000 seat arena in Japan, where delay speakers were impossible to rig. Ten SB-1's were commissioned to work alongside the conventional PA. Five per side were arrayed at 10° horizontal angles, aimed at small, remote audience sectors which wouldn't normally get full range audio coverage - even with line of sight from the normal house PA. Normal PA's tend to drop off high frequencies after 100m.

PERFORMANCE

In practice, the SB-1 will provide 100dB SPL at about 160m, depending on ambient conditions. It projects a circular 10° coverage, so that at about 100m throw the coverage is around 18m.

How does it do this?

What you have is a pretty standard looking paraboloid reflecting surface, measuring about 1.4m in diameter. A bullet shaped pod contains a 4" compression driver, which I understand started life as a JBL 2450, before Meyer gave it a makeover and filled it with oil.

On front of the 'driver is an aspherical horn, and the whole assembly is rod mounted over, and aimed at, the centre of the dish. It sticks out about 1.2m in front of the dish. The rod mounting assembly breaks down for transit, and a storage module is provided in the top of the device.

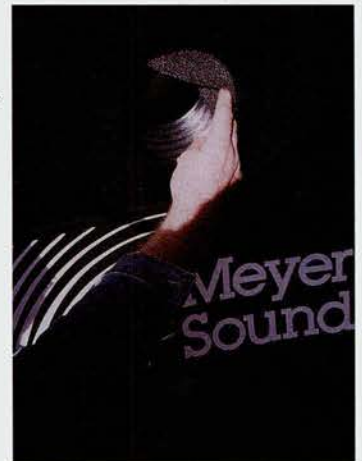
In the centre of the dish is a 12" speaker (*pictured right*) whose function is to assist in 'steering' and focussing the sound. Both audio elements are powered via an internal amplifier module (*below*), which delivers some 620w per channel and provides whatever system processing, equalisation and 'smarts' is required.

That 12" driver isn't there to assist with actual sound generation, this is the job of the driver. The 12" provides a bandwidth limited control for low frequency lobing, and phase manipulating circuitry in the amp/processor further assists it in doing

whatever it does.

PERFORMANCE

I heard The Beam in the flesh at the Sydney HQ of Coda Audio, who are already major Meyer Sound users. They were evaluating Soundbeam for possible use at outdoor concerts. The firm do large scale sound reinforcement for the Festival



Of Sydney, where delays are required as a matter of course. The SB-1 may offer them considerable savings in infrastructure at events like this, used with the main PA and aimed at those remote areas which may have previously needed up-close delays.

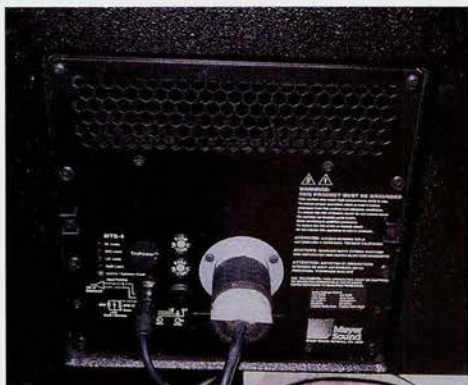
Meyer Australia's Steve Devine staged a demonstration for me in the street outside, we aimed the SB-1 up the road and turned it on. Birds flew.

It was hard to be precise, because the streetscape was cluttered with buildings, cars, and humans. Nevertheless, it was possible to walk away and monitor the gain reduction as one walked. Normally you'd expect to lose 6dB each time you double distance from a source.

In the case of SB-1 this is halved to 3dB. It certainly did project the claimed 500hz to at least 14kHz (my top limit) over a distance of at least 150m on our informal test.

Meyer have a weatherproof version coming, and may be able to make a slightly smaller, higher frequency version. Mean-time, this is an impressive tool ~ and it sure looks cool!

- Sells at something like A\$20,000.
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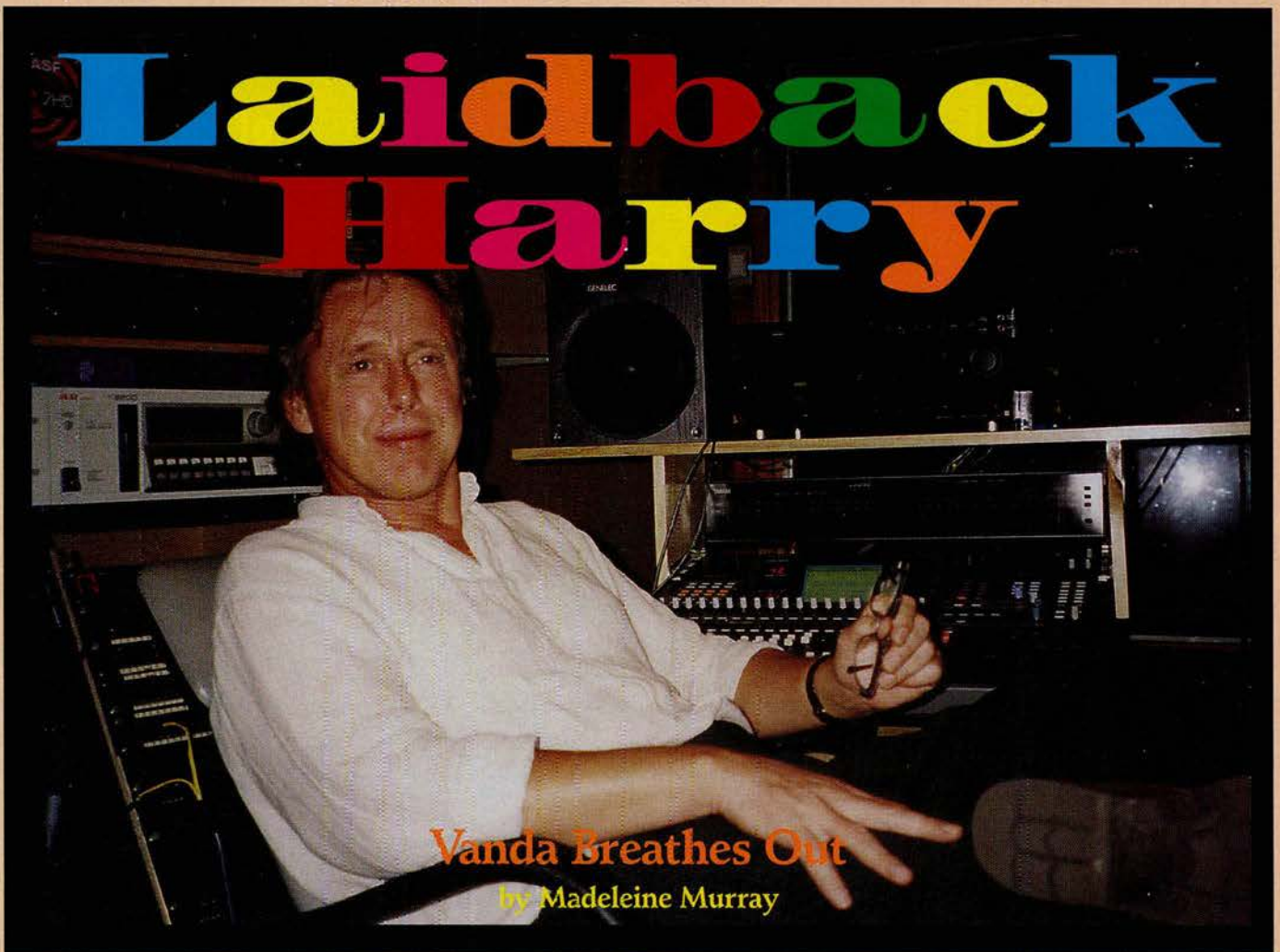


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The meaning of success

When I accused Harry Vanda of having a great life, he told me that success and money just mean material benefits. "Nothing else changes," he said. "You still have to go out there and prove yourself, all the time. So it never gets any easier. There is stress, of the unwritten bit, of being in the middle of a commitment and having to come up with the material. If you're not making it, then everybody will run for the hills."

"Music is a business, with all its own problems and dramas. Lawsuits, management problems, people stuck in contracts, people dying."

We talked about the tyranny of youth, where unlike other arts, you must be young to be musically hip. "You lose the plot," he admitted. "I lost the plot somewhere around 40, and once it moves away from you it moves away like Star Trek, whoooooossh, it's gone. So what can you do? The market is over there, and you're over here. I believe in not hopping on the bandwagon, it will come around again."

"Life doesn't end at 21, it definitely goes on, in a different form. I feel sorry for people who can't drag themselves away from that youth thing, that's where a lot of pop stars go down."

I was expecting a wizened old man

Before I went to meet Vanda, the extremely obliging Glenn A. Baker filled me in. Baker wrote a special tribute to Harry Vanda and George Young for Billboard magazine, as well as the liner notes for *Their Music Goes Round Our Head*, a double CD of their greatest songs. "They are the most successful Australian songwriting team of all time," Baker said. "And as producers, God knows, where do you even begin?! They are the toughest, most versatile around. One moment, they're doing AC/DC, and then John Paul Young! They are extraordinary...great ears, remarkable intuition, unerring sense of what they are doing. They're the masters, they're the ones!"

And it didn't get any worse.

"They have a knack of producing songs that become part of the

psychology of a country, like *Love is in the Air*, and *Show No Mercy*, which will be used on sporting television shows, whenever the team runs out on the field, for the next three decades!"

"They have a wonderful pop sense. As producers, they are the princes, the cream. People like Mark Opitz probably learned at their feet."

Baker told me how The Easybeats had met in a migrant hostel outside Sydney, and became international stars, with Vanda and Young both on guitars and backing vocals. V&Y wrote classic songs like *Friday on My Mind*, *Walking in the Rain*, and *Love is in the Air*. Peter Frampton, Grace Jones, David Bowie, the Bay City Rollers, and Suzi Quatro recorded their songs. They produced AC/DC, John Paul Young, Rose Tattoo, and the Angels.

The kudos, versatility, and platinum albums just went on.

By now, I was really expecting a relic.

The Norse God in the MIDI

Instead, I walked into the MIDI studio, to find an appealing blond guy, full of energy, ideas, and thoughts. In his heyday, he must have looked a little like a Scandinavian God. What do they put in the water over there? For an hour, we talked about everything from groupies, ("You don't pick them, they pick you!"), to early days, ("When we first started off we were frying up potato peelings in a Melbourne flat.")

"I'm fiddling with a song that George and I wrote a while ago," Vanda said, in a slight Dutch accent, which only added to the appeal. "It had a nice verse, which didn't work with the chorus. I'm working on the arrangement now. I'm fairly happy with the way it's turning out. I don't know if it will be old-fashioned. Basically, I've kept the verse, and just added a hookline at the end."

Vanda played me the majestic opening bars of the song, chords in ever-expanding crescendos. He composes on MIDI. "It gives me an idea if the thing is going to work. I can do everything here. You used to have

to get all the musicians in. Now you have all the samples at hand here, and away you go. It either works or it doesn't. The mixing facilities are very limited on MIDI equipment. You're basically at the mercy of the boxes that make the samples. I might still change the drum sound on the song, add tom toms, that sort of stuff. It's very very rough."

It sounded beautiful to me, and then he sang the melody, a love song, for me. (It's hard work writing for Connections, but someone has to do it.) "When we were actively hunting around to do our own productions, we would go out and find a voice, and see if we could shape a career. We would basically get someone who would suit that song, because that's how we got into it. George and I used to write a lot of songs, which we didn't want just sitting on the shelf. We found that the only way to get some action happening, was to go out there, grab the singer by the scruff on the neck, and drag him in the studio."

John Paul Young, William Shakespeare, Stevie Wright were all grabbed by the scruff of the neck.

In the first stages, this song-in-progress was very orchestral. Then it was more like a chamber orchestra. Vanda plays different string sounds on the sampler for me. "You have to play each note, it's not like just playing chords, like gushing it with strings and all that. If you want to put a string arrangement in it, like the cellos are playing, you have to do the individual arrangement, as some classical guy would. That makes it sound far more real. Plus you don't wash everything out with this big curtain of strings. You leave holes, to plug in other things."

Vanda has been working on the song about three days in total.

His ideas for the song changes as he works at the MIDI. "This is a one man show. It's so easy to disappear in this fantasy land. This song started off very orchestral and washed out, and it sounded very ordinary. As I kept fiddling with it, the picture became clearer. It will end up with the piano dominating."

After Vanda sang the song for me, and as I replay it on gloomy, squally Good Friday, it gives me goosebumps. It sounds like a hit to me. Does he think about platinum when he writes a song? "At one stage, it was very important. When you're working with an artist, for example John Paul Young, it was important that he had hits, to stay on top. We had a string of them. Yes, it's very important, but when you're relaxing a bit, you can be a little more self indulgent, and experiment. But it's still always in the back of my mind, to think, 'What do the people want?'"

The song had a nice accordion bit in it, but Vanda scrapped it, because it "sounded too European Song Festival."

After the song is finished, Alberts will publish it internationally. Artists look for V&Y songs. "If you have a bit of a track record, it's easier. It only means people will at least listen to it. Most new stuff barely makes it past the front door. Once it's out there, it's a ticket in a lottery, unless you go and find your own artist, like we used to do. If I ran into a girl with a voice like Celine Dion, I'd be very tempted to try. But it's not easy now, the major companies have got it all sewn up. If someone comes along that shows the slightest smidgeon of talent, out come the big chequebooks."

The song has been around in various forms for a while, but no one has recorded it. "That makes me sit back and evaluate. It sounds like a good song to me, and it has been pitched to some pretty good people, and they pass on it. Then you have to go back and look at it cold and objectively."

The cosmic telephone

The mysterious process of writing a song usually starts with a few words, then Vanda starts fiddling with music. "If you have a phrase, like The Good Times are Here, you know you're not writing a dig. Over the years, you are very tuned in, always listening to some snatches of the cosmic telephone. I don't do it so much anymore, but at one stage I was completely out of touch with the rest of the world! And so was George. We were sitting in our own beats, going da-dum, da-dum...If you saw us work, you'd want to send in the guys with white coats!

That's how it is. You sort of disappear into this world of your own, and everything fades away. I act pretty normal these days!"

Which brings us to those wild times in London, where V&Y lived and worked in the late 60's. "It was amazing, the centre of youth culture. They were pioneering times. The script is so rehearsed now. Most of the paths are trodden to death."

Vanda and Young have been partners for 35 years! "It's second nature to us. Obviously we work together very well. Most team writers are very competent individually, but together, they're magic. Lennon and McCartney were a good example."

Even though Vanda and Young live on different sides of the world, they collaborate on a song, sending disks and DATs back and forth from England to Australia. "Basically we take each other's ideas, and murder them!" When Vanda sends him some music, George will either say, 'You're on the right track,' or 'Forget it, and start again.'

Vanda has no heroes, and won't be drawn on his favourite V&Y songs. But some of their best work isn't famous. They made an album in the late 60s. "We slung it together in this little studio in Moscow

Road, in London. George was hitting a big bass drum on the floor with a stick. We had two 2track machines. We

reversed the heads on one. The tape ran from one machine to the other, so we had a 4track! We really captured a great atmosphere on a song called *Rock and Roll Boogie*."

MIDI vs human

Vanda thinks that MIDI studios are "great for dance music, wonderful for songwriting, but they're a one man show. What you miss in MIDI studios is the human interaction, which makes truly great music. As a producer or songwriter, when you take people into the studio with you, they contribute a lot more to that song than they ever realise. You get that input, that energy, which changes things as you go along. You're in charge, and you wrote the tune, you tend to use what comes out of it. And some bloody good things come out of it."

It sometimes seems poignant and surreal to see a dishevelled guitarist rocker, sitting in front of a computer. "It's horses for courses,"

Vanda says. "A whole generation of musicians have grown up with this technology. They are not really aware of some of the basics, in sound and recording, that we grew up with. You hear them do things, where the drummer would have to have nine feet. It doesn't matter to them. That's life, and that's maybe how it should be. When I use the MIDI, I think of the sounds that people would actually play."

AC/DC

Vanda knows how to spot a good wave and ride it, like the AC/DC tsunami. "I love the energy, the surge that you get when musicians truly play together. That's what it's all about, as far as I'm concerned."

"With a band like AC/DC, it was incredibly important to capture that energy they had. Sometimes you hear a band on stage, and think, 'Yeah, they really pump!' Then their album comes out, and it sounds like a generic load of crap. All the life has been squeezed out of it, and it's all neat, and radio friendly."

"In those days, we just wanted to capture the real feeling. So the snare drum rattles, so there is spill. The basic idea was to capture the energy on stage, and transfer it into the studio. From that, we got very very involved with natural dynamics. You had to be honest about quite a few things. There was spill, because we got the guys to play together, in the same room. So things were flying everywhere. You had to take a lot of care with mic'ing things up. We were pretty good at it—finding the right spots for the mics, getting the ambience mics right, getting the spaces. Of course, it only works with a band that can really perform. And AC/DC, well I think they've proven the point," Vanda laughs. "120 million albums can't be wrong!"



Australia's National Living Treasures? You decide.

I suddenly realised that I was probably talking to a millionaire. "AC/DC were a pleasure, it's bit like riding a thoroughbred racehorse. You don't have to do a lot to it, you just have to make sure it doesn't go off the rails. A lot of producers want to put their stamp or their ego on it, at the expense of what naturally comes with the band."

At this point, I noticed that the mic on the tape recorder was pointing at me. "Why not?" Vanda laughed. "Your opinion is as good as mine!"

John Paul Young

V&Y produced John Paul Young. "Because we wrote almost all the songs he recorded, we had a good idea of what we wanted from him. He's such an incredibly reliable performer, with a great voice. Really we only had to get the basics down. We used to play all the instruments, or get the band in. Later, we'd overdub and change until we got the final package together to satisfaction."

The Angels and Rose Tattoo were next. "When Mark Opitz did his thing with The Angels, they weren't a very professional band, but had great songs. We sort of came in at the end, more as executive producers. They had the plot by the time of the third album, and it was nice to pass it onto a bloke who knew what he was doing."

"Rose Tattoo were very much along the same lines as AC/DC. We wanted to capture that live pub atmosphere, that full-on, in your face rock and roll. It was a matter of getting the right sound. If they sounded sterile, there would have been nothing to it. You have to have the real thing. It all sounds very easy, but we spent a lot of time getting the balances right. It took a fair bit to actually get it on tape. If you analysed all the individual sounds, it would have been the horrors. But when it's all put together, it's like a painting, with blobs and smears."

The pop machine

V&Y also have a great flair for pop. "When we got to England, the radio was almost like a jingle mentality. You had to come up with commercial ditties. I suppose that our whole producing and writing life has

always been getting past that filter, the people who have the power to say, 'That's a pile of shit. We won't play this.' So we got around it in the end by creating the demand in the marketplace. If thousands of kids go out, see a band, and go crazy, they'll play it, even if they hate it.

"It was different in England, because we had to please that format, so we became all rounders."

On Mark Williams first album, V&Y wrote the songs, played all the instruments, and produced. *Show No Mercy* was all done on a keyboard with a sequencer. "That was really just a good dance song, with a very catchy hookline. And of course, Mark Williams has a great performing voice, and that is very important as well. So we had a combination of good commercial song, and hookline like *Show No Mercy*. Of course the sporting people quickly grabbed it. Give them something to latch onto, and they will! The damn thing couldn't help but be a hit, but it doesn't happen too often."

The most successful producer to have started out with V&Y is Mark Opitz, now at Mushroom. "We did try other people out who showed some promise, but it's very difficult when you try to pass something on to other people. What works for you doesn't necessarily work for them. They have to find their own level of doing things."

The present

In case you think they live in the past, they don't. V&Y have just finished producing a band in London, called Huge Baby. "They are way out there, completely different. A lot of it is abstract. It's a different way of putting across music by a rock band. It's almost a modern classical approach to rock music. That's the next cab off the rank. And we have a few other acts we signed over there."

Charles Fisher's "all-time favourite producers" are Vanda and Young. The feeling seems reciprocal. "Charles is the guy I would get to produce my album. He's professional, no-nonsense. The showbiz part is secondary. The circus is outside. Inside we're all musicians...Leave your ego at the door, or just apply it to your playing!" Vanda laughs.

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SSL AXIOM MT

Amsterdam's AES Convention saw the introduction of SSL's long-awaited digital mixing console. Zenon Schoepe reports:

Having covered pretty much all the areas of broadcast and postproduction that could see benefit in digital technology, it was inevitable that SSL would finally have to face up to the challenge of presenting a digital alternative to its market leading analogue music desks.

I've seen it, visitors to the Amsterdam AES saw it, it'll ship in October, and it's called the Axiom-MT.

OUTLINE

An outline of what is being offered should set the scene. The MT can run to 96 in-line channels (192 automated mix inputs) plus 12 stereo effects returns to the centre section.

It has 48 multitrack, 12 aux, and 12 main mix buses and each strip has access to 4-band fully parametric EQ with high and low filters and a separate compressor-limiter and expander-gate section. Automation is fully dynamic and snapshot with 5.1 capability.

However, most significantly of all the Axiom-MT looks from even a few paces like a generic SSL analogue desk - bits of the look of a 9000 and a 4000 - with bays of 8 channels loaded with in-line long and short motorised fader-equipped strips filled to brimming with pots and switches.

It really does not look like the popularly accepted picture of a digital desk. There is predictably some familial resemblance to the Axiom but the MT pips it substantially on knobs per strip. Dimensionally the MT is identical to the 9000, it actually uses its frame like the Axiom does. We're looking at yet another manifestation of the original core Axiom technology that started the whole A-Series thing rolling although it has to be said that this is probably the furthest out from the centre that the technology has been taken as the demands of the music mixing fraternity were seen to be specific and unique.

MISSION STATEMENT

SSL stresses that the MT doesn't replace anything and doesn't signal the rapid abandonment of SSL's analogue desk interests. SSL want us to see the MT as an accompaniment to its analogue desks as the new digital board is described as a mixing product rather than a tracking desk. The later function remains in the lap of the SL9000 which is the company's answer to the requirement for 96kHz capability although it could in effect be any other high grade analogue board.

If readers cast their minds back some years they may remember rumours of SSL ARC (Analogue Recording Console) which

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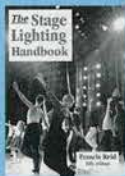
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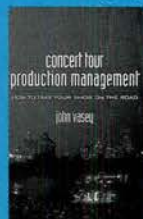
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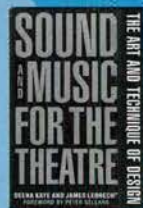
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SSL AXIOM MT

while it never materialised was at least conceptualised as being part of a duo for analogue recording and digital mixing. It's also worth recalling that the 9000 and the Axiom were announced simultaneously and very loosely packaged along these lines even though the Axiom never had the blatant music production slant that the MT has.

This time it thinks it really has hit the mark - analogue tracking boards for capturing the source material in wide bandwidth on to the chosen medium. Thereafter the MT fixes it into digital with all the benefits of dynamically automated mixing.

The announcement of a digital music desk from SSL has been something that has been expected yet the recent concentrated focus on broadcast and post made some believe that such a board would not necessarily emerge particularly as SSL was keen to play down the appropriateness of such a product.

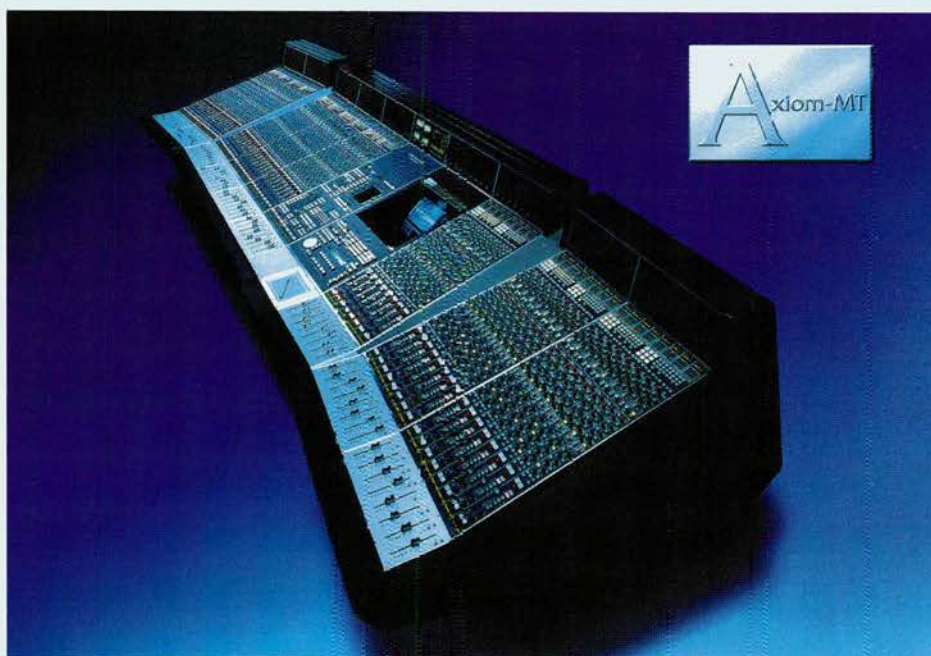
SO WHAT HAS CHANGED?

In a word DVD. With the certain remastering of music for the new format(s) the majority of the workload will be at the remixing stage where a digital music console makes a lot of sense and one of the MT's primary features is its ability to pan in 5.1 and other surround formats from large and small faders.

As far as the interface goes you can either go for a physical channel strip per in-line path or you can go for a smaller frame and employ another layer accessed by single buttons in the centre section, per bay or locally on each strip. It's important to remember that 'layering' as a concept was originally decried by SSL in its digital desks, whereas AMS Neve and others adopted it with vigour. SSL then introduced 'banking' to the Axiom but now freely refers to its desk's use of layers.

The 12U processor rack comes with four Highway ports each of which can split out to a range of I-O, such as 72 mic inputs, an analogue RIO with 48 16 or 20-bit I-O, a digital RIO with 96 I-Os, and an SDIF2 to Highway convertor. Or you can opt for the Hub router and access 24 Highway ports. This arrangement within the MT negates the need for a patchbay as you can control your routing from the desk once everything is connected up and labelled within the system. DiskTrack will be a future option (the desk I saw was running DiskTrack) but it's clear that the company is keen, in the first instance, to promote the message that this desk can go in anywhere and interface to anything.

The strip itself is neither a 9000 or a 4000 direct lift although it's close enough for jazz and familiarity with short and long fader paths, an aux section, EQ section, separately splittable filters, a dynamics section with gate and compressor, and gain. It's extremely important to note that this is the processing available per strip not per signal path in a strip and has to be divided between the two, just like on the analogue. I don't have a problem with this.



The desk is status-driven from traditional record, replay, and mix modes. Each bay has a routing tile at the top for assigning what comes in to the strips as named source groups. Thus where your route is where you'd expect to find it, at the top. However, there is a spare assignable routing tile placed in the centre section which permits some of the more mundane work associated with a session to be performed while sitting.

You can also load EQ and dynamics presets from here across the whole desk. Bay swapping, as on the Axiom, can be used to move bays closer to the operator for adjustment. Additionally you can create bays of stereo channels.

The EQ has high and low pass filters, accessed from one pot but usefully indicated by an associated display, while the 4-band fully parametric EQ has two pots per band - Q is assigned to the upper control on the press of a switch. These bands are frequency limited, just like the analogue, and not 20-20 arrangements. MT sports new cards that you will not find in the Axiom. The dynamics offer a compressor/limiter and a noise gate per strip via four controls which are switched between for the separate functions.

ERGONOMICS

The desk's dynamics use twice the processing employed in the Axiom. Each strip has an external switchable insert with the allocation of patching controlled from the monitor.

There are 12 aux sends accessible from the long and short faders but adjusted from six controls with each switchable for pre/post and groupable for stereo. Additionally any send can be flatted off the aux buses and sent to any of the 48 multitrack buses. In all instances you get a numerical readout of the control you are turning simultaneously in displays at the top and bottom of the strip. The built-in monitor will also track adjustments made with multiband numerical readouts superimposed over an EQ curve in the case of the EQ and a graph in the case of the dynamics. However, the design is such that in reality you will only need to resort to the screen for the patching and the finer points of the automation as the amount of desk visual feedback is enormous.

The continuous rotary controls have display rings around them that mimic the pointer on an ordinary pot cap and the EQ, for example, is even panel legended. You can copy section settings across strips and draw EQs and dynamic settings from a preset library. There are no on-board effects.

Two pan controls alter LR and front-back panning and can be switched between short and long faders with the formats dictated by the selected surround mode in each bay's output assignment routing tile at the top of the strips.

The centre covers traditional monitoring functions, master compressor (linked 5.1 capability possible), fader, levels, comms and solo. External sources can be 6-channel with selectable large and small surround loudspeaker systems. A small screen with associated rotary controllers and cut and AFL pushbuttons are switch selected to perform the function of aux masters, effects returns, foldback, and groups.

Motion control takes in one parallel port or four serial ports. The automation is fully dynamic for all desk functions with snapshots and is effectively a new system oriented towards music but retains terms like snap, autotakeover, autoglide, and match and play. You can choose to write in absolute or trim and the routines of join and revise and all replay are supported which SSL analogue users will be familiar with. The depth of the automation can be specified so if you want to break yourself in with just faders and mutes with the rest manual then you can.

AUTOMATION COMPUTER

One of the great feel-good factor that engineers have about

SSLs is that they become proficient in driving the automation computer. MT's package, while not identical to anything that has existed before in the analogue domain, has enough hooks in it to at least sound familiar initially. It's then up to the engineer to learn the extra to tackle full dynamic automation. All the controls can be dropped into write by touch sensing.

However, there are several automation modes that will be more familiar to users of SSL digital post systems. You can, for example, run the desk in a Rollback mode, which basically writes every single twitch and press on the desk, or a Mix Fill mode. The latter allows EQs, for example, to be tweaked and tuned while listening to the mix but only remembers the last setting that you arrive at and are presumably you are happy with. Again, just like the analogue.

Five mixes can be held in a temporary buffer for immediate direct comparison on-the-fly and for permanent storage the mix plus the routing, effects returns and everything else is stored in a project.

Dynamic automation is augmented by snapshots which reset the whole desk in less than a second. Cuts are frame accurate. There's long and short fader and cut grouping and the ability to group EQ and pan controls plus strip switches for instances where you would want to perform simultaneous multiple aux cuts, for example.

It really is quite a package and a familiar one at that. Getting the interface right on its digital music mixer is probably more important for SSL than anyone else as failing to do so could alienate the generation of engineers who have grown older while sitting behind their analogue ones. The MT manages to

continued over >

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achieve the balance of incorporating established working practices and expectations in to a new board.

Anyone with even a passing acquaintance with the philosophy of how an SSL works will grasp the concept of how this digital desk works without too much trouble. It looks largely like an analogue music SSL and to a point it behaves like one. Probably the biggest learning curve resides in mastering the nuances and peculiarities of thought required to get a grip on full dynamic automation. Every engineer has to learn about this at some stage but thankfully it's not an immediate prerequisite for the MT.

I'm most impressed with the fact that you don't actually need to bother with the computer monitor to get the desk going. Things happen on a local level and while there are some dual function controls on the strip, they are obvious ones.

It's ironic how quickly the concept of assignability, the superstrip and a handful of strip controls gained credibility with digital desks when in reality it was introduced originally to allow the same worksurface to be able to attempt to satisfy different applications and, more pertinently, to keep costs down. All everybody ever wanted was a digital desk with an analogue feel and a knob and switch on the top for every function. This is still to happen, presumably while the slow process of evolution extends our arm reach to that of an orang-outan, but at this point in time the MT gets closer than the rest.

Yes, you can choose to opt for the smaller worksurface and the two layers but I've a suspicion that most would probably prefer the visual impact of the fully expanded versions. Shipping will start in October, according to the company, for around the

price of an I-O for I-O 9000 J Series.

Indeed if you were to think long and hard about the I-O side of the MT and identify what you could live without and go for the smaller layered surface then it would weigh in significantly cheaper than a 9000J.

While the MT is not intended to compete for sales with the 9000J on the grounds that the analogue board outperforms the digital one sonically, and because SSL sees the two as working alongside each other in tracking and mixing duties, I'm not sure that their customers will necessarily see it that simply. As a tool for DVD mixing, absolutely, but I suspect that the digital moniker may sway some buyers towards the board with the intention of using it as an allrounder simply because it will allow them to differentiate themselves from their local competition.

Either way the Axiom-MT is a surprisingly logical extension of the A- Series range and a very promising attempt to transfer analogue operability to digital for music.

The Capricorn and the Oxford have some company.

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Zenon Schoepe is executive editor of Studio Sound magazine. This preview first appeared in Pro Sound News USA.

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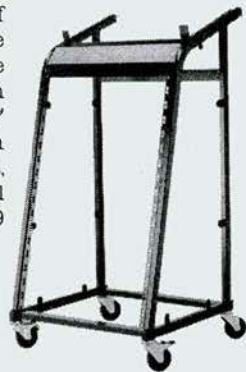
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Write in Reader Service Number: 132

www.conpub.com.au July '98

Mal and Me

Duncan Fry

Every girl's crazy 'bout a sharp dressed man

When I used to mix bands full time, and lived the strangely no-madic, semi-nocturnal life of the working sound engineer, casual acquaintances would often ask "What do you do for a living?"

If I replied that I worked in the Live Sound industry and did the sound for bands, their reaction was usually one of three generic types:

Older people would tend to say "Yes, but what about your **real** job?" the implication being that working 24 hours days and nights without a suit and tie somehow wasn't a **real** job. You could always feign deafness, cup your hand to your ear and say "WHAT? You'll have to speak up - I'm a sound engineer!" but old folks often didn't find that too funny!

A typical response to telling people you mixed Live Sound was "Have you worked for anyone famous?" to which I would reply, "No, but I did stuff up the sound once for Malcolm 'Where's my troosers' Fraser!"

It was a large Rotary convention at the Exhibition Buildings in Melbourne. All the big wheels were there (sorry - I couldn't resist that!). We put up a large stack each side of the stage, and then built a tower out of instant scaffolding off to one side, where we placed the mixer and drive racks. The whole thing was checked thoroughly and ran like clockwork. Andy "Biffa" Johnson and myself were left in charge to babysit the system and make any changes as needed throughout the day.

For the main presenter's microphone we had decided to use an EV electret condenser that had a really clean and snappy sparkle to

it. It ran off either phantom power or a peculiar voltage battery that only EV seemed able to supply at great expense. Since the phantom power on the console had been playing up lately, we opted for batteries, mortgaged the factory and bought a couple of them. Now, I don't mean any disrespect to the Rotary people, who were really easy to get along with, but unless you were heavily involved with the organisation, it wasn't the most exciting thing in the world to watch. Speech after speech by people who droned on and on all day. So I stuck on a cassette and listened to it in headphones via the PFL, while Andy dozed.

The keynote speech was to be given by Mal, and as the appointed time drew near, extra security people slowly filtered in and stood around the hall. The Rotary president came up to the mic, and said: "And now, ladies and gentlemen...the Prime Minister of Australia, the honourable Malcolm Fraser." The mic sounded sweet and clear - no problems there. I relaxed as the crowd leaped to their feet as Mal entered the room to riotous applause, and a couple of TV crew scuttled forward and quickly taped some extra mics onto mine, to record sound for their video.

The Prime Minister walked on stage, acknowledged the crowd, and stepped up to the podium.

As he began to speak, the f***ing mic went dead!

Up in our little tower Andy and I jumped to our feet as if we'd been given a liquid nitrogen enema!

"Quick, get down and change the mic" I whispered urgently to him, helping him on his way down the ladder with the toe of my shoe. "I'll check the mixer to see if everything's OK this end. Hurry!"

As he was launched into mid-air I quickly scanned the desk, wig-gled connectors, but everything seemed OK.

What could it be? I leaned on the desk (it was a Tapco Catalina, forerunner of the Mackie) which had a switch that had caused grief to many an unsuspecting engineer. And I was about to become one of them. One of my fingers accidentally pushed the PFL to Main Outputs switch.

Whoops - my tape was still running!

BANG! Loud music blasted out of the speakers, and security men in trenchcoats rushed the stage, thinking a bomb had gone off. But no, it was only ZZ Top's 'Sharp Dressed Man' rockin' the joint! I yanked the master faders down as Andy battled his way through the security men to get to the stage. Even without a mic I could hear him arguing "Outta my way, you f***king arseholes" in his usual tactful manner!

After what seemed an age he got there, swapped the mic for a 58, and we were back in business. The Rotary president came back to the mic, chuckled and said "We just wanted to make sure we had your attention", handed the podium back to Mal, who was looking a little shaken, to say the least, and the show went on.

During the rest of the afternoon I studied the mic carefully. I plugged it back in, checked it in the PFL - it worked perfectly. I shook it - it still worked. I shook it again - and it stopped! Unscrewing the barrel to check the battery, I noticed that the spring terminals were not making a strong contact to the battery, and there was just enough slop in the fit for it to occasionally stop making contact by a gnat's whisker. Enough to stop it working!

I roamed around the hall during the afternoon, chatting to delegates, and attempting to put some spin on the occurrence. But I didn't need to. The grand poobah was quite certain where the problem lay.

"Not your fault at all, old chap," he confided in me. "Don't blame yourself. It's obvious what the problem was." He leaned over conspiratorially. "I blame radical left wing TV crews deliberately sabotaging the speech as a protest!"

"Hmm," I nodded as he handed me the cheque. "You may be right!"

Day the PM was rocked

EVERYTHING had gone to plan . . . the Prime Minister's limousine had pulled up on schedule outside the Exhibition Building on Saturday.

The 5000 Rotarians were seated patiently awaiting Mr Fraser's arrival.

"The Prime Minister is approaching the stage," said Rotary International president Dr Stanley McCaffrey.

The audience rose and loudly applauded. Then silence . . . The microphone was dead.

Technicians came out of the woodwork, photographers clicked and the Rotary president blushed.

The minutes dragged by - still silence.

Then suddenly, a deafening thud, and the roar of heavy rock music rang out.

The Prime Minister jumped. His security officers jumped higher. The Rotary president turned from pink to red.

Finally, a new microphone was installed.

"We just wanted to make sure we had your attention," said the quivering president.

Unshaken, Mr Fraser rose and delivered a speech on relations between rich and poor nations.

From The Age, proof that Fry doesn't just make up these stories!

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Write in Reader Service Number: 163

DVD audio specification arrives

Extract from DVD working group brief at AES Amsterdam, extracted by Julius Grafton

In December 1995, shortly after the standard for DVD Video was set, the ten companies of the DVD forum created a committee, working group four (WG-4), to formulate specifications for the DVD Audio format.

In response, the music industry created its international steering committee (ISC) comprised of technical and business executives from the world's six major music companies and the three leading music industry trade associations; RIAA, IFPI, RIAJ.

Over the subsequent two and one-half years, the two committees exchanged views in numerous meetings held in New York, London, Los Angeles and Tokyo. The result of this unprecedented collaborative effort is the draft specification for DVD Audio ... the next generation music industry format utilizes the DVD Disc storage capacity that is seven times CD capacity ... dedicated to delivering new levels of sound quality and added value features to music buyers worldwide.

In the second half of 1998, the 1.0 specifications will be issued, player manufacturers will complete steps to begin production and music industry professionals will formulate release plans for DVD albums. Over the same time period, efforts for realizing multi-industry agreements for implementing new copyright management technology will be accelerated - a critical step for launching the new format.

More than technical specifications and copy protection agreements are required for a successful launch of DVD Audio. The creative community plays a critical role. Artists, producers, engineers and independent recording studios must all participate in the creative process to produce new DVD albums. Ultimately, it is the artistic expression of the DVD Audio format that will generate consumer interest to achieve success in the marketplace.

What benefits does DVD Audio offer consumers?

Multi-Channel Sound Foremost, DVD Audio will provide recorded music with greater sound quality than ever before. AN discs will offer two channel stereo playback, and all players will be capable of reproducing music mastered at up to 192 KHz/24 bit sampling rates. In addition, the growing number of home theatre owners will already have 6 speaker set-ups allowing easy upgrade to enjoy discrete multi-channel sound with up to 96 KHz/24 bit sound on each channel. Future car players, boomboxes and multi-channel headsets will also be developed to support this new, closer to live, listening experience.

DVD Platform Compatibility

DVD Audio players will play current CD's and the format will be compatible with DVD Video and DVD ROM hardware so consumers can listen to music without investment in separate DVD Audio only players.

Added Value Content

Music fans will also enjoy supplementing the listening experience with related information about the album and artist, such as video display of lyrics, artist commentary, audio/video discography and other menu driven information which the artists wish to convey.

Direct Web Connections

URL addresses for official artist Internet sites, can be easily inserted onto the discs to allow music buyers one click access to the Internet (via DVD ROM drives) for up to date information.

Music Videos

The many music videos that are made, but never

seen, can now be easily added onto the DVD Audio Disc for playback on any DVD Video capable playback device.

What sound technology does the format allow?

All DVD Audio players will support a full complement of front/rear LPCM sampling rate and bit depth combinations including 44.1/88.2/176.4 KHz or 48, 96, 192 KHz - all at either 16, 20 or 24 bit depths. This allows a smooth transition from current recording technology to the widely recognized new state of the art. The format also accommodates a number of optional recording technologies including Dolby Digital, DTS and DSSI).

What are the minimum requirements?

All discs must have at least two channels of LPCM which will play back on the first DVD Audio players and all future players. This ensures that when future players are made to accommodate new technology, they will also play the first DVD Audio discs that are sold.

CREATIVE ISSUES AND ANSWERS:

Hard centre or only 2 front speaker output?

Equal front/rear sampling rate bit/depths or split such as 96/24 front 48/16 rear?

Separate 2 channel mix or programmed multi-channel fold down?

Lossless data compression for longer playing time or only uncompressed LPCM?

Only LPCM or other technologies, such as DTS?

All above are content producer's choice.

Down Mix Control for linear PCM audio:

- Down mix control from Multi-channel to 2-channel is supported for stereo presentation of Multi-channel contents.
- Down mix coefficients are defined by the content provider.
- 16 coefficient tables can be re-defined by each Audio Title Set (ATS).
- Range of down mix coefficients (mixing ratio) is 0dB-6dB.
- A coefficient table for each track can be selected from 16 tables.
- Player mandatory, disc optional.

Basic parameters of DVD audio:

- Scalable Linear PCM Multichannel audio
- 48kHz/96kHz, 44.1kHz/88.2kHz and 16/20/24 bits, 6 channels max
- Super High Quality Linear PCM audio, 192kHz/176.4kHz and 16/20/24 bits, 2 channels max
- Down mix control for stereo presentation of Mult channel contents From Multi-channel to 2-channel
- Audio attribute set can be selected by each track, Fs/Qb, number of channels, etc.
- Frame Rate: 1.1200 sec. (fs: 48/96/192kHz), 1/1102.5 sec (fs: 44.1/88.2/176.4kHz)
- Bit Rate: 9.9.6Mbps max

More information supplied as it comes to hand.

Channel Assignment with Two Groups

-Fs/Qb of Channel Group 1 should be better or equal to Channel Group 2

When the priority of sound quality is given to front "L,R" channels

When the priority of sound quality is given to front "L,R,C" channels

When the priority of sound quality is given to corner "L, R, Ls, Rs" channels

	ch0	ch1	ch2	ch3	ch4	ch5
1	C					
2	L	R				
3	L	R	S			
4	L	R	Ls	Rs		
5	L	R	Lfe			
6	L	R	Lfe	S		
7	L	R	Lfe	Ls	Rs	
8	L	R	C			
9	L	R	C	S		
10	L	R	C	Ls	Rs	
11	L	R	C	Lfe		
12	L	R	C	Lfe	S	
13	L	R	C	Lfe	Ls	Rs
14	L	R	C	S		
15	L	R	C	Ls	Rs	
16	L	R	C	Lfe		
17	L	R	C	Lfe	S	
18	L	R	C	Lfe	Ls	Rs
19	L	R	Ls	Rs	Lfe	
20	L	R	Ls	Rs	C	
21	L	R	Ls	Rs	C	Lfe

Channel Group 1

Channel Group 2

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Write in Reader Service Number 141

PROTALK: MY DAW AND ME

STUDIO OWNERS TELL OF THEIR TRIALS, TRIBULATIONS & JOYS WITH DIGITAL AUDIO WORKSTATIONS

Philip Muscatello from Really, Really BIG Productions is bitter sweet about his Producer for Prisma system on a Pentium 133. He bought it in December '96 from Turramurra Music in Sydney and says it was the best for the price. But: "Spectral have discontinued this model and will not be supporting it....Bummer! It's a fantastic system, intuitive, reliable, and great for the kind of editing that I do. Future options: "The software was designed by Stephen St. Croix who has now done (Ensoniq's) Paris....I must check that out."

Anthony "Tok" Norris, from Woodstock Studios likes his ProTools 24 on a Macintosh PPC 7600/120, with 64 Mb Ram, and 6 Gig Audio Drives. He got it in '96 from Manny's in Melbourne and has upgraded it since.

Would he buy it again? "Yes, 24 bit audio surprisingly far better quality. TDM plugins are a joy. ADAT Digital Interface works like a charm."

Ditto **Glen Heaton** from Hullabaloo started with the older PT3 Hardware system with PT 4.1.1. software. A Mackie 8 Bus desk for analogue in's and out's completed the system, which runs at 16bit. It was bought back in '93, from Sound Devices in Sydney. Reason? "Expansion options, compatibility, ease of use".

"We now have 2 x 4.1 systems. They're perfect for our studio; doing multi production and audio post. Plug-ins make the system extremely versatile. A great system, excellent value for money, and support from Sound Devices and Digidesign is exceptional."

Adam Dempsey from Dex Mastering uses Sonic Solutions on a Apple Mac Quadra 800 (our favourite older Mac here at Connections!), with Sonic Studio & No Noise software, an 8mm Exabyte Drive for big time multi gig storage, a Sony CD Drive, and a 4 Gigabyte Hard Drive for minute by minute work. It was bought in 1995 from Syncrotech in Sydney. Why? "Features, speed, multitasking and quality".

Would he buy it again? "Yes, Definitely, for editing, this system is so quick. 'No Noise' is great." But a word of caution for every user of a PC or Mac: "Maintenance procedure (is important), part of which is regularly re-making (de-fragmenting) the hard drives. Sonically, the system is superb and the desk automation (snapshot and dynamic) is "right on"! Sonic Studio also has a jitter attenuator on its inputs and a rock-solid digital clock. ie: snappy recording direct to the system can improve sound quality."

Rick Mostyn from Lucinda Street Recordings is another Digidesign/Mac fan. It came in 1995 from Sound Devices and was chosen "because it was the only system". It's been upgraded twice. Would he buy it again? "Yes, although now I have lots more options available to me, although limited cash. The performance of the Hard-disc recorder is supreme. It provides the best recording quality in the market place."

Brian McMahon from Metropolis Studios, Melbourne uses the Fairlight MFX3 Plus, with 24 Tracks, 24 Inputs, and 9 gig hard drives. "All our machines are fully optioned, and were chosen because it was the best. We upgraded from MFX2". Would they buy Fairlight again? "Yes, We already own 3 machines. It's Australian made, what more can we say?"

Robert Searls from @Fx is in the same boat, using a Fairlight MFX3 with 8 tracks. it was acquired in 1996, because of its interface and dedicated editor. It's been upgraded since, and Fairlight wopuld be purchased again.

Paul Bryant from Paul Bryant Mastering uses Microsound. It is a computer based workstation with dedicated DSP boards plus breakout box, 2ch in/out, for 100 virtual tracks. Acquisition date: 1995, from Microsound Australia. It was chosen "because it was the best of the cheapest/cheapest of the best" It was upgraded since: Software upgrades included in price. Would he buy it again?: Maybe-New model, is good, but so is the competition.

Comments: Good- Reliability, sound quality, waveform display,

editing flexibility.

Bad- Almost unknown. Few effects, non-standard file format.

Barrie Clissold from Wombat Recording Studio has 2 x Fostex D-80's - an 8 track Hard Disc Recorder, which can be linked together to provide up to 24 tracks at 44.1KHz Sampling rate. Both Machines were purchased during 1997/98 Financial Year.

Chosen Because: "Ease of use and good price for stand alone system".

Upgraded since? "No except to install Larger Hard Drives".

Would they buy one again? "Probably not, due to limitations in expandability and sound quality, some limitations in features as well.

Comments: "These D-80 Machines are limited in performance but are still very user friendly and quick and cheap to use. We use them mainly for voiceover work and other projects that don't require many tracks or elaborate facilities such as vari-speed or high sonic quality. They are also used for very fine editing (cutting and pasting) etc of final digital masters. As you record digitally via the optical in/out 2 tracks at a time from say a DAT master, do your editing and then dump back to DAT without leaving the digital domain or suffering any noticeable sound degradation. Also handy for compiling material before committing it to C.D. (Recordable) and for cassette duplication for that matter! (A Hard Disk seems to suffer less wear and tear than a tape based system!)"

Jamie Durrant, from Bank Mixdown (formerly Boat House) is also a Fostex user, with a D160 Removable 16 Trk Harddisk recorder. Bought: early '98, From: Audio Oz (Melb), because: "It doesn't connect to a computer, (so it won't crash)!"

Would he buy it again? "Yes, however better A/D converters could aid in sound quality - however it works very well with my vintage Neve Console. It's very easy to use, with great remote control - it is just like using a normal multi-track no software problems, no booting up, no crap - it just works!"

Adam Calaitzis from Toyland Studio uses Logic Audio on PC, a Pentium 166 with 64 meg ram. It came in June 1996 from Microarts Computers. Why? "Familiar with Logic Audio, Price, Performance". Would he buy it again? "Yes, I love it. It has changed the way I work. Logic Audio integrates with my Analog 24 Track studio, giving me 24 Digital tracks that are editable at any time. Having 48 Tracks has enabled me to do complex productions with ease and being able to edit at any time has given me a great amount of freedom I am always finding new ways to do the things I've always done".

Tom Thorpe from Bonsai (WA) uses ProTools 24 bit on a MAC-9500. it came in April 98 from Kosmic. Because: "24 Bit Resolution/ Pro Features. Would he buy it again? "Yes - I'm very satisfied with the quality and performance. I have been keen to get into hard disc recording, with all it's obvious editing power, for quite some time now. I waited until the release of the 24-bit version, as there is a substantial improvement over 16-bit, even when dithered back to 16-bit at final mix. What sold me on ProTools? - smooth and functional software, a huge range of plug-ins and the sound of the 888/24 interface - It sounds very, very good! I would stress the importance of a good backup system to anyone buying into hard disk audio.

Martin Pullan from Edensound Productions uses EdDitor Plus, and SawPlus 32 on a Pentium 200mhz. He first Bought "The Editor" in '91 (early version of the Editor Plus) from Arlcom Systems, because "Simple, cost effective, does the job". Would he buy it again? "I will continue to upgrade my system as I am committed to the PC path. I am happy with EdDitor Plus (which is now called "Fast Edit") from Digital Audio Labs for our mastering applications. Basically it is only used for a storage medium, I do all my processing analogue on the way in. I haven't found anything as fast to edit on; De breathing is brilliant. SAW Plus 32 is amazing for the price. It does just about everything that systems many times the price will do. •

Thanks to all those who participated, including another ten studio owners. We ran out of space, but thanks anyway!

HOW TO DO IT

DUNCAN FRY'S LIVE SOUND MIXING

- MIXING CONSOLES (CONTD) (Part 6)

MIXING CONSOLE REAR PANEL

This is the back of the console where the leads all plug in - the multicore snake, the effects sends and returns, and the Main outputs.

Each channel will have at least a microphone input (usually XLR type), and some or all of the following.

- A separate Line input (usually a guitar jack, but sometimes another XLR)
- An Insert jack or jacks. If there are two, they are marked Insert IN and Insert OUT. If there is only one, it is a TRS jack (stereo jack - it stands for Tip, Ring, Sleeve), and Tip is usually IN, Ring is OUT, and Sleeve is Earth/Ground for both of them. Tip and Ring functions may be reversed on some desks (Mackie for one), but in either case the configuration is usually printed on the rear panel.

The Insert point is used to insert an Effect, a Gate, a Compressor, an EQ, a De-Esser or any other signal processor into the channel. It breaks the signal flow of the channel after the Gain stage, sends the signal OUT to the Effect etc, then brings the Effect etc back IN to the channel.



TO COMPRESSOR, GATE, EQ, JALIZER, DE-ESSER
RETURN FROM COMPRESSOR, GATE, EQ, JALIZER, DE-ESSER

This is useful if you want to use the effect or whatever on ONE channel only. It saves tying up the Auxiliary sends, leaving them free for effects that may be needed on more than one channel. The Insert point is a very common place to put Noise Gates.

- There may also be a separate Line Out or Direct Out jack, usually used for recording. This can be Pre Fade or Post Fade, depending on the console.

Over in the Master section there will be the Auxiliary Outputs, either marked by number - Aux 1 Out, Aux 2 Out, etc, or by name - Effects Out, Monitor (or Mon) Out; it depends on what is written on the channel knobs.

There will also be the Auxiliary Returns, marked Aux 1 Return (Ret) or Effects Return (Eff Ret), again depending on what is on the channel.

Each Group can have an Insert point (Group 1 Ins, Group 2 Ins, etc) which is set up and used the same way as the channel Inserts, and there can also be separate Group Outputs, which are generally used for recording purposes.

The Master Left and Right Outputs will either be XLR



type or Jack (or sometimes both), and there may be a separate Mono Out.

This will be the sum of the Left and Right outputs, and may have its own control on the front panel. Don't confuse it with the MON (Monitor) output when you are plugging everything up. Plus, like the channels and the groups, there may also be Insert points on these Master outputs.

POWER SUPPLY

Some consoles plug straight into the main AC power, but others don't. If the console has a separate External power supply,



MIC IN



LINE IN



INSERT



DIRECT OUT (LINE OUT)



AUX 1 OUT EFF. OUT



AUX 2 OUT MON. OUT



AUX 1 RET EFF RET



GROUP 1 OUT

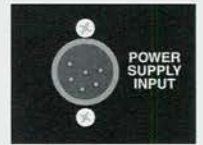


GROUP 1 INSERT



INTERNAL POWER SUPPLY - A 110/240V AC INPUT CONNECTOR

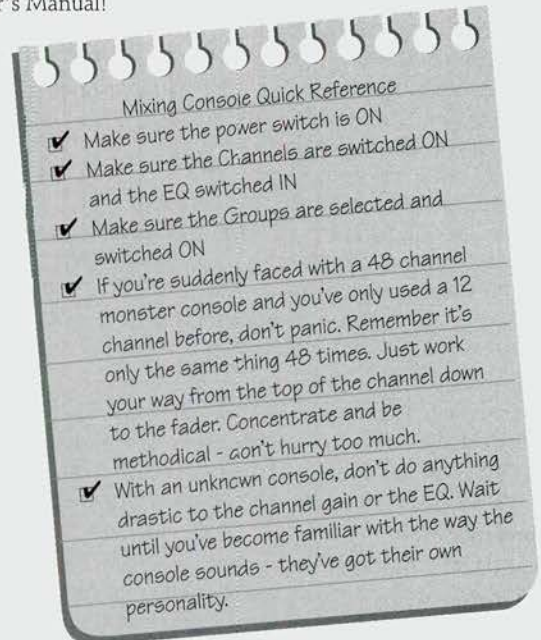
EXTERNAL POWER SUPPLY - A LOW VOLTAGE DC MULTIPIN CONNECTOR



ther: there will be a multipin connector of some kind where it will plug in. This will supply all the different voltages that different parts of the console need.

An external power supply like this is an amplifier shaped unit that may be either loose or mounted in the effects rack. If it is loose, make sure you don't leave it behind when you pack up after the gig. It can be a real nuisance to drive back the next day and pick it up!

Well, that's the connections you need to get the system happening. There may well be more holes in the rear panel; if you can't work out what they are, then look them up in the Owner's Manual!



This is extracted from the top selling book: LIVE SOUND MIXING, by Duncan Fry. © D.R. Fry 1998. ISBN0 646 11235 X. Retail: \$39.00. Available from book stores and music shops everywhere, also through the Connections Shop, call 1-800-635-514.

HOW TO DO IT

TOM MISNER'S PRACTICAL STUDIO TECHNIQUES

- PRACTICAL EFFECTS (Part 6)

PRACTICAL EFFECTS

An understanding of basic acoustics helps the engineer with the operation of digital effects such as reverb units, which have a large number of adjustable parameters. When we hear a live musical performance we are generally unaware of the variety of sounds and reflections which make up the final signal. We are visually aware of the musicians and their instruments; and if we listen analytically we may also hear how large and reflective the room is.

How do we come to know these things? To be sure we are vastly aided by sight, but even blindfolded we could perceive most of these things. To understand how room acoustics influence the sound, it is convenient to divide our perception of sound into three separate time intervals: direct sound, early reflections and reverberation.

Direct Sound

The first sound we hear is that which comes directly to us, by line of sight from the source. This is known as the direct sound, and is extremely important. It is uncluttered by whatever reflections or reverberation the room acoustics will produce, and it gives our ears a time reference point. The direct sound only lasts as long as the source emits the sound. Although our hearing mechanisms will fuse this sound with the early reflections that follow, it still has paramount importance due to the precedence effect, which helps us to locate the direction of the sound (refer to 'The Human ear', part 1). The direct sound comes to us with a different frequency response to that of the later arriving reflections, and conveys the all important transient characteristics to the listener.

Early Reflections

The second time interval of our sound perception begins with the arrival of the first reflection from the closest room boundary. This will be followed by other reflections, arriving later in time while decreasing in amplitude. These reflections are collectively called early reflections. Each reflection has a loss of energy due to absorption by the boundary it reflects off and determined by the materials the boundary is made of. Different materials absorb different amounts of energy at different frequencies. Each reflection will be lower in overall level than the direct sound and, because of the frequency absorption, each reflection will have a different frequency balance.

The tonal character of the early reflections can tell us how 'live' the room is, and thereby how hard the walls are. The time interval between each individual reflection determines the density of the reflections. It is related to the path lengths of each reflection, which is determined by the room size. Longer path lengths indicate a larger room.

Reverberation

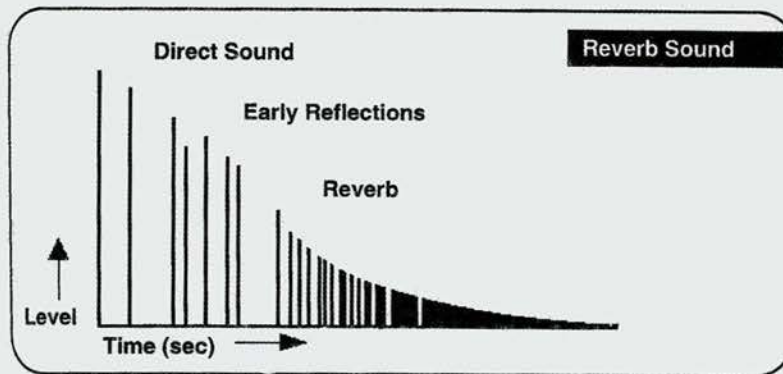
Shortly after the direct sound, the number of reflections increases to the point where individual reflections become indistinguishable and we are in the last time period: the reverberation time. The reflections are coming from all directions now, and are so frequent that they blend together to form a diffuse, gradually decaying reverberation which envelops the original sound with its warmth and body. Because sound radiates in all directions, the intensity of the direct sound is relatively small in comparison to the intensity of the reverberation.

Reverberation is characterized by its frequency spectrum. High frequencies are attenuated due to wall and air absorption, and lower frequencies are enhanced. The time it takes for reverberation to build up, following the beginning of the direct sound, is determined by the size of the room and its surfaces. The time taken for the reverberation to die away, following the end of the direct sound, is also determined by the size of the room and its surfaces. It is defined as the time taken for the reverberation intensity to decrease by 60 dB, and is referred to as RT60, decay time or reverberation time.

Reverberation modifies our perception of sound in several useful ways. It reinforces the direct sound, surrounding it with a warm mantle of ambience and increased volume. Reverberation also helps our hearing mechanism to estimate the distance to the sound source - the ratio of direct to reverberant sound is a function of our closeness to the source.

Summary of basic acoustics

When a musical source in a room produces a sound, some of its energy travels straight to us - the direct sound - and is the first sound we hear. From the direct sound we learn the nature of the source, its location, and its spatial distribution. Next come the early reflections, which are caused by the source energy reflecting from room boundaries. The early reflections arrive from many different directions and blend smoothly with the direct sound, enhancing its loudness and body. They also tell us about the size and surfaces of the room, and the position of the sound source relative to the room and the listener. Finally, after the direct sound and the early reflections, the room begins to truly 'sing', delivering the great bulk of source energy as reverberation. Spatially diffuse and impossible to localize, the reverberation blends with the source sound, providing an essential impression of the 'liveness' of the room and adding colour and body to the sound before it dies away.



THE DIGITAL DELAY

Digital time processing devices were introduced to the studio many years ago. The first units on the market were very expensive, and by today's standards rather limited in their features and sound quality - most units were restricted to a 12 kHz bandwidth. As digital technology progressed, the cost of compo-

nents decreased and the price and quality of Digital Delay Lines (DDLs) improved.

The digital delay line takes the analog input signal and encodes it into digital data through a process known as A-D conversion. The digital data contains thousands of individual numbers - called samples - which represent the amplitude of the analog input signal at a particular point in time. The samples are fed one after another into a short-term digital memory circuit called a shift register, which is controlled by clock pulses from a high-frequency oscillator. Every clock pulse causes the samples to move one step through the shift register, making their way from input through to output. The frequency of the clock pulses determines how long it takes the samples to travel through the shift register, thereby determining the delay time. When each sample reaches the shift register's output, it is converted back into an analog signal through a process known as D-A Conversion.

One of the most important specifications of a digital delay line is the

DECIBEL

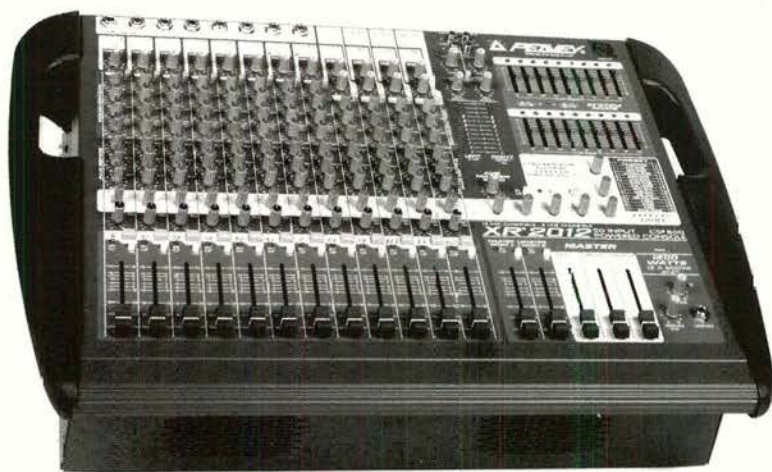
NEWS VIEWS & INFORMATION

AUDIO TELEX
COMMUNICATIONS PTY LTD

July 1998

The XR2012.....Simply the Best!!

In a crowded market, it takes a special product to stand out from the rest. The new XR2012 powered mixer from Peavey is one such product. With features galore and the remarkable power-to-weight ratio of the CS800S amplifier, the XR2012 is finding homes in all sort of applications where tons of control, loads of power and portability are required.



Included in the XR2012 are dual 9 band graphic EQ's with FLS™, Peavey's **Feed-back Locating System**. FLS consists of an LED above each EQ slider which illuminates to show which frequency or frequencies are causing feedback. If you hear feedback, simply look for the illuminated LED and attenuate that slider. It's that simple!!!

The XR2012 includes a total of 12 balanced XLR mic inputs and 4 stereo line inputs, all of which can be used at once. When matched with the adjustable Delta-fex reverb, dual FLS equipped equalisers and the performance of the CS800S power amplifier, the XR2012 defines a new standard for high performance powered consoles. And best of all, the whole package weighs in at just 19.5kg!!!

The XR2012 includes a total of 12 balanced XLR mic in-

- 12 Low Noise mic preamps
- 4 stereo line inputs
- 2 x 600w (at 2 ohms), 2 x 420w (at 4 ohms) lightweight power amplifier
- 3 band EQ with mid-sweep
- 2 Monitor, 1 Effects and 1 Aux send
- Mute and PFL on every channel
- Pad & Polarity on 2 "Super Channels"
- 60mm precision faders
- Patch points for mixer, monitor and amplifier routing
- TRS insert points on first 8 mic channels
- Dual 9 band graphic EQ with FLS™ (Feedback Locating System)
- Built-in digital effects unit with 16 presets (2 adjustable parameters on each preset)
- Only 19.5 kg!!!!

XR2012 \$5144.00 inc tax (Australia)
\$5225.00 + gst (New Zealand)

An 8 channel, dual 300w version, the XR886, is also available. Please call for details.



PEAVEY

Symetrix

SABINE
ADAPTIVE AUDIO

Telex

RFX
Wireless Microphone
Systems

SOUNDSPHERE

Switchcraft®

MISCO
Minneapolis Speaker Company

OXMOR



GOLDLINE

AMPETRONIC

AMPETRONIC

Induction/Hearing Loop Systems

New for Audio Telex is the Ampetronic range of induction loop products. In a deal confirmed last month, Audio Telex have been appointed the exclusive distributor for Ampetronic in both Australia and New Zealand.

Ampetronic are a UK based manufacturer with more than 60% market share in Europe. They are specialists in the field of induction loops and have a complete range of products suitable for almost any size induction loop installation.

The Ampetronic range includes a complete product solution to enable those with hearing aids to hear high quality audio in even the largest or most difficult rooms. Hearing aid users simply select the 'T' (telecoil) switch on their hearing aids and crystal clear audio will be heard. Alternatively, a belt-pack receiver with headphones is available for bi-lingual applications.

We have a range of competitively priced, application specific loop drivers to suit any size installation from a small window intercom system right through to the largest cathedral, hall or stadium. Many of the drivers include Compression and Auto Gain Control circuits as well as full front panel fault monitoring. The Ampetronic product catalogue includes everything needed for loop installations including:

- **Loop Drivers**
- **Combining Units**
- **Copper Foil Tape**
- **Pre-Amps**
- **Receivers with Headphones**

Ampetronic products are **designed specifically** and only for induction loop systems. No longer do you have to put up with 'modified' PA products.

Why An Induction Loop?

In a noisy environment, or one in which reverberations and echoes are noticeable, we all find it difficult at times to hear and understand what is being said. For a person with impaired hearing wearing a hearing aid, it can be almost impossible to hear and understand in such conditions. Enter the induction loop.

With an induction loop, the sounds get to the user in a pure, undistorted form, not affected by the distance the listener is from the sound source, nor by any interfering background noises in the room.

Low-Spillover Systems

Audio frequency induction loops create a magnetic field which is not constrained to the area of the loop installation. Normal systems create enough spillover so that they are clearly audible some 4 loop sizes away. There are many instances where this is unacceptable such as in multi-screen cinema complexes, conference room situations, council chambers, court rooms etc.

Ampetronic have developed various technologies to minimise the loop spill-over such that the above situations can be easily resolved. To use a cinema for example, Ampetronic can provide a solution where crosstalk from adjacent cinemas is more than 40dB down on normal signal level. Additionally, some **other techniques can be used to create secure systems** where absolute secrecy is vital.

Copper Foil Flat Cable

Conventional cable can be difficult to install in certain applications. Ampetronic can supply a flat copper cable which can easily be installed under carpet, lino etc.

Consultancy

The design and installation of Audio Frequency Induction Loops (AFILS) is a very specialised field and is often outside the knowledge of many specifiers and installers. This is especially true in unusual situations such as theatres with balconies, irregular shaped rooms, very large rooms and low-spill or secure systems as mentioned earlier.

To assist in the design of a system, Ampetronic have developed an advanced computer program designed specifically for their products. The program permits the full analysis and computation of the entire spatial magnetic field generated by the complex loop layout. Full provision is made for phased arrays, current ratio's etc.

The worldwide Ampetronic users list reads like a who's who of prestigious venues. Locally, systems have already been installed in the following venues:

- **Sydney Uni Lecture Theatres**
- **Sydney Showgrounds at Homebush**
- **Homebush Exhibition Dome**
- **Stadium Australia**
- **Plus many local churches**

Please feel free to discuss your requirements in complete confidence with your local Audio Telex branch. We have the Ampetronic support team at our disposal to ensure that your system is designed to perform perfectly.

Please call for full information on the Ampetronic range.

*The Complete System
Capability*

AMPETRONIC

2 Year Conditional Warranty

on ALL products!!

Perth On The Move

Our Perth office have just completed a move into larger premises. The new, more central office in Fitzgerald Street is well over double the size of our previous office and includes a large warehouse, meeting room and showroom. The new premises is further evidence of our ongoing commitment to providing the West Australian market with local stock and the best local support in the region. Please drop in and ask Marc or Grant to show you around.

News Views & Info



New Office
(before signage)

Phone:
(08) 9228 4222

Fax:
(08) 9228 4233

E-mail:
audiotlx@multiline.com.au

Street Address:
299 Fitzgerald Street
West Perth WA 6005
Postal Address:
PO Box 404
North Perth WA 6906

"Interference"

A major problem confronting Wireless Microphone Systems?

As the VHF & UHF bands become more crowded, every credible manufacturer of wireless microphones is discarding single channel quartz systems in favour of PLL synthesised systems. PLL or Phased Locked Loop systems allows the user to select from a number of channels within the one system, offering the best chance of locking on to a clear frequency.

RFX wireless systems are all 16 channel selectable at both the transmitter and receiver. The 16 channels in the VHF system are spread over 4mHz while in the RFX UHF system, the 16 channels are spread over 20mHz. The wider the spread, the more 'insurance' the user has that there will be the required number of free channels without having to bring in a replacement system on a different group of frequencies.

So why the big deal about interference all of a sudden? Well, RF bands are becoming more and more cluttered with other wireless microphones on the same or close proximity frequencies. In addition, Digital Television transmissions have the potential to pollute just about every VHF band and also restrict the available UHF bands, adding to the clutter.

Whilst PLL systems help to minimise interference problems, another feature equally important is Pilotone, a unique RFX 'lock-out' circuit which offers additional protection from interference. Systems without Pilotone are much more likely to be more affected by stray RF.

That's where our RFX systems (with Pilotone) stand out from the bunch!

Pilotone is a 32.768 kHz subsonic encoded tone, which is modulated with the carrier frequency. It acts like a gate. Unless the receiver receives both RF carrier and the encoded tone at a preset threshold, the receiver will not open.

This feature is especially useful when the receiver is switched on, but not actually receiving.

Most other brands of receivers will pick up RF from other transmitters on the same or a similar frequency. Pilotone prevents this type of interference as the receiver will not accept any RF which does not contain the tone at the correct level.

In addition, our RFX products use helical filters in the front end of the receiver. These filters are housed in a die-cast metal shielded casing. This greatly improves selectivity and virtually eliminates inter-modulation interference, allowing the use of multiple wireless systems with safety and certainty.

Designed in Europe with leading German technology, RFX Wireless Systems are pioneering the RF world. We were the first with Pilotone and the first to introduce affordable 56kHz wide band peak deviation, a feature which dramatically improves signal to noise and overall dynamic range. At last, a wireless that sounds as good as a cabled mic!!!

RFX Wireless Systems offer more certainty in both RF and Audio performance. Call us for a demonstration.



News Views & Info

Sponsored Finance Program

Through recent editions of Decibel you will have noticed that we have greatly enhanced the variety and sophistication of the range of products we offer. Most noticeably, this has been achieved by the addition of Peavey MediaMatrix and Concert Sound while other leading brands such as Sabine, Symetrix and RFX have also contributed.

For the systems market we are now able to offer real alternatives in all of the five major product groups; speakers, distribution, processing, control and amplification. The same range of products is also a serious alternative in the hire market, as are many of the accessories we have to offer.

While they are not unique, the financial needs of the large systems and hire markets are different to those of the day to day public address installation. Large systems can involve large sums of money and contracted payment schedules while costly hire inventory is better supported by extended payment terms.

Offering Sponsored Finance highlights our commitment to our customers and our faith in the suitability of the products we offer for the pro audio and systems markets. Please contact your nearest Audio Telex office for full details of our qualified Sponsored Finance Program.

In recognition of the special financial needs of our industry, we have formed an association with a leading financial company, Textron Finance, to offer Sponsored Financial Assistance to qualifying customers for qualified orders.

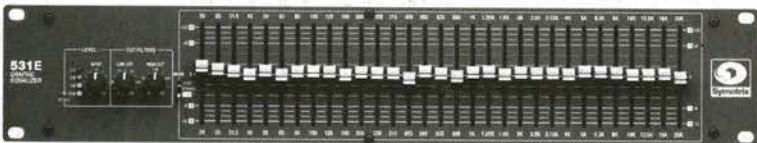
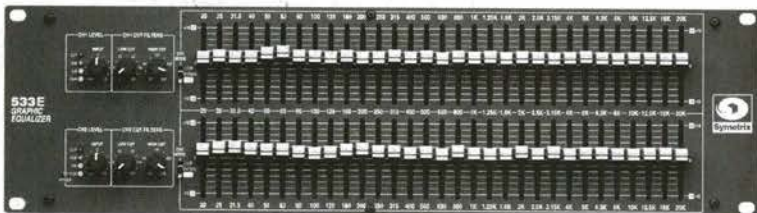
Packages are available to assist with **large projects, hire stock and floor stock**. Depending on your package, we may sponsor you for an interest free period, in some cases, for the whole period of the finance term.

Offering Sponsored Finance highlights our commitment to our customers and our faith in the suitability of the products we offer for the pro audio and systems markets. Please contact your nearest Audio Telex office for full details of our qualified Sponsored Finance Program.



Symetrix EQ's Take Off

Another equaliser....Just what the market needs!! No doubt this is a common response whenever anyone releases a new graphic EQ. Well we are the first to admit that we did hear similar comments when we first announced the Symetrix EQ's late last year but here we are down the track seeing more and more people change from (insert industry standard brand here) to Symetrix. But isn't a graphic just a graphic? No, not when the audio is so transparent. Symetrix have redefined the performance standards of professional EQ's. Call today to arrange a demonstration and find out for yourself what all the fuss is about.



Accessories

We stock a wide range of quality audio accessories including:

- ✓ Phantom Power Supplies
- ✓ DI Boxes
- ✓ Cable Testers
- ✓ Multicores
- ✓ Mic Leads
- ✓ Mic Clips
- ✓ Mic and Speaker Stands
- ✓ Connectors
- ✓ Adapters
- ✓ Mixer Lamps
- ✓ Rack Trays
- ✓ Blank and Vent Panels

Access

Access by MI Retailers to any Peavey products mentioned in this newsletter is restricted. Audio Telex Communications Pty Ltd is not responsible for the distribution of Peavey products to MI Retail Stores. Peavey products may only be available to MI Retailers through the authorised Peavey MI distributor and therefore subject to the access and other policies of the authorised Peavey MI distributor. The pricing and services offered by the authorised Peavey MI distributor may differ from those offered by Audio Telex Communications Pty Ltd. MI distribution excludes MediaMatrix products.

Peavey SP-G Series Speakers

Road Tough, Big Sound, Unbeatable Value

Product News

Night after night, gig after gig, you can rely on Peavey's 30 plus years of experience in the development, design and manufacture of quality sound reinforcement enclosures. The SP-G series of speakers are designed for life in the fast lane. Built to last and engineered to kick freckle, these speakers offer better value than anything else we have come up against.

So what makes the SP-G series so special? Well, from a performance standpoint, these speakers kick hard. **Chest thumping bottom end is easily achievable without EQ**, while smooth, crisp high frequencies can be heard clearly up the front or down the back of a room. While the speaker components play a large part in the superb sound quality, the internal cross-over network and box design are equally, if not more, important. With the amount of R&D put into the series by the Peavey team, it is hard to understand how they can be priced so competitively. However, like all Peavey products, efficient manufacturing is the key to keeping costs down. We find that some within the industry are comfortable paying "over the top" prices for other US made speakers as they believe that a huge price means better sound. Well this is not always the case. **The SP-G speakers compete with products that are much more expensive, often many times more expensive.** So when looking for a brand of speakers, let your ears and not the price-book be the judge. In many cases, the less expensive product may be the best for your application.

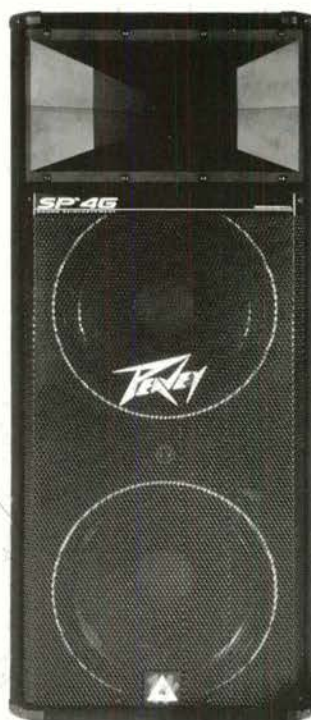
All SP-G enclosures from Audio Telex feature high performance Black Widow woofers and Peavey's 22XT, 1" compression driver. Those familiar with Peavey drivers would be aware of their unique "bolt-on" recone kit, a system where anybody can repair a blown driver on site within minutes. Best of all, our replacement basket kit is a mere fraction of the price of many other famous name 'paper and glue' recone kits. Our kit gets you back on air within minutes while traditional reconing can take days for the glue to dry. While blowing up drivers should not be a common occurrence (definitely not if using Peavey amps with DDT.....but that's another story), it is reassuring to know that the system you installed in that nightclub, or the one bouncing around in the back of a truck can be working for you day after day without downtime. Not only does Peavey save you money with the initial purchase, we keep your investment on the road earning you income night after night, gig after gig.



SP2G

- Single 15" Black Widow
- 1" 22XT comp driver on 90° x 45° flare
- 100dB (1w/1m) sensitivity
- 300w continuous, 1200w peak
- 65Hz-17.5kHz frequency response
- Stand/Wall Mount Adapter
- Sound Guard HF protection
- Full range/Bi-amp inputs

Retail \$1312.00 inc tax (Aust)
\$1481.00 + gst (NZ)



SP4G

- Dual 15" Black Widow
- 1" 22XT on 90° x 45° flare
- 100dB (1w/1m) sensitivity
- 600w cont, 2400w peak
- 50Hz-17.5kHz freq response
- Sound Guard HF protection
- Recessed wheels
- Full range/Bi-amp inputs

Retail \$2076.00 inc tax (Aust)
\$2344.00 + gst (NZ)

SP112M

- Single 12" Black Widow
- 1" 22XT comp driver on 90° x 45° flare
- 101dB (1w/1m) sensitivity
- 250w continuous, 1000w peak
- 100Hz-14kHz frequency response
- Sound Guard HF protection
- Full range/Bi-amp inputs

Retail \$1181.00 inc tax (Aust)
\$1332.00 + gst (NZ)

SP115M 15" version also available



Product News

Sabine FBX Updates

FBX Plus Sabine are now shipping the upgraded FBX1020 and FBX2020. Both models now carry the 'Plus' suffix and include **12 automatic feedback filters per channel!!** Additionally, two stages of reset are provided meaning that it is possible to reset just the 'dynamic' floating filters without affecting the 'fixed' room filters. Both models use 20 bit converters which, when matched with Sabine's patented Clipguard, provides an incredible amount of headroom.

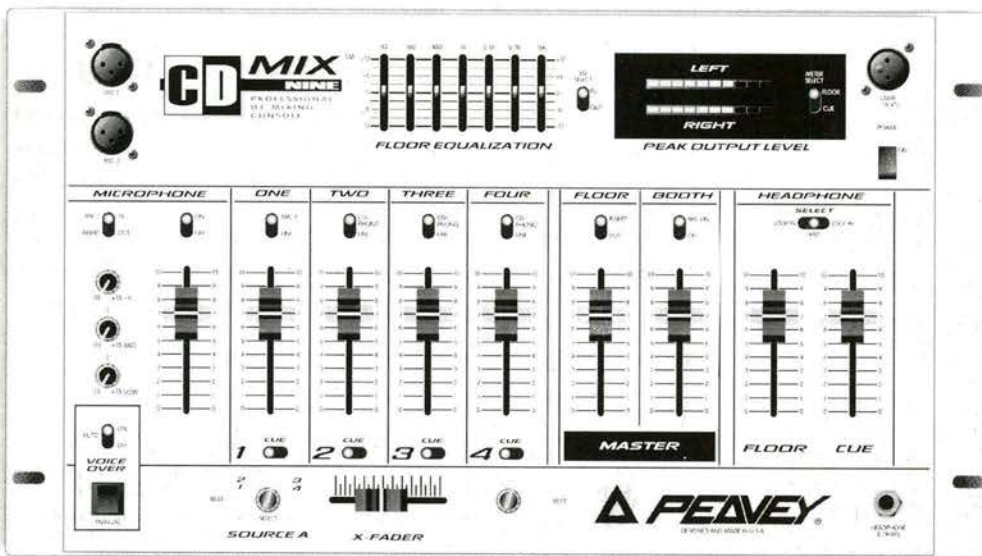
New FBX Solo's The low-cost, compact FBX Solo's have also been upgraded to include 20 bit converters and 8 FBX filters. Both the SM-820 (mic pre-amp) and the SL-820 (line-level) boast increased headroom, better S/N ratio, switchable input/output levels and flexible in/out configurations.

So what distinguishes Sabine FBX's from other feedback controllers? Well, our algorithm can place Constant-Q, 1/10 octave filters *accurately* in setup mode *and* during the program. We encourage you to compare the Sabine product to any other feedback controller on the market. With many hundreds of units supplied locally and thousands around the world, Sabine are truly the leaders in feedback control. Just ask:

Showco
K.D. Lang
A1-Audio
Willie Nelson
Late Show with Dave Letterman
Larry Sanders Show

The Offspring
Ophrah Winfrey Show
Barry Manilow
Steve Miller
The Wallflowers
Ozzy Osbourne

SABINE™
 ADAPTIVE AUDIO



Peavey DJ Mixers

To compliment our ever growing range of 'nightclub ready' products, we are proud to introduce Peavey's range of DJ mixers. Four models are available, all of which are manufactured by Peavey in Meridian Mississippi.

The four models include:

- CD Mix 7
- CD Mix 9
- Production Mixer 1000
- DSM752

The **CD Mix** series are brand new releases offering professional performance and features at a very attractive price. The **Production Mixer 1000** is the top of the range model aimed at the professional DJ or club installation. Outstanding audio specs and an easy user surface have made the Production Mixer one of the most popular models available in the US. The **DSM752** incorporates a digital sampler with up to 6 seconds of recording at 44.1kHz (CD spec) or 12 seconds at a lower sampling rate. The samples are partitionable. For example, you can break this down to 4 samples of 3 seconds, 2 samples of 6 seconds or 1 sample of 12 seconds.

Peavey DJ mixers have been a favourite with professional DJ's in the US for quite some time. We're sure you'll find them to be well featured and great value. Please call for full details and pricing.

PEAVEY

See us on the Web...

www.audiotellex.com

Peavey Speakers Solve Church Sound Problems

Contractor Conquests

The Greek Orthodox Church in the southern suburbs of Sydney was recently upgraded with a complete new sound system. The church itself is not particularly renowned for its acoustic properties however the quoting installer acknowledged and discussed this with the church minister during the initial site meetings. While some contractors competing on the project took the "much be cheapest to win the job" approach, the winning tenderer, in consultation with Audio Telex, put together a proposal to provide the most intelligible solution in the difficult room. The winning contractor was in fact over twice the price of his competitors but won the job due to the time he spent with the minister explaining and demonstrating the products that he was recommending.

The star of the installation was the Impulse 2652 speaker from Peavey. This compact, column like enclosure consists of two 6 1/2" woofers and the industry respected 22XT, 1" compression driver, located in the centre of the enclosure on a conical flare. The Impulse 2652 provides brilliant voice clarity and is perfect for auditorium, theatre or high level paging applications. The enclosure has internal fly-points and can also be mounted with an optional 'U' bracket. The Impulse 2652 is equally at home when installed either vertically or horizontally for under balcony applications. Both a painted and natural version is available.



Impulse 2652

Equipment List

1 x TX8200	Audio Telex 8 channel stereo mixer
1 x EQ31	Peavey 1/3 octave graphic EQ
1 x FBX1020	Sabine Feedback Exterminator
2 x CS1800G	Peavey dual 600w amplifier
1 x DCM250	Audio Telex single 250w amplifier
8 x Impulse 2652	Peavey 150w columns with 1" comp driver
2 x Impulse 6TB	Peavey 50w 2-way speakers
1 x PVM480	Peavey Electret microphone
2 x RFX System	16 channel wireless systems
1 x TDW718BK	JVC dual record/auto reverse cassette deck
1 x ER21	21RU Rack with metal door

The system at the church was only recently commissioned and we hear that all are very pleased with the intelligibility and natural reinforcement provided by the new system.

Tewantin R.S.L Club

The stage system recently installed in Queensland's Tewantin RSL club was based entirely on components from Audio Telex. The stage system has to cater for a wide range of acts from live bands to cabaret. The new front of house system consists of 2 x Peavey DTHSF2 enclosures. Each cabinet features a 15" Black Widow woofer and the ultra smooth 44T, 2" compression driver. The enclosure includes flying points which made safe rigging of the central cluster both simple and inexpensive.

The rest of the system included Peavey fold-back wedges, amplifiers, mic's, multicore, DI boxes and a 16 channel mixer. System processing is handled by a Sabine Power-Q and a Symetrix 532E dual 31 band EQ.

Equipment List

1 x Uni2002-16	Peavey Unity 16 channel mixer
1 x Power-Q	Sabine multi-dynamics processor
1 x 532E	Symetrix dual 31 band EQ
2 x CS800S	Peavey dual 420w power amp
2 x DTHSF2	Peavey 15" LF and 2" HF full range, 400w flying enclosure
4 x SP112M	Peavey 12" LF and 1" HF 250w foldback wedge
3 x PVM22	Peavey Diamond Series mics
3 x AMS709/721	Audio Telex boom microphones
3 x EDB1	Peavey Active DI boxes
1 x AL164100	Peavey 16-4, 100' multicore
1 x PV Rack	Peavey/SKB portable molded rack



Telex Sound Mate Oh...What a Feeling!!

Toyota's Altona manufacturing plant recently took delivery of a Telex Sound Mate system to use with tour groups visiting the huge complex. The system consists of a TW6AA beltback transmitter for the guide with each visitor wearing an SR50 beltback receiver with a choice of either headphones or earbuds. The system allows the guide to be heard easily at all times throughout the extensive and often noisy tour.

The Telex Sound Mate is the affordable answer for almost any tour group application.

SIDE FILL

A recently supplied **Peavey DTH** speaker system was put to good use during the Canberra Show. The system, consisting of 6 x **DTHS4's** with **DTH Concert SubII's**, was used in the main arena for announcements and for accompanying music for an impressive fireworks display. The system is tri-amped with Peavey **CS3000G's** driving the low and mid speakers and **CS800S's** sending sweet sounds to the compression drivers. So how did it sound? Well the organisers couldn't stop complimenting the system while the owner of the hire company who had just purchased the system has been smiling ever since. More details soon.

RFX Wireless Systems have been working hard for a number of top Melbourne hire companies. A couple of recent events which took advantage of our 16 channel selectivity and wideband 56k deviation include the **Melbourne Grand Prix**, **AFL** football matches, as well as many theatre productions. If you haven't heard an RFX system yet, then call for a demo. You can hear the difference!!

We now have over 55 **MediaMatrix** systems installed locally and more than a 1000 worldwide. Want to find out more about the most flexible digital audio system on the market? Just call your local AT office for the name of an authorised **MediaMatrix** dealer near you. A complimentary copy of '**MediaMatrix News**', our dedicated **MediaMatrix** newsletter is also available on request.

Camberwell Centre

The Camberwell Centre in Victoria was the scene of a recent audio upgrade, the heart of which is a **MediaMatrix** Mini-frame system. The venue is used for a wide variety of functions with the **MediaMatrix** providing routing, processing, mixing and control over the main room as well as additional feeds running off to smaller rooms and the foyer. The different configurations in the **MediaMatrix** can be easily recalled via a touchscreen which communicates with **MediaMatrix** via Peavey's **PASHA** serial control program.

The **MediaMatrix** is software based and starts with a blank screen from which the installer can select from hundreds of audio devices and simply place them on screen. Once placed in the required order and wired up (on-screen), these software devices become actual hardware within seconds of hitting the 'Compile' function. The **MediaMatrix** design for the Camberwell Centre includes an Automatic mixer, Compressors, Expanders, Routers, Mixers, Parametric EQ and Delays.

Contractor Conquests



Carandale Shopping Centre

Queensland's Carandale Shopping Centre has been going through some major extensions recently and have added a new, high spec PA system. The multi-zone system incorporates **Symetrix SPL** (Sound Pressure Level) Computers in each zone which automatically adjust the paging and background music levels to suit the amount of ambient noise. As a certain zone gets busier (and therefore louder), the **SPL** computer gradually ramps up the audio to keep it above the noise of the shoppers. Then when the area becomes quieter, the **SPL** computer again adjusts the system to a suitable, and always comfortable level. No longer does the centre management have to suffer complaints about the music and paging being too loud or too quiet. With the **Symetrix SPL** Computers installed, the system will always operate at the correct level.

Many of the zones are powered by **Audio Telex ACM2150** dual 150w power amplifiers. The choice of the **ACM2150** in the system design has more than halved the amount of rack space that normally would have been required for the amplifiers.

Our deluxe **ATP817** metal ceiling speaker grills were used throughout the centre ensuring that the system looks as good as it sounds. While standard ceiling speakers were used in most areas, a couple of the zones had a need for very high quality music so the **Peavey WS802** in-wall speakers were selected. The **WS802's** bring hi-fi quality sound to any commercial installation.

Four **RFX** wireless microphone systems are used throughout the centre for promotions and special events. All 4 systems can be used simultaneously anywhere in the centre thanks to some careful antenna placement.

Equipment List

13 x 571	Symetrix SPL Computer
5 x ACM2150	Audio Telex 150w + 150w amplifier
1 x DCM120	Audio Telex 120w amplifier
2 x DCM250	Audio Telex 250w amplifier
1 x DCM500	Audio Telex 500w amplifier
385 x ATC5010	8", 100v ceiling speaker
385 x ATP817	8" deluxe metal speaker grill
16 x WS802	Peavey in-wall, full range speakers
1 x XLF254BK	JVC 5 disc CD player
1 x FX-354BK	JVC AM/FM Tuner
1 x TDW254BK	JVC Auto reverse cassette deck
4 x RFX System	16 channels wireless mic system
1 x AD15	Antenna splitter for RFX

Symetrix

Sydney	149 Beaconsfield Street, Silverwater NSW 2128	Ph: (02) 9647 1411 Fax: (02) 9648 3698
Melbourne	22/277 Middleborough Road, Box Hill VIC 3128	Ph: (03) 9890 7477 Fax: (03) 9890 7977
Brisbane	42 Commercial Road, Fortitude Valley QLD 4006	Ph: (07) 3852 1317 Fax: (03) 3252 1237
Adelaide	Electronic Concepts-76 George St, Thebarton SA 5031	Ph: (08) 8234 9444 Fax: (08) 8234 9441
Perth	299 Fitzgerald Street, West Perth WA 6005	Ph: (08) 9224 4222 Fax: (08) 9224 4233
Hobart	KW McCulloch-54A Albert Rd, Moonah TAS 7009	Ph: (03) 6228 6373 Fax: (03) 62781063
Auckland	Unit B, 11 Piermark Drive, Albany 1331	Ph: (09) 415 9426 Fax: (09) 415 9864

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PRACTICAL STUDIO TECHNIQUES - PRACTICAL EFFECTS

sampling frequency, i.e. the number of samples taken per second. The theoretical maximum audio frequency that can pass through any digital system is equal to one half of the sampling frequency. If the sampling frequency is 44.1 kHz, the audio bandwidth will be approximately 22 kHz (allowing for a frequency guard band known as the 'Nyquist Band') giving us a practical maximum audio bandwidth of around 18 kHz. Other specifications such as distortion and non-linearity are determined by the unit's A-D and D-A converters.

Today's digital delay lines are more than just simple delays. They have become known as Multifunction Digital Effects Processors and offer a number of other effects such as reverb, flanging, phasing, echo, harmonizing and spatial imaging. Most of the currently available units operate in stereo.

Modulation Width and Speed Control

Modulation is the process of using a low frequency oscillator to continuously change the delay time in a cyclic manner. Flanging, phasing and chorusing are all effects that rely on modulation. Most currently available effects units contain a number of preset modulation effects that are well worth trying out.

There are typically two modulation controls, known as speed and width. The speed control determines how fast the delay time changes, typically from 1 Hz to 20 Hz. The width control determines how much the delay time changes, and is often displayed as a percentage or a ratio. Small settings of the width control create very subtle effects, while larger settings become very obvious.

The maximum modulation range is calculated by dividing the shortest sweep delay time into the longest sweep delay time. If maximum modulation width setting sweeps the delay time from 32 ms to 4 ms, then the delay has a sweep range of 8:1, since $32/4 = 8$. If the maximum modulation width setting sweeps the delay time from 4 ms to 1 ms, then the delay has a 4:1 sweep range.

Modulation is best used with short delay times, typically less than 10 ms. Applying modulation to delay times of 25 ms or longer creates a de-tuning effect.

Feedback (Regeneration)

With this control we are able to feed a percentage of the delay's signal back into the input, to be delayed again. This is how echo effects are created. If the feedback signal has a much lower level than the original input signal, the echoes will quickly fade away. If it is set at the same level as the input signal, the echoes will repeat for long periods of time at the same intensity. Increasing the feedback signal to a level higher than the input signal creates 'runaway feedback', where the signal level continues to build up until it reaches heavy distortion (at which point someone usually turns it off!)

This is extracted from the top selling book: PRACTICAL STUDIO TECHNIQUES, by Tom Misner. ©Tom Misner 1988. ISBN0 646 16704 9 Retail: \$40.00. Available from book stores and music shops everywhere, also through the Connections Shop, call 1-800-635-514. Tom Misner is the owner of SAE International.

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BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT	ARTIST	PRODUCER	ENGINEER	PROJECT
New South Wales							
@ Fx Robert Searls (02) 9555 6603 Post				Dave Tice		John Bee	Album
Stolis TV Commercial	Leo Burnetts (Agency)	R. Searls	TV Commercial	Brendon Gallagher		Brendon Gallagher	Demos
Kids Ward	Channel 7	R. Searls	Channel 7	Roddy Baird		Hugh Wilson	Album
Meta Music	Grey Adv.	R. Searls	TV Commercial	Ceelfish		Sean Lowry	Demos
A# Sharp Studio Jeff Cripps (02) 9153 9988. 24 Track 1"				Soundwarp Meredith Brooks (02) 9905 7144 Mastering			
The Hell Hounds	Jeff Cripps	Jeff Cripps	Tracking	Rivers & Roads	Mike Stavrou	Meredith Brooks	Mini Album
Beverly Hills Ang. Church	Jeff Cripps	Jeff Cripps	Kids CD	Northern Composure	Meredith Brooks	Meredith Brooks	Album
Ray Beadle	Jeff Cripps	Jeff Cripps	CD	Me Me Me	Carl	Meredith Brooks	Mini Album
St Josephs College	Jeff Cripps	Jeff Cripps	CD	Various	Richard Gate	Meredith Brooks	Album
Albert Studios Leesa (02) 9953 2544 48 Track Analog & Digital				Laxman	Band	Meredith Brooks	Album
The Angels	Rick Brewster	Rick Brewster		Eco	Jens	Meredith Brooks	Album
Gadflys	Mark Thomas	Mark Thomas	Film soundtrack	Studios 301 P/L Fiona Simpson (02) 9211 7301 Mitsubishi - 32 Tk Dig., Dual 24 Tk Analogue, 64 Ch SSL-G Series			
Screaming Jets	Rob Taylor	Rob Taylor	Single	Alex Lloyd	Daniel Denholm	Daniel Denholm	Album Mixes
Midnight Oil	Jim Mogine	Jim Mogine	Single	Gadfly's	Mark Thomas	Mark Thomas	Album Mixes
Luxury	Rob Taylor	Rob Taylor	Single	Tania Kernaghan	Garth Porter	Ted Howard	Album Mixes
Ross Wilson	Rob Taylor	Rob Taylor	Single	Smick	Lachlan Mitchell	Lachlan Mitchell	EP Mixes
Charing Cross Studio David Sykes (02) 9387 8362 24 Trk Automated Neve Analogue				Studios 301 P/L Mastering Jacqui Espie (02) 9211 7301 CD Mastering Facility			
The Church	Tim Powels	Tim Powels/Chris Campbell	Album Mixing	Happyland	Band	Steve Smart	Single
Nic Dalton	Nic Dalton/Peter Jones	Peter Jones	Album Track/Mix	Various	Steve White	Don Bartley	Tribute Album
The Cooks	Chris Campbell	Chris Campbell	Album Mixing	D.I.G.	Band	Oscar Goana	New Album
Dumpster	Greg Wales	Greg Wales	Album Mixing	Boy From Oz	Max Lambert	David Macquarie	Cast Recording Album
R.B. Films	Matt Maddock/Steve Foster	M. Maddock/S. Foster	Soundtrack - Fresh Air	Slim Dusty	Rod Coe	Don Bartley	New Album
Navajo	Peter Jones	Peter Jones	Album Track & Mix	Sidewinder	Paul Mckercher	Oscar Goana	Single
Construction John Ward (02) 9966 4489 Music/Some Commercials				Topcat Recording Studio Brad Wann (02) 6628 0843 Automated 24 Trk/16 Dig. Mastering & CD Burning			
Sonic Professor	Band/John Ward	John Ward/Michael Floersching	PreProd	David Gordon	Artist	Brad Wann	Album & Mastering
The Drug Council NSW	John Ward	John Ward	Commercial	Bush Punk Cowboys	Rudy Morabito	B. Wann/R. Morabito	Album Tracking/Remix
Rockclimbing Doco	John Ward	John Ward	PreProd	Krazelina	Brad Wann	Brad Wann	Album & Mastering
Damien Gerard Russell Pilling (02) 9660 8776. Recording Studios				Waldo Knight	Artist	Brad Wann	Album Mastering
Butterfly Hunters	Band	David Trump	Album	Noosphere	Brad Wann/Band	Brad Wann	EP & Mastering
FuGg	Band	Russell Pilling	Album	Tahnda	Artist/Brad Wann	Brad Wann	Demo
Punch	Band	Russell Pilling	EP	Trackdown Digital Geoff Watson (02) 9550 6890 2-32 Track Digital			
Roller	Band	Russell Pilling	EP	Boy from Oz (cast rec'ing)	Max Lambert	Simon Leadley	Cast Album Mixing
Spinifex	Band	Russell Pilling	CD Single	Skippy TV Series	Yorum Grass/Village Roadshow	Tim Ryan	TV Post & Mixing
Low Rlde	Band	Russell Pilling	EP	Praise	Martha Coleman	Simon Leadley	Feature Film Music Editing
Darling Harbour Studios Ike (02) 9211 1474. 24Trk MCI 32 Channel Sound Workshop				Natalie Pasto CD	Artist	Leon Horrocks	CD for Music Tutorials
Ghostwriters	Rob Hirst	Ike	EP	Troy Horse Mickey Levis (02) 9319 1799 24 Trk Fully Automated			
Swirl	Band	Frazer	Demos	The Simpletons		David Trump	Album
Chameleon Rose	Ike	Ike	Single	Toni Laxton	Peter Kennard	Oscar	Album
Zeitgeist	Band/Ike	Ike	EP	Fields	Mickey Levis	Jeremy Allom	Album
Silencer 7	Band	Ike	Demo's	Eskimo Joe		Mark Worral	EP
Angels	Band/David Williams	Ike	Shock Archiueu	Lantern	Millie Milgate	Jason Blackwell	Album
David Hinds Recording Studios David & Lyn Hinds (02) 6581 1235 16 Trk Digital				Vocabularinist		Mark Worral	Album
Balance	David & Lyn Hinds	David & Lyn Hinds	CD Single	Velvet Sound Recording Studios Dave McCunn (02) 9283 5968 32Ch. 24Trk. 2" + 32Ch. ProTools IV			
Feral Studio Jon Robertson (02) 6293 3224 16 Trk Studio				Universe	Steve Balbi	Tony Wall	Album Tracking
Monie Penny	Jon Robertson	Jon Robertson	Demo's	James Blundell	Artist	Greg Harris	Single
J.D. Brothers	Jon Robertson	Jon Robertson	Album	Blue Apples of the Moon	Band	Daniel Clinch	EP
Exhibit A	Jon Robertson	Jon Robertson	Album	Waldo Fabian	Frank/Waldo	Frank Kerestedshjian	Album Mixing
Kandi Doz It	Jon Robertson	Jon Robertson	Album	Freudian Trip	Band	Tony Wall	Album Mixing
Healers	Jon/Tex	Jon Robertson	Demos	The Infidels	Raoul Graf	Adrian Grigorieff	Tracking
Gayle M	Jon Robertson	Jon Robertson	Demos	Northern Territory			
Hullabaloo Glenn Heaton (02) 9906 2933 24 Trk Analogue, 2 x 32 Trk Digital				Masters Studio & Production Lindsay Masters (08) 8932 1754 8 Trk Digital and Midi			
Strum	Heaton/McGarvey	Daniel Bowers	Album, Pre-prod	Brett Ireland	L. Masters	L. Masters	Single
Heaton/McGarvey	Heaton/McGarvey	Daniel Bowers	Battle of Sexes Theme	P. Ciriotis	L. Masters	L. Masters	Album
Heaton/McGarvey	Heaton/McGarvey	Daniel Bowers	Help Desk Corporate Song	Kids Fun Biz	L. Masters	L. Masters	Demos
Claire Gabriel	Artist/Heaton/McGarvey	Daniel Bowers	Demos	Queensland			
JMF Recording Studio Fran Esther (02) 9790 4097. Mitsubishi, X850, 24 Trk ADAT				Domenic Sound Shane Hughes (07) 3216 5187. 32 Trk ADAT/48 CH Soundtracks Console			
Tom Jones Show	Mark Ainsley	Guy Saminaden	Demo	Typhoon Barney	Band	Shane Hughes	EP
Benidle Highschool	Bob Feggans	Ralph Esther	Demo	Glen Wilson Band	Artist	Shane Hughes	EP
David Schlesinger	Artist	Ralph Esther	Piano Recording	Rhonda Tant	Shane Hughes	Shane Hughes	EP Debut
Jukebox 90	Graham Dyer	Ralph Esther	Demo	Millenium 5.D.	Shane Hughes	Shane Hughes	Album
Nazareth High School	Nicole Evans	Mike Ward	Aerobics Recording	WIN TV Vic	Shane Hughes	Shane Hughes	Jingle Production
Deadspawn	Band	Tony Jarrett	CD Album	Eco Advertising	Client	Shane Hughes	QLD Health Infomercials
Lucinda St Recordings Rick Mostyn (02) 4225 2272 8 Trk Digital				OPM Studios Daniel (07) 3374 0066 24 Trk ADAT, Mackie Console			
St Nicholas Mass	R. Mostyn	R. Mostyn	University Singers Orchestra	Debaser	Band/Daniel	Daniel	EP
Megaphon Guy Dickerson (02) 9550 6576 24 Trk Analog & DA-88 recording 40 ch. console; 3 sep. rooms				Gambles Goat	Daniel	Daniel	Single
Lime	Mark Thomas/Band	Mark Thomas	Album Tracks	Kings of Tide	Band/Daniel	Daniel	Single
Pennidreadful	Lachlan Mitchell/Band	Lachlan Mitchell	Album Tracks	Look-a-likes	Band/Daniel	Daniel	EP
F.O.C.	Tim Whitten/Band	Tim Whitten	Album Tracks	Tamarind	Simon Young	Daniel	Album
The Mercy Bell		Tim Whitten	Album Overdubs	Pillbox	Band/Daniel	Daniel	EP
Paul Bryant Mastering Paul Bryant (02) 9748 0222. Mastering Suite				Suite 16 Audio Productions Murray Lyons (07) 3369 8733 24 Trk Analogue/Digital			
Acorn	Shane Fahey	Paul Bryant	CD Album	Sally Hollingdale	Garry Smith	David Champion	Album
Dave Warner Live	Martin Cilia	Paul Bryant	Double CD	Dan Vogler	Dan Vogler	David Champion	Album
Stewart Peters	Artist	Paul Bryant	CD Album	QLD Travel Corp	Garry Smith	David Champion	QLD Travel Corp AV
Desoto TCB	Lucy Desoto	Paul Bryant	CD Album	T.A.P. Studios Duncan Wood (07) 5479 2277 24 Trk Hard Drive, 24 Trk ADAT Studio			
H & D Koopman	Terry Hearne	Paul Bryant	CD Album	Umbr Embraced	Duncan Wood	Duncan Wood	Album Tracks
What is Real	John Jurss	Paul Bryant	CD Master	Jodie Joy	Duncan Wood/Barrie Morrison	Duncan Wood	Album Tracks
Skylab David Russell (02) 9310 4774 24 Trk Analogue, 32 Trk Digital/Analogue				TAP Crew	Barrie Morrison	Duncan Wood	Telstra Beta Campaign
IPI Tombi	Kyana Sudu	David Russell	Album	Patrick Carswell	Duncan Wood	Duncan Wood	Stage Show Music
The Maximum	Matt Hanley	David Russell	Album	Vandersound Eric Vandersande (07) 5546 8100 All Digital + Valve 02R CDR Mastering			
Sanctuary	Josh MacLeod	Josh MacLeod	Album	Mystery of Six's	Eric Vandersande	Eric Vandersande	Album Tracking
Sam Hawkstey	Matt Fell	Matt Fell	Album Mixing	Ian Francis	Eric Vandersande/Ian	Eric Vandersande	Edit Album
The Hippos	John Powers	David Russell	Album				
Freja	Rebecca Rennie	David Russell	Demos				
Sound Level John Soane (02) 9552 3200. 24 Track Digital							
John Holland		John Soane	Demos				
Luna Sea Boat People		Ian Perdie	Album				



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BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT	ARTIST	PRODUCER	ENGINEER	PROJECT
Strutter	Eric Vandersande	Eric Vandersande	Remaster Album	Les Gyori	Artist	Adam Quaipe	Single
Lachlan Blundell	Eric Vandersande/Artist	Eric Vandersande	Single Mix	The Disappointment	Band/Kiernan Box	Andy Parsons	Album
Dance Academy	Eric Vandersande/Sharon	Eric Vandersande	Post Production	Metropolis Audio	Fleur Colvin (03) 9696 2111	Music, Post.	48 Trk
Lyn Dickson	Eric Vandersande/Artist	Eric Vandersande	Post Production	Brown Hornet	Will Burston/Band	Will Burston/Hadyn Buxton	Album Recording

South Australia

Adelaide Tape Duplicators	Al Sankanskas (08) 8212 7111	CD Mastering Facility	
Radio Station SUV	Radio SUV	Al Sankanskas	CD Release
Kim Purling Trio	Kim Purling	Al Sankanskas	CD Release
Ganga Girl	Band/Rick Cole	Al Sankanskas	CD Release
Alex Perry	Artist/David Erskine	Al Sankanskas	CD Release
Braille	Band	Al Sankanskas	CD Release
Boosted	Mostyn/Al Sankanskas	Al Sankanskas	CD Release
Disk-Edits	Belinda Kent (08) 83401 1377	Mastering/CD Manufacturing	
Lachlan McLeod	Artist/Mick Wordley	Mick Wordley	"Wind of Change"
Temporal Lobe	Band	N. Love/L. Panayiotou	"Authority Cortex"
Reckoning	Band	M. Wordley/S. Marafioti	Album
Nature of the String	Band	ANJ	"Even the Crickets are crying"
Brian Gilbertson	Quality Performers Mgt	Quentin Eyers	"Too Hat & Tails"
Epic Land Battles	Angelo Malavazos/Band	ANJ	"The quiet death of delicate sensibility"
Mixmasters Productions	Mick Wordley (08) 8278 8506	24 Trk 2"	
Chris Finnen	Artist/Wordley	Mick Wordley	Album Mix
Hippocrene	Band/Wordley	Mick Wordley	EP Mix
Travis Taaylor	Les Karski	Mick Wordley	Album
O'Carolan Quartet	Jack Brennan	Mick Wordley	Album
Shaun Wilson	Mick Wordley	Mick Wordley	Album Mix
Nick Love Productions	Nick Love (08) 8297 6519	16-24 Trk Digital, 16 Trk Analogue	
Boombox	Nick Love	Nick Love	Demo
Revolar	Nick Love	Nick Love	CD EP
Pariah	Nick Love	Nick Love/Walrus	CD EP
Lessie Does	Nick Love	Nick Love	CD Album
Fine Lines	Nick Love	Nick Love/Walrus	CD Album
ASD	Nick Love/ASD	Nick Love	CD Album
SA Recording	Avalon Sperring (08) 8281 9900	24Trk AD/Tr Yamaha 02R Console	
Jaundice	Dave Crothers	Louis Panayiotou	Demo
Captain Pyjama	Band/Louis Panayiotou	Louis Panayiotou	Album
Robert Ball Experience	Robert Ball	Louis Panayiotou	EP
Nervengine	Band/Louis Panayiotou	Louis Panayiotou	EP
Music Business Adelaide	Rino Cufone/Carmine Garreffa	Louis Panayiotou	Audio/Video (Post prod)
SA Footy Show	Rino Cufone/Carmine Garreffa	Louis Panayiotou	Audio/Video (post prod)
"The Fridge"	Nigel Sweeting (08) 8231 3588.	16Trk HD Digital/16 Trk 2" Analogue, full Automation	
Giraffe	Nigel/Band	Nigel Sweeting	CD
Jejelah	Band	Nigel Sweeting	CD
Samba Suave	Band	Nigel Sweeting	CD Mix
Mark Allen	Mark/Nigel	Nigel Sweeting	CD Trax
St. Domonics Chior	Danny/Nigel	Nigel Sweeting	CD

Victoria

Allan Eaton Studio	Leanne Morton (03) 9534 0752		
Police Band	Nat Russell	Robin Gray	Pipe Band Album
Elizabeth I	David Hirschfelder	Robin Gray	Film Score
Anthony Warlow	Artist	Robin Gray	'Grease' EP
Back Beach Recording	Mark Rachelle (03) 5988 6748	24Trk 2 inch, Free Accommodation	
Our House	Band	Mark Rachelle	Single Mixes
Future Rythm	Kasey	Mark Rachelle	Re-mix
Boo Boo and Mace	Arden Godfrey	Mark Rachelle	Re-mix, Sweetening
Superheist	R.Norton	Mark Rachelle	Album Mixing
Aquitaine	Mark Rachelle	Mark Rachelle	Tracking
Damsal Fly	Mark Rachelle	Mark Rachelle	Tracking
Bank Mixdown	Jamie Durrant (03) 5762 7437	16-24 Trk Digital/Vintage Neve Desk	
Penny Safari	Jamie Durrant	Jamie Durrant/Band	Album Mixdown
Stinking Badger of Java	Jamie Durrant	Jamie Durrant/Band	Album Mastering
Crystal Mastering	Joseph Carra (03) 9326 2318	CD Mastering	
Game Over	Band	Joe Carra	Mastering Album
Dallas Crane	Band	John Ruberto	Mastering Album
Subtopia	Band	John Ruberto	Mastering Album
Front End Loader	Band	John Ruberto	Mastering Album
Incline	Band	John Ruberto	Mastering Album
Matt Corcoran	John Durr	John Ruberto	Mastering Album
Dex Mastering	Adam Dempsey (03) 9372 2266	2 Suites, Sonic Solutions No Noise	
CAAMA Music	Stan Satour	Adam Dempsey	Teenage band Compilation
Bloom	Band	Ben Hurt	Album
Dashboard	Band	Adam Dempsey	EP
Evil Larry	Brendan/Band	Adam Dempsey	EP
Lobotomy	Dainel Goad	Adam Dempsey	EP
Wild Eagle Music	Chris Wild	Adam Dempsey	Meditation Albums
Edensound Mastering	Martin or Robbie (03) 9682 9066	CD Mastering	
Magic Dirt	Band	Martin Pullan	Live Single
Junket	Band	Martin Pullan	Single
Donna Fidk/Michael Christian	Rafe VanHoy/Fisk/Christian	Martin Pullan	Single
Various	Oysters/Rob Stead	Martin Pullan	Live Album
Scared Weird Little Guys	Robyn Payne/Band	Martin Pullan	EP
Shonkey Tonk	Oysters/Fred Negro	Martin Pullan	Album
Fortissimo	Andy Parsons/Siiri Metsar (03) 9699 5811	Music: Studio, 24 Trk. ProTools Editing	
Camel Magic	Siiri Metsar	Siiri Metsar	Album
Steven Kerney	Artist	Siiri Metsar	Album Mixes
Bhan Tre	Band/Siiri	Siiri Metsar	Album Tracking

Les Gyori	Artist	Adam Quaipe	Single
The Disappointment	Band/Kiernan Box	Andy Parsons	Album
Metropolis Audio	Fleur Colvin (03) 9696 2111	Music, Post.	48 Trk
Brown Hornet	Will Burston/Band	Will Burston/Hadyn Buxton	Album Recording
N.I.L.		Andy Baldwin	Recording Tracks
Petrophonic Productions	Petros (03) 9553 0176	16 Trk Digital/Midi Suite	
Mark Joseph	Petros	Petros	CD
Glen Craven	Petros	Petros	Backing Tracks
Itchy Fingers	Band	Petros	CD
Kate Ash-Burner	Petros	Petros	Demos
Hey Sister	Petros	Petros	CD
Noble Park Calisthenics	Petros	Petros	Backing Tracks
Sing Sing	Phil Butson (03) 9428 4622	Large	
Monique Brumby	Kalju/Simon Polinski	Kalju/Adam Rhodes/Simon	
Powder Finger	Nick Dideo	Nick Dideo	Album
Primary	Nick Launay	Nick Launay	Album
Living End	Lindsay Gravina	Lindsay/M. Voigt/D. Davis/C. Corby	Album
Mavis's	Kalju Tonuma	Kalju Tonuma	
Dirty Three	Band	Adam Rhodes	
Studio 52	Paul Higgins (03) 9417 7707	Studio A: 32 Track Automated	
The Music Men	Trevor Carter	Trevor Carter	Football & Comedy Album
The Union	Band	Andrew Meakes	Demos
The Paramount Tric	Barry Hills	Trevor Carter	Real Aust Blues Track
Canteen	The Band	Trevor Carter	Kids with Cancer Band Project
Brad Luke	Artist	Andrew Meake	Kids Program Soundtrack
John Payling	John	Trevor Carter	Demos
Toyland	Adam Calaitzis (02) 9482 2111.	24 Track Analogue, 24 Track Digital	
Brill	Brian Canham	Adam Calaitzis	B-Sides
Aqua Head	Ean Shugarman	Adam Calaitzis	Album
Safeway	Adam Calaitzis	Adam Calaitzis	Single
Gary Christion	Artist	Adam Calaitzis	Album
Held on Hold	Adam Calaitzis	Adam Calaitzis	On-Hold Message
Tony Carne	Adam Calaitzis	Adam Calaitzis	Jingle
True Form Music Services	Neil Gray (03) 9391 0907.	24 Tk. Digital, 12 Tk. Analogue.	
Fruit Salad	Band/Neil	Neil Gray	Album
Excarbonated	Band/Neil	Neil Gray	EP
Sodaracer	Band/Ross	Ross O'Driscoll	Demos
Opell Ross	Artist/Ross	Ross O'Driscoll	Demos
Klinger	Peter Faranan	Peter/Neil	EP
Lynch Pin	Band	Neil Gray	TV Broadcast
Wombat Rd Recording Studio	Barrie Clissold (03) 5145 4204.	32 Tk. Digital + 16 Trk Analogue	
Loren Pollard	M.Edmonds	Barrie Clissold	Demo Album
Short Notice	John Lee/Sue Kennedy	Barrie Clissold	Demo Tracking
Patersons Curse	L.Smaile	Barrie Clissold	Demo Tape/Album
Jay McGowan	Artist	Barrie Clissold	Demo Tracks
Boisdale P.School	J.McGowan	Barrie Clissold	Story Tapes
Cris Wood	C.Wood	Barrie Clissold	Album Tracking

Western Australia

Bonsai Recording Studio	Tom Thorpe (08) 9246 4408.	24 Analogue/32 Digital	
John Terpkos	Tom Thorpe	Tom Thorpe	Demo
The 2-ins	Tom Thorpe	Tom Thorpe	Demo
Matt Williams	Tom Thorpe	Tom Thorpe	Demo
Brett Greenhill	Tom Thorpe	Tom Thorpe	Demo
Nick Davis	Tom Thorpe	Tom Thorpe	Demo
Planet Sound Studio	John Villani (08) 9382 2211	48 Track, 32 Track & 24 Track Analogue	
Mike Cornell	Artist/John Villani	John Villani	Album Tracking
Melle Herring	Nunzio Mondio	John Villani	EP
Ginger Meggs	Tibor Mescarus	Les Williams	TV Prod
Michael Vdelli	Artist/Les Williams	Les Williams	Album Mix
Jane McDonald/Hank Marvin	Hank Marvin	Les Williams	GTR Tracking
Kerriane Cox	John Villani	John Villani	Album Mix
Poons Head	Rob/Samara/Bush (08) 9339 4791	32 + Track	
Honey	Rob Grant/Band	Rob Grant	Album
Paradox	Alfredo/Ralph	Rob Grant	EP
Andrea Barnard	Rob Grant/Andrea	Rob Grant	EP
T.Cells	Rob Grant/Band	Rob Grant	Mixing
Seahorse Radio	Rob Grant/Band	Rob Grant	Album
Revolver Sound Studio	Vic Manfrin (08) 9272 7505	32 Trk Automated	
Thundershuffle	Band/Ben Glatzer	Ben Glatzer	Album Mix
The Hedonists	Band/Ben Glatzer	Ben Glatzer	EP
Simon London	Artist	Ben Glatzer	Demos
Flavour of the Month	Grant Ferstat	Ben Glatzer	Album
Stone Face	Band/Ben Glatzer	Ben Glatzer	EP
Wax Tadpole	Band/Ben Glatzer	Ben Glatzer	CD

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BASF YOUR MUSIC IS SAFE WITH US

BUYER'S GUIDE

dj mixers, samplers, devices

Prices INCLUDE sales tax and were correct on 15th June 1998. All care taken, no responsibility for errors. Four models only are shown in each category although these manufacturers have many more. Indicative only.

SAMPLING DJ MIXERS

AKAI

Australis (02) 9698 4444

S20 8 voice, 1 meg expandable to 17 mbyte, 16 pads, real time keys, 4 track sequencer. \$1195.

Remix 16 8 voice, 2 meg expandable to 18 mbyte, 16 pad, real time keys, control sliders, mixer, 4 track sequencer, SCSI option. \$1595.

MPC 2000 32 voice sampler expandable to 32 mbyte, 64 track 100,000 note sequencer, 16 touch sensitive drum pads, SCSI standard. \$2995.

BEHRINGER

Musiclink (03) 9429 9299

DX 500 3 dual inputs mixer, 3 band EQ with independent "kill" switches, 12 second sampler, separate zone output, effects loop, balanced output, PFL, replaceable high quality cross fader. \$499.

ESP TECHNOLOGIES

ELSTA 1800 35 80 80

DX4S 4 channel mixer, dual 7 band graphic equaliser, assignable cross fader, 5 CD/line, 2 phono, 2 mic inputs, 8 second assignable sampler, variable sampling and playback speed control. \$599.

GEMINI

Disco World (03) 9735 0588

PS 676 Pro 3 ch, 3 phono, 3 line and 1 mic input; built in 12 sec digital sampler with adjustable pitch; true cut (-26 dB) for bass mid and high of each channel. \$676.

PS 924 (19 inch) 4 ch, 2 phono, 6 line, 2 mic and 1 aux input - rotary bass mid and high for each channel; 24 sec digital sampler; 5 memory banks (2 x 2 sec, 2 x 4 sec and 1 x 12 sec); special robo play. \$999.

PDM-4012 19 inch built in 12 sec digital sampler; 3 ch, 3 phono, 1 mic; rotary master and balance with bass mid and treble controls; assignable and removable X-fader. \$699. Also PDM-6012 \$829.

PDM 7024 19 inch built in 24 sec digital sampler; 2 x 4 sec, 2 x 2 sec and 1 x 12 sec memory banks; 4 ch, 2 ph, 5 line. \$929.

NUMARK

Show Technology Australia (02) 9898 1111

DM1685 16 bit, 12 sec sampler with edit, 8 line, 3 phono, 2 mic inputs, send on each channel, replaceable crossfader, dual band EQ, and master and booth output. \$1032.

DM1885X has a 16 bit, 48.1kHz, 12 sec sampler, ability to edit samples, 8 line, 3 phono, 2 mic inputs, 35dB KILL switches, balanced XLR outputs and 2 one outs. \$1475.

DM1190 4 channels featuring 8 line, 3 phono, 2 mic inputs, replaceable crossfader, dual 6 band EQ, monitor level control and split cue monitoring. \$573.

SAMPLERS

AKAI

Australis (02) 9698 4444

S2000 32 voice expandable to 32 mbyte with Simms. Free Mesa editing software. SCSI standard. \$1695.

S3000XC 32 voice expandable to 32 mbyte hard disk recording. 4 x CD ROM 8 outs and digital in/out. \$3795.

S3200XC 32 voice 16 mbyte expandable to 32 mbyte. 2nd filter band, EBIG multi effects and SMPTE standard. \$4995.

backed memory. \$795.

DJ MIXERS

AMERICAN DJ

American DJ Supply Australia 1800 643 1111

XDM221 2 channel 10 inch scratch mixer, 2 line, 2 phono, 1 mic input, bass and



BOSS

Roland Australia (02) 9982 8266

SP-202 Dr. Sample Professional sound quality; Easy-to-use; Innovative BPM function calculates BPM from sample length; Easy loop/BPM syncing possible; 6 built-in effects including Pitch Adjust, Filter 1 & 2, Time Stretch, Delay, Ring Modulation; Lots of sampling time - up to 4 min. 20 sec. internal, up to 35 min. using 4MB SmartMedia(TM) card* (using lo-fi 2 sampling grade); Built-in microphone; Battery driven. \$695.

GEMINI

Disco World (03) 9735 0588

DS-1224 24 sec digital sampler; 5 memory banks (2 x 2sec, 2 x 4 sec and 1 x 12 sec); battery back up; robo play. \$449.

DS-2024 19" rack mount; 24 sec digital sampler; 5 memory banks (2 x 2sec, 2 x 4 sec and 1 x 12 sec); pitch and fan for play backs. \$499.

ROLAND

Roland Australia (02) 9982 8266

SP-808 Groove Sampler Professional remix-oriented phrase sampler/hard disk audio recorder with 8 tracks (4 stereo audio tracks) and 16 assignable sample pads per bank (64 banks total); Built-in Zip drive stores 64 minutes/1024 samples with zero load time; automatic tempo calculation; resampling and time stretch functions; Revolutionary dual D-Beam Controller allows for effects and sample control via hand and body movement over infra red light beam; virtual analog synth built in. \$2995.

YAMAHA

Yamaha Music Australia (03) 9699 2388 / 1800 805 413

A3000 V2 128 Mb RAM (max); 64-note polyphony, 3 effects loop divide/remix functions; continuous sampling w/auto keymap; assignable knobs/buttons; 4 outs (expandable to 10 plus digital I/O). \$3795.

SU10 19 sec. at 44.1 kHz; 4 note poly; 4 song sequencer; ribbon controller for realtime effects; MIDI dump; battery-

treble on each channel, LED display, removable Japanese cross fader. \$299.

XDM242 4 channel 19 inch 4RU mixer, 4 line, 2 phono, 2 mic input, 5 band graphic equaliser, LED display, removable Feather Fader cross fader. \$449.

XDM343 3 channel 10 inch mixer, 4 line, 3 phono, 3 mic input, bass treble and mid on each channel, LED display, removable Feather Fader cross fader. \$449.

XDM352 4 channel 19 inch mixer, 5 line, 3 phono, 2 mic input, bass and treble on each channel, LED display, 7 band graphic equaliser, removable assignable cross fader (Feather Fader - very smooth). \$599.

BEHRINGER

Musiclink (03) 9429 9299

DX 100 2 dual input channel mixer, extra DJ mic input, 3 band EQ on main output, PFL, high quality replaceable cross fader. \$299.

DX 1000 5 dual input stereo channels, 2 mic channels with talkover and split functions, 3 band EQ, remote machine control, sub out with crossover, dimmers, replaceable high quality cross fader. \$1199.

CITRONIC

Universal Lighting & Audio 1800-648-1111

CDM5:2 2 channel, 4 inputs plus mic, gain control, large punch buttons, headphone mix, cue, auto mic override. \$333.67.

CDM7:2 2 channel, six input plus mic, separate EQ on each channel and mic, gain control, mic override depth, large punch buttons, cuing. \$415.75.

DJPro 4 channel, eight inputs, separate EQ, gain control, and pan on each channel, booth output, cuing, punch buttons, face plate with blue finish. \$584.29.

CDM10:4 4 channel, eight inputs, plus two mic inputs, separate EQ and gain control on each channel, booth output, cuing, punch buttons, assignable crossfader, assignable auxiliary channel, separate mic pan and EQ, mic auto override and override depth control, cuing. \$898.07.

ECLER

Universal Lighting & Audio 1800-648-1111

SMAC32 3 channels, 6 inputs - 2 phono, 2 CD, 1 line, 1 balanced mic input, microphone input on front with separate EQ and gain control, master output with level control, kill switches with tone control, bright VU meter, only 13cm wide, ergonomic faders. \$618.43

SMAC42 4 channels, 8 inputs - 3 phono, 2 CD, 2 line, 1 balanced mic input, microphone input duplicated on operating panel and front, double PFL - headphone and Stanton Vibemaster connections, two duplicated high level outputs for headphones one on the operating panel one on front of mixer, mix monitor function, master output with level control, kill switches with tone control, bright dual VU meter, ergonomic faders. \$1150.84.

SCLAT 6/8 6 double input channels. Compact in design, and a wide range of modules and accessories are available. Removable connection backpanel. Can be relocated at the bottom or back of the mixing console depending on the available external space. Standard 19" rack size, 7 units high. External power supply to reduce interference and noise. \$2599.66.

SCLAT 8/8 8 double input channels. True modular design, easily configurable by the end user. Removable connection backpanel. Can be relocated at the bottom or back of the mixing console depending on the available external space. Standard 19" rack size, 7 units high. \$2768.75.

ESP TECHNOLOGIES

ELSTA 1800 35 80 80

MIX1 2 channel compact mixer 150 x 200mm, 2 CD/line, 2 phono, removable small size cross fader, separate gains. \$129.

MIX3 4 channel mixer, 19 inch, 3 RU, 6 CD/line, 2 phono, 2 mic inputs, bass treble and mid controls, LED display, assignable cross fader. \$499.

DSM15 2 channel mixer, 10 inch, trigger buttons, smooth cross fader, 2 CD, 2 line, 1 mic input. \$199.

DX4C 4 channel mixer, dual 7 band graphic equaliser, assignable cross fader, 5 CD/line, 2 phono, 2 mic inputs. \$449.

FURMAN

Horwood Australia (02) 9585 1011

DJM-6B six stereo inputs (2 x phono, 4 x line); VCA crossfader; sophisticated headphone system; separate sub bass output; mono output for lighting sync; unbalanced version available. \$1477.

DJM-8B same as DJM-6B but with extra facilities including 8 stereo inputs; 2 mic inputs; effects loop; 2 zone outputs; stereo output meters; unbalanced version available. \$2363.

GEMINI

Disco World (03) 9735 0588

PS 626 Pro 10 inch, 3 ch, 3 phono, 3 line and 1 mic input; true cut -26 dB for bass mid and high of each channel; beat sync indicators; gain control for each channel. \$499.

PS 646 Pro 10 inch, 4 ch, 3 phono, 6 line and 2 mic input; true cut -26 dB for

BUYER'S GUIDE

bass mid and high of each channel; gain control for each channel; balanced and unbalanced master outputs. \$699.

PS 727 19 inch rack mixer, 4 ch, 2 phono, 6 line, 2 mic and 1 aux mic input; rotary bass, mid, high and gain controls for each ch; assignable and removable X-fader; executioner 10. \$829.

KL-10 "Kill" 2 ch, 2 phono, 4 line, 1 mic input; separate stereo kill switches and rotary kill or low, mid, and eq band of each channel; punch in punch out for each channel. \$659.

INTIMIDATION

ELSTA 1800 35 80 80

Apex serious DJ mixer with 3 band rotary kills, 2 phono, 2 CD inputs, cross fader, built in flange and flair effects, automatic transform feature. \$499.

Blue 2 channel DJ mixer, 2 CD, 2 phono inputs, kill switches, rotary kills, cross fader, futuristic blue look. \$899.

Don II Ultimate DJ mixer with BPM monitor, spectrum analysis, cross fader, 2 phono, 2 CD inputs, bass drum effects, kill switches and more. \$1,799.

KAM

Universal Lighting & Audio 1800-648-111

GMX One Fully UK made, 3 phono/2 line inputs / 1 mic inputs, very high build quality Digital VCA faders, including the crossfade Input trim control on all inputs, with separate bass, mid and treble adjustment, booth outputs LED output meters, cue pan, removable crossfade, relay controlled 'soft' start on mains switch. \$749.25.

KMX100 Fully UK made 2 channel, 4 inputs plus mic, EQ on both channels, -26db rotary kills, programme headphone mix, beast indicators, replaceable crossfader. \$291.51.

NUMARK

Show Technology Australia (02) 9898 1111

DM2000X 5 line, 3 phono, 1 mic input. Gain and bass, mid and treble on each input, -35dB KILL switches, blue faceplate, replaceable crossfader, transform switching and beat lights. \$390.

DM1835X Like all Numark PRO mixers, this unit offers headphone mixing which means you can audition your cuts before they go to air! Some of its features include 2 zone outs, individual EQ, gain, pan, PFL, 35dB KILL switches and balanced XLR outputs. \$1475.

DM1190 4 channels featuring 8 line, 3 phono, 2 mic inputs, replacement crossfader, dual 6 band equaliser, monitor level control, and split cue monitoring. \$573.

DM1001X 2 line, 4 phono, 1 mic input, sweeping -30dB cuts; gain, treble, middle and bass control on each channel; crossfader reverse switch, all ALP's smooth faders and transform switching. \$390.

PHONIC

CMC Music (02) 9905 2511

DM 1050 2 phono, 2 line, 1 mic inputs. 2 channels with gain. Treble and bass on mic channel. Talkover. Sub bass output, cue select. \$225.

DM 2010 3 phono, 3 line, 3 mic inputs. 3 channels with gain. Treble, mid and bass on each channel. Cue pan, cue select.



\$350.

DM 3010 3 phono, 4 line, 3 mic inputs. true -26dB cut bass and treble. PFL LED metre. Beat indicators. Nuetrak combo mic input (DJ). 3 band EQ each channel. Talkover. Booth output. BNC lamp jack. \$450. \$350.

DM 3025 as DM 3010 with on-board digital sampler that records up to 12 seconds of music playback plus one touch playback. \$575.

RANE CORPORATION

Janc's Electronics (02) 9582 0909

MOJO MM8x is a high Specification Disco Mixer with 8 inputs; 4 Mixing Buses each with 3-band EQ; 2 Fx Loops; Zore/Booth Outputs; 2 Mic Inputs; Field Replaceable Active Crossfader. In the event of the fader failing, it is hot swappable, allowing replacement between cueing. \$2,795.

MP22x features more than 7 stereo inputs, 2 microphone inputs and 2 Fx Loops. Two input strips are provided, and each has 4 band EQ. An active crossfader design ensures reliability for many years to come. In the event of the fader failing, it is hot swappable, allowing replacement between cueing! Outputs include 2 master outputs, as well as two additional zones. \$2995.

MP24x is the latest incarnation of the ever popular MP24. Features remain similar to the MP24, with the addition of a hot swappable active crossfader. Inputs include 6 stereo line, 3 turntable, 3 Fx Loops, and two microphones, assignable to 4 input strips. Outputs include master, booth, recording and an additional zone output. \$3995.

ROLAND

Roland Australia (02) 9982 8266

DJ-2000 Four-channel DJ-style mixer; Three-band independent EQ per channel with two-band EQ for main Mic; Onboard three-band Isolator for instant, radical EQ shifts "on the fly"; Ten Onboard Digital Signal Processing effects including Delay, Flanger, Overdrive + Delay, Overdrive + Flanger, Auto Pan, Filter, Robot, Voice Transformer, "Slicer" and "Jao"; Automatic BPM calculation and MIDI Clock output for syncing records and audio CDs with MIDI gear. \$2295.

SOUNDCRAFT ELECTRONICS

Janc's Electronics (02) 9582 0909

DMIX 300 3 input channels that can handle either line inputs or turntables, a 4th input for mic or line, 3 band skewed EQ (20 dB cut, 12 dB boost) for complete

creative control, toggle switches on all inputs, a voice over ducker, field replaceable active crossfader a split cue headphone output and transform buttons. Separate master and booth/recording outputs. \$1195.

DMIX 500 club console features 10 stereo inputs, as well as 2 mic inputs with ducker facilities. 3 band EQ is standard on all input strips, and all 4 strips are assigned to the field replaceable active crossfader. The master section has a variable superbass control giving an additional 12dB of boost and a sound to light isolate output. Outputs include master, booth and recording, as well as an additional stereo and two mono outputs. A unique cussing system allows each output to either have the full mix, or the mix minus the microphone inputs. \$2995.

DMIX 1000 The flagship of the DMIX range, the DMIX 1000 is fully modular, allowing the user to have their choice of input strips and console layout. Features include 3 band EQ, 100mm long throw faders and a field replaceable dipless crossfader. 4 outputs are provided, with full routing facilities on each channel, as well as an isolated sound to light trigger output. \$6995.

AMERICAN DJ

American DJ Supply Australia 1800 643 111

DB Display LED decibel level display for use with any audio product. Shows output level in 3 colours over 30 LEDs representing output volume in decibels \$199.

DENON

AWA (02) 9898 7777

DN 2000R single mini disk recorder for DJ's. Jog shuttle wheel, 5 hot starts, pitch control, pitch bend, seamless looping, 25 track program, digital output. \$2499.

DN 2500F award winning dual CD player, 3RU remote, key and pitch control, pitch bend, seamless loop, sampler, jog shuttle wheel, voice recuser, instant start, 2 outputs. \$2749.

DN 2000F III new model dual CD player, larger improved screen, jog shuttle wheel, pitch control, pitch bend instant start, digital outputs. \$2345.

DNT 620 combined CD cassette desk, separate balanced outputs, headphone monitoring, CD and cassette pitch control, improved metering and display. \$1595.

INTIMIDATION

ELSTA 1800 35 80 80

Rotary Kills Allows you to cut out the bass middle or treble at any level from any source be it vinyl or CD. Features stereo inputs for 2 channels with 2 phono or 2 lines. Cut level is -75dB. \$399.

Kill Switches Allows you to cut out the bass middle or treble from any source at the flick of a switch. Features stereo inputs for 2 channels with 2 phono or 2 lines. Cut level is -75dB. \$399.

NUMARK

Show Technology Australia (02) 9898 1111

Beatkeeper - BCM135 automatically tracks the mix of up to 4 channels simultaneously, tracks phono or line level sources, updates all displays on every beat, has accurate digital BPM displays of all channels, plus tempo and beat offset bar graphs for total mix control. \$573.

PA5 Pro Preamplifier This simple to operate unit allows you to select from four different input sources such as a CD player or tape deck and still be able to page someone with 2 mics using the integrated auto-muting features. \$450.

CDN-24 Dual CD Player Top of the line CD player featuring pitch/jog wheel sets, BPM counter and display, pitch bend button, +/- 12% pitch adjustment and 3 forward and reverse speed functions. \$1,475.

RANE CORPORATION

Janc's Electronics (02) 9582 0909

PS1 Phono Stage RIAA Phono Preamplifier for turntables connecting into standard line level inputs: Stereo, RCA Inputs, Balanced Outputs. \$695.

REDSOUND

Australis (02) 9698 4444

Micro BPM \$TBA.

Voyager standard \$899.

Voyager cool chrome \$1099.

ROLAND

Roland Australia (02) 9982 8266

MC-505 GROOVEBOX featuring high-performance sound engine: 64-voice polyphony, steeper filters, ADSR envelope for editing sounds, powerful effects; 714 onboard dance music patterns; 512 built-in sounds and 26 rhythm sets including classic drum and synth sounds (TB-303, TR-808, JUNO, Jupiter, etc.); Revolutionary D-Beam Controller allows for effects and sound/note control via hand and body movement over infra red light beam; Three independent, synchronisable effects processors; powerful onboard Arpeggiator. \$2495.

MC-303 GROOVEBOX is a self-contained, retro-styled sequencer; 448 dedicated dance sounds 12 rhythm kits, including TR-808, TR-909, techno, jungle and house sets; Built-in vintage synth sounds and arpeggios; Groove quantize; Realtime Phrase Sequencer (RPS) for instant recall of musical phrases; Part/Rhythm Instrument Mute enables use as a mixer. \$1295.

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BSS 360 Crossover (2). Hard to get! \$1000 each. Cannon Sound (02)9948 4440. Latest free catalogue available.

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McLean Audio Services



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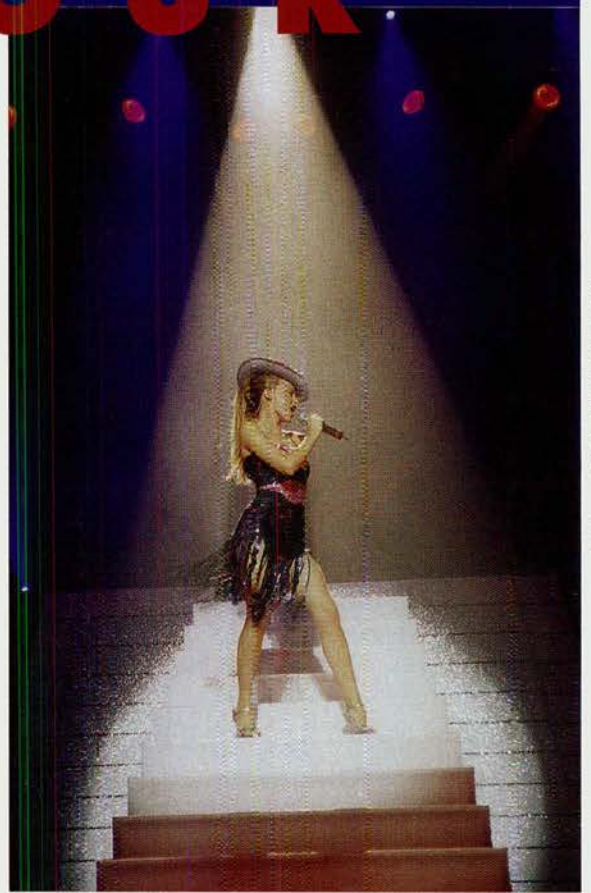
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ON TOUR

Kylie Minogue live and intimate

the Impossible Princess

Lighting designer
Steve Swift makes
memorable moments



Photos: © KOB Pty Ltd/MILLER MEDIA

By the time I caught up with lighting designer Steve Swift it was show fourteen of the Kylie Minogue *Intimate and Live: Impossible Princess Tour*, a tour which just keeps adding more dates. Whenever a new date is announced, the tickets sell out at an amazing speed. How many artists get a standing ovation *before* the show?

"What has made the putting together of this show most pleasing is that we've had a good, strong creative team," Steve told me. "Everybody has bought ideas and elements into the show, there hasn't been an over spend in sound or lighting at the

expense of something else. There hasn't been an ego driven style of production which can so easily happen where somebody has influence and only cares about their particular area.

"We're extremely lucky in that Kylie is a fantastic performer and a very warm person. We have a very positive atmosphere around the tour so being out on the road is very enjoyable - good company and a good level of professionalism. From that point of view it's great but other factors make it quite hard and gruelling - I seem to sleep through the days off!"

Steve didn't know if the production

team had considered any other lighting designer, he received a call only three weeks before the tour was due to start.

"We had a very short time frame to put the show together," he said. "Brian Thomson designed the set, I designed the lighting, we implemented the video component, and we bought in the dancers and choreographer. Then there were costumes for the dancers and the band - so many elements."

In fact, the show leans more towards a musical than a traditional concert - a 105 minute singing and dancing spectacular.

"What we were able to do in such a short space of time came down to a great energy amongst the whole team," said Steve. "I think everybody gets hooked along by the creative process which is very open."

At the back of the stage is a letter box format projection screen (2:1 ratio) which rolls down as not every venue on the tour has a fly line system. A Barco 5000 is used for projection and a simple umatic playback machine. The show opening video is an extreme close-up of Kylie's eyes which open so she can scan the room. That's about a two minute roll. Other footage is used to lead into and out of a couple of songs.

Beneath the video (or unfortunately in front of it if you have bad sight lines) is a structure which mirrors the album cover - a tubular steel frame with a lycra skin

continued over



Impossible Princess

continued from previous page

held taut by ribbing. The opening reveal has Kylie silhouetted in this skin. The structure is then removed and replaced with a three-dimensional letter 'K' which stays in place for most of the show.

The centre section of the set has a pair of doors in it which open to reveal a flight of stairs which roll out. ACL lights are built into the steps.

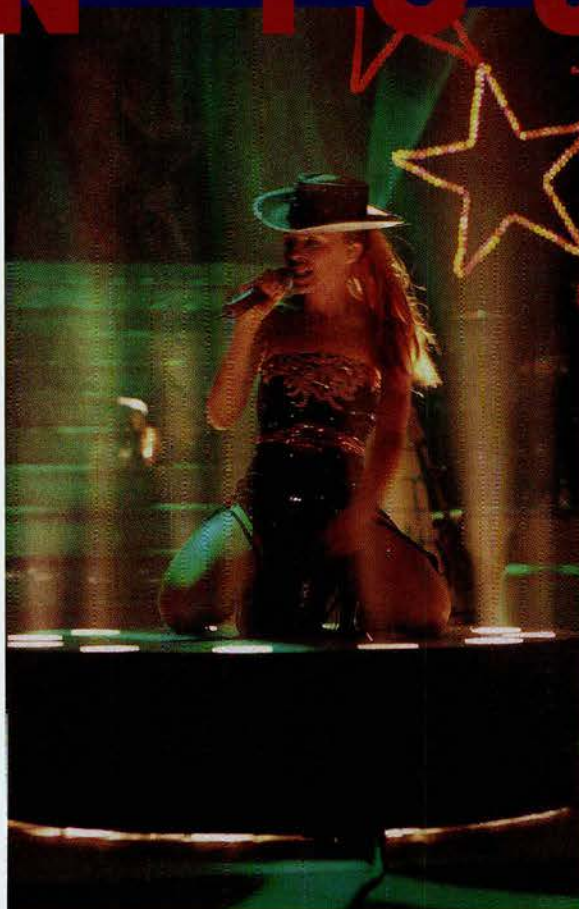
"It's quite a simplistic set with a fibre optic star cloth at the back," said Steve. "There's a riser layout to house the band, a centre set piece as a performance area up on top and a house for the stairs."

The initial guideline to the lighting design was that the tour had to be a 'two truck tour' so Steve had to design around the truck space criteria.

"Creatively we had quite a short time frame so I wanted to use a relatively small amount of automated fixtures," he said. "We have VL2C's and VL5's programmed and operated by Rocky McKenzie. I really wanted to get away from a Par can wash look so I've used eight 8-lites with colour scrollers on them - I get a more 'blocky' solid effect out of them. The front truss is relatively simple with a two colour Par can wash and some profiles."

Steve said that he had never left a lighting programmer alone like he did Rocky as he knew he could trust him to interpret his ideas.

"Of course I'd like a lot more lights!" said Rocky. "Although two nights was not enough time to programme this amount of technology. It was a huge rush and by the time we did the first show, I wouldn't



even say we were half programmed. However, I managed to get that many chases in the board it was reasonably easy after that to work out a good sequence to put them in. Steve was fantastic and gave me a bit of a free run with it. His input was invaluable to me, he's very good at looking at the big picture whereas I was more involved in dealing with the technology. We were chasing our tails for the first few shows although we pulled them off and people were remarking on the quality of the lighting. In our opinion, we're both old and ugly enough to know we should have been up to show 14 a lot earlier."

"The idea was to create something relatively simple design wise which I could manage well through a short pre-production/programming period" said Steve. "We didn't want to be bogged down with having to deal with a lot of automated lights. Despite not having much time, I think it's served us well. We got a show pro-

grammed for opening night but since then we've continued to develop the show in small increments. What we have done is simplified the show - in the early stages of programming it's very easy to over complicate things ie. four cues where one would suffice. Most of our clean up has involved getting rid of superfluous cues, it's not a show which demands a 'light show', it's strong when it needs to be but we tend to sit back a little to let all the other actions be supported by light. I must admit we've had some good critiques about the lights but the intent has never been to create a rock'n'roll light show for the sake of it."

An Optikinetics K4 effects projector with a 45mm lens is used twice during the show. At the beginning of the show it is used to create the

silhouette effect of Kylie, with no effects in the gate. Steve opted for the K4 because it allowed a variety of lenses and he didn't have any problem getting the spread of light he needed nor the intensity. Later in the show it is moved onto the steps when they are inside the set. It is then used as a link between two songs 'Did It Again' and 'Limbo' where the stage goes to black and the K4 is focused on Kylie creating a 3D vortex triangle around her as she sits on a stool. This was done with a custom stock 3' cassette purchased by Frontier Touring.

"It creates a moment, purely and simply it's not meant to be anything overwhelmingly special," said Steve. "It's an interesting instrument but I'm far from using much of it's capability."

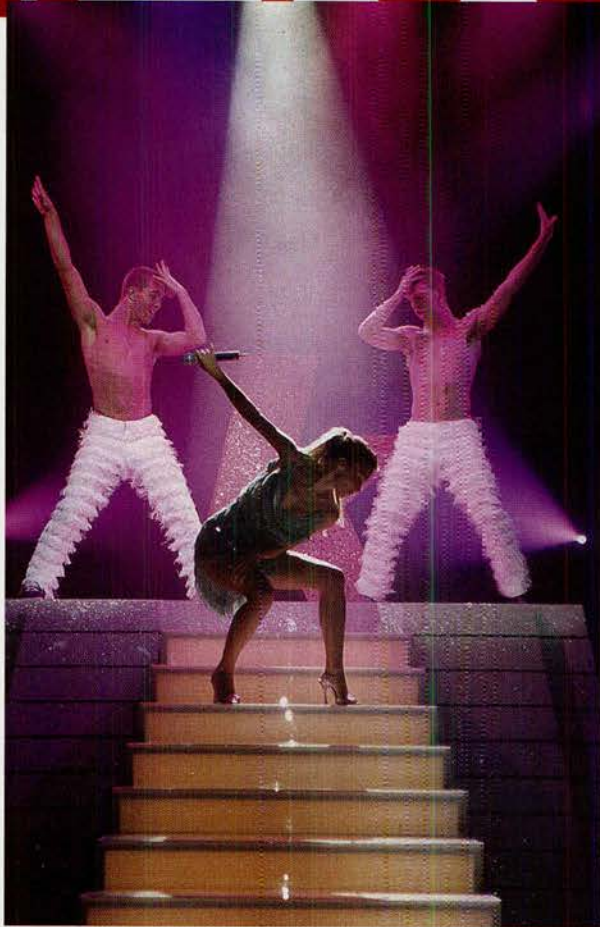
The show is fast paced and seems to be over in no time at all. "No sooner are you calling the opening cues to the show and you seem to be half way through," said Steve. "The biggest problem on the cans is that everybody wants to sing along, we're forever being told off for humming or singing! It's fast paced and well thought out."

Sydney's State Theatre is quite narrow across the stage and only has 32 feet in depth so if Steve had a large rig he would be wondering where to put it and the effect would be rather cluttered. Stars outlined in rope light which drop down during the show had to be omitted in the State due to a lack of space. For the shows at the larger Capitol Theatre some key light was to be added as well as some

Rocky McKenzie and Steve Swift



ON TOUR



audience light. The house lighting will also be supplemented.

"We're looking to add a couple of house presets which will allow us to have some level in the house when we want it and then bring audience light over the top of it," said Steve.

Steve was currently in discussion with a film crew who were due to film a live show at Sydney's Capitol Theatre. Frank Calvi was acting as a consultant due to his experience in live television particularly the Aria awards.

"We're in the advanced pre-production stages for the filming but it's really secondary at the moment to what we're doing live," said Steve. "It's having some influence on our live production because we have to make some things work a little better for the video medium. It's pleasing to work with a producer, director and a team of people who are all working towards the common aim

of retaining the theatrical elements of our show."

Jands are the production suppliers whilst AM Staging provided the staging, star cloth and video equipment. There is constant talk of the tour going overseas - as Steve said 'the visa applications are in for here, there and everywhere' - but as yet no confirmed dates.

● **Cat Forcer**


PERSONNEL

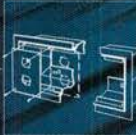
Tour Manager Nick Pitts **Stage** Dave Edwards, Gary Radbourn, Paul Collins **Sound Engineer** Chris Pine **Monitor Engineer** Rod Matheson **Lighting Designer** Steve Swift **Sound Crew** Pat Richardson, Grant Barron **Vari*lite Operator** James 'Rocky' McKenzie **Lighting Crew** Craige Knight, Graham Jelly.


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ON TOUR

Page & Plant



Mark Cunningham previews the upcoming Page & Plant Tour

Without a shadow of doubt, the most electrifying gig of recent years happened on March 25 - the night that Robert Plant and Jimmy Page launched their latest album *Walking Into Clarkdale*, and their new band, with a special warm-up show for the forthcoming tour at London's Shepherd's Bush Empire. With a set majoring in Led Zeppelin show-stoppers, interspersed with the new songs the duo had the small audience transfixed the whole night as the venue and its inhabitants merged into one heaving, pulsating rock'n'roll monster! Plant, still using his faithful Shure SM58 mic, sang as powerfully as he did 25 years ago, while Page showed today's guitar aficionados just who's boss, and even included his trademark violin bow antics for good measure.

When I met with LD Tom Kenny before the show, he described his LSD-supplied lighting rig for the tour as 'minimalistic', at the request of Page & Plant. Kenny told me "We previewed the new album with dates all over Eastern Europe for three weeks which were great shows, although it was very hard work for the crew. The audiences had never seen anything like this before; they were astounded! I just used 100 Par cans and 16 Icons, but they were so happy that they've asked me to use the same lighting rig in America. So we'll have probably the smallest production ever associated with them as artists. It's nothing to do with cutting

costs, because they're not afraid of spending on production."

Certainly, this minimalistic look does much for focusing attention purely on Page & Plant and their three musicians as performers, which is no bad thing. At the Empire, Kenny employed the House lighting system and supplemented it with 16 Icons, operated by Alastair Bramall-Watson.

"Robert and Jimmy don't like the common use of moving lights," said Kenny. "They're fed up with the typical rock way of doing things, but they like the way I use them which is for big focuses, like I do with Eric Clapton. They like seeing the audience so there are quite a few instances in the set where the eight-lite cells blast the crowd with light from the stage. While Alastair operates from the Icon console, I look after the conventionals from an Avolites Sapphire. The show is very theatrical, very stark, dark in places, and moody. And people will get a surprise when they see it, because it's very huge and rock'n'roll, but the production elements are stripped back. It's a great approach."

Due to the minimal rig, only a three-man crew, headed by Crew Chief Ian Dobson, will be required on the tour. Said Kenny: "I'm using a box truss and when I sent the design over to LSD they thought I was messing with them as usual 'cos it was so small! The lighting bill has been halved already!"

The tour will also incorporate video and although there was no confirmation of a supplier or video director as we went to press.

With a Clair Bros S4 PA system, Dave Kob, fresh from touring with Fleetwood Mac, is mixing from a Yamaha PM4000, while Monitor Engineer Brian Hendry mans a Midas XL5. The Empire's EAW system was enhanced on this occasion by three S4 boxes per side. Kob keyed in a variety of effects for Plant's soaring vocal, one of which was distortion on 'No Quarter,' originally recorded with an MXR fuzz box, but replicated live using a modified flange setting on a Yamaha SPX-1000.

"I tried it on the last tour when we had the orchestra and it didn't work as well," said Kob. "But with the new five-piece band it sounds great. I also like to insert some long delay spins on Robert's voice and he gets into that, to the point where he's performing off of the delay, and in turn I bounce things back to him. I use a t.c. electronic TC 2290 for the ADT and a Roland SDE-3000 for the delay, although when we get out on the road I may get into using some analogue tape delays."

Page's awesome guitar sound is virtually complete by the time it reaches Kob, although the engineer uses an Eventide Harmonizer on one channel panned on side of the PA, and a drier guitar signal panned to the other.

"It's a typical kind of heavy metal treatment that I apply for songs like *Whole*

ON TOUR



Tom Keaty, George Collier and Alastair Bramhall-Watson

Lotta Love and Rock And Roll," said Kob, who mikes Page's cabinets with a Beyer M88 on the grille cloth and an AKG 414 one foot away for extra bottom end and a slight time delay.

Contrary to a news report last month, Dave Kob informed me that Page & Plant are not touring with the new JHE/EAW JH15 stage monitor, used by the duo dur-

ing the recording of their new album at Abbey Road Studios and rehearsals at The Depot in North London. As JHE's Pepin Clout clarified, "Page & Plant decided not to take up EAW's donation of two pairs of wedges in return for an endorsement as the appropriate control equipment would have to be purchased or rented."

The actual monitor system being toured consists of a regular set of 12 Clair 12AMs, along with Clair's newer 2 x

12-inch wedges and R4 Series IIIs for side fills.

"One can understand that Clair Bros are naturally protective of their clients, just as we are too," said Clout.

However, JHE confirms that the new wedge has been in regular service on BBC TV's *Top Of The Pops*, as well as being used on various one-off shows.

After production rehearsals in Florida, Page & Plant's world tour will take in North America from May to September, before arriving in Europe for dates in October through to the end of 1998, and then on to the Far East, Australasia and South America in early 1999. This is one tour not to be missed!

●Mark Cunningham



Dave Kob

DATE WITH DISASTER

By the master blaster

My introduction to the world of torts and lawyers came courtesy of a bad batch of Flash powder, that wonderfully addictive stuff you didn't shove up your nose.

My hero was Jim Murray, head roadie and pyromanic for Sherbet. He had their show roasting at about 60°C all night with enough firepower to blow open a bank vault - and all without ever marking or even slightly singeing his sequined and bouffant band.

The gig was at Paddington Town Hall in 1975 - December 5th, to be exact. A full house for Sebastian Hardy and The La De Das - a strange double bill if you remember the music.

My psychedelic lightshow was in full swing, and the crescendo was to be a great big flash at the end of the last song by Sebastian Hardy. This crescendo was a long time coming as the group pioneered a unique orchestral kind of rock, with each number droning on for better than ten minutes.

At the appointed cue the button was pressed and the roof fell in.

Blinding dust followed the blast, which blew my hair back. I was fifty feet (17

metres) from the epi-centre, and partially deafened, with my finger locked in shock on the pyro button.

A girl staggered up the aisle, blood trickling down her white cheesecloth top. Broken glass tinkled from the nearest street window. Six hundred people were totally silent, bar the odd moan.

As the dust cleared the carnage on stage emerged. A Hammond organ lay on top of its owner, and the drums and cymbals were askew, all blown outwards from ground zero. The players were staggering around in circles of confusion. The ceiling was intact after all, but a solid chunk of concrete the size of your fist is blown off the balcony where the flashpot was placed.

The audience had enough and filed out quietly as first aid was ministered to the injured. Police, Fire and Town Hall Officials all swirled around. I was very popular.

The La De Das arrive, their crew tell them the show is off because some eggroll blew up the stage. The eggroll is trying to pack up quickly and depart in shame, and the promoter is asking which insurance company will pay for the refunds he is dishing out downstairs.

Worst of all, the keyboards player from Sebastian Hardy has what appears to be a perforated eardrum, and his record company A&R guy is at the gig. He is telling me they are about to sign to Polydor in the USA and that the disruption to their career will be all my fault.

Everyone recovers without ill effect, but not after fully understandable repercussions. I discover the public risk policy I hold excludes explosives placed by in public spaces by the policy holder. How unfair! Check YOUR fine print carefully.....

The promoter is paid a chunky settlement fee, the La De Das are paid not to play, the audience get refunds, and the keyboard player recovers without damage to the eardrum and I pay a specialist to write a report stating he can resume his career. The PA speakers are reconed.

Out at Silly Farm Fireworks, the chief powder engineer is somewhat nonplused, apparently one should field test each batch of flash powder before using indoors, he informs me before hobbling off on one leg.

I was lucky.

A while later a girl dies at a dance in Ipswich in similar circumstances.

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A scene from 1914

Andrew Carter

A Career on the Move

Andrew Carter is that rare creature on the Australian arts scene: a set designer who also designs lighting. This combination of roles is more common in Europe and America but in Australia still causes us to do a double take when we see the same credit for both lighting and sets in a program. Carter took lighting design as his second major whilst studying for a Masters Degree in Fine Arts at Yale in the early 80's. As a student he frequently designed both sets and lighting and continued to do so after graduating. However, after a couple of years, lighting took a backseat to set design and Carter worked on establishing the career that sees him design locally and internationally on a regular basis, particularly in the field of dance.

Lighting has recently reared its head again and presented Carter with fresh challenges, a prospect he relishes: "I got bored with fitting into the format where the set design has to accommodate the lighting design requirements and you know that as a set designer you have to leave certain fly bars free for the lighting etc etc. And I also feel that everything has become too specialised and I don't feel that this is an advancement for design of any kind. I wanted the oppor-

tunity to try a different approach."

The opportunity presented itself when Carter undertook to design both sets and lighting for Nederlands Dans Company's 1996 production, *Lurch*. Carter had a fun time abandoning dance lighting convention and creating a design where "the scenery was only there to hold up the lighting." Instead of utilising the usual sidelight positions in each of the wings, he clumped all the floor stands together in one area and created a sculptured environment for the dancers. Carter felt that what he achieved with both lighting and scenery was relevant to the music and the choreography and not merely a slave to the accepted technical methods of dance lighting.

More recently Carter designed sets and lighting for *1914*, a new ballet by choreographer Stephen Payne for the Australian Ballet. The work premiered earlier this year at the Sydney Opera House or as Carter so eloquently refers to it: "the bloody Opera House." It's not his favourite venue for dance as he feels the flying system in the Opera Theatre presents problems because of the way the lines become closer together as you move further upstage. He was also

continued on page 66



Andrew Carter

continued from previous page

displeased that the lighting desk crashed on the second night of the season and then the back-up didn't function properly.

What did impress him about working on 1914 was John Berrett, Oz Ballet's Head Electrician. Carter says "I'm not technically versed in lighting the way a lot of designers are, I know how to create images and how to focus and plot but my technical knowledge stops in the 80's and I need to have a good technician to collaborate with and John really was fantastic. I can't praise him enough for his contribution to 1914."

This production forced Carter to face up to the reality of lighting a dance work that would have to fit into a standard repertory rig and also be capable of touring. Carter started thinking about and planning the lighting before he started work on the set design and aimed to create a different atmosphere for the sections set in Europe and Australia, "I looked at a lot of photographic images when I was researching and drew on some photos that I had taken of the Australian desert. Metaphorically I wanted to distinguish between war and peace with



Andrew Carter

the lighting."

Carter looked at using projection as a means of achieving some of his intended images but was disappointed that the projected images couldn't compete with the stage lighting in the way he had envisaged: "Even with using the Optikinetics K4 projector I never achieved the abstract yet bright images that I was after and in the end it was my decision to cut down on the projection because it just wasn't working for me." Carter used 5kw HMI's to create an expansive sky effect on a 7 x 5m projection screen. His colour palette was based around cool blues and lavenders to take him from early morning through to midday scenes and he was pleased with the end result of the lighting.

Carter went from the serious content of 1914 to choreographer Chrissie



A scene from 1914

Parrott's humorous, 1950's style interpretation of *Coppelia* for the West Australia Ballet. *Coppelia* took him back to working in his old haunt: His Majesty's Theatre, Perth and to collaborating with long time associate, lighting designer Ken Rayner, "I really enjoyed the collaborative aspect of this production. Ken and I have been working together for years and it's always a pleasure. I prefer working with a lighting designer on more traditional dance works yet on esoteric pieces I find it more stimulating to do both sets and lighting." Carter used bright colours on the set, particularly hot pink, finding this a refreshing change to the subtle palette he utilised for 1914.

Establishing himself as a set designer who was also capable of lighting was not easy for Carter and he had a certain amount of prejudice to overcome: "I was initially hesitant to light and it wasn't

continued on page 68

Vari-Lite announce loss as revenue softens

By Buck Freeman

DALLAS, TX The advent of affordable moving yoke automated lighting from rivals like High End Systems, Martin and Clay Paky has bitten into the profits of Vari-Lite. Vari-Lite International, Inc. has reported a US\$421,000 loss on softening revenue for the three-month period ended March 31, 1998.

The results were in line with the Company's revised expectations, said a spokesman, and "reflect a lower volume of sales-type leases, decreased revenues in Asia due to the economic situation in that region, and modest softness in the Company's European operations".

Rusty Brutsche, Chairman and CEO of Vari-Lite, commented, "Entering our third quarter, we continue to see strength in our core North American rental operations across each of our key market segments. We continue to expect both our North American and European rental operations to post higher revenues and income for fis-

cal 1998 as compared with fiscal 1997."

Turnover for the quarter was US\$19,227,000, down from US\$22,384,000 for the same period last year. Then, the profit was US\$1,105,000. The previous (first) quarter was stronger, but still down on the comparable quarter in 1997. Shown together, the six month period turnover was US\$41.7 million for 1998, compared to US\$44.7m in 1997.

Rental revenue dropped from US\$19.5 million to US\$15.9 for the quarter, while sales revenue increased slightly. R&D expenses were slightly higher at almost \$1.9m, compared to \$1.6m for the same quarter last year.

"Meanwhile, the company continues to progress on its strategic initiatives. The recent acquisitions of our Scandinavian and Belgian distributors demonstrate our efforts to enhance our competitiveness in Europe through the acceleration of our Vari-Lite Production Service (VLPS) strat-

egy, a one-stop-shop approach for automated and conventional lighting and sound systems. The VLPS strategy is also progressing in North America with the recent opening of a new office in Atlanta, and we are pleased to note that offices converted to VLPS outlets are already showing increased revenues."

Mr. Brutsche continued, "In addition to the VLPS strategy, the Company continues to concentrate on developing new product;. The Company's new VARI-LITE VL7 luminaire is receiving exceptionally strong interest. The VL7M is Vari-Lite's next generation spot luminaire, adding to our industry leading entertainment lighting product line, with an advanced lens system and other innovative features."

Vari-Lite International, Inc. shares are traded on the Nasdaq National Market in the USA after the firm successfully floated several years ago.

CONQUERING THE BOUNDARIES OF

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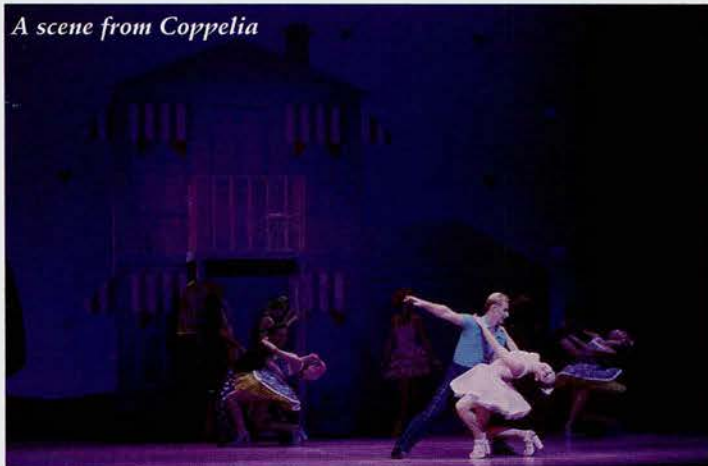
Write in Reader Service Number: 107



Andrew Carter

continued from previous page

easy convincing choreographers to give me the opportunity, but since doing a couple of lighting designs I've had discussions for future projects where it's just assumed that I'll undertake to design both sets and lighting; but I certainly wouldn't put myself in the league of the good Australian lighting designers."



A scene from Coppelia

Carter is quite excited about his forthcoming project to design the sets for the cultural section of the opening ceremony for the Sydney Olympic games. Though there is a lighting designer for the event Carter has been assured that he will have a major input into the lighting. He will be responsible for designing the set for the mythological opening that will illustrate the history of Australia, the largest scale project he has undertaken to date: "I've just recently been to the stadium and was astounded by the sheer size of it and I'm looking forward to the challenge of this project."

Challenge is a word that crops up frequently with Carter and his craving of it is leading him towards what he calls "his fifth career". Not content with being a successful designer and visual artist (his paintings have been sold throughout Europe, Australia, USA and SE Asia) Carter now has his eye on film and is currently writing a feature-length script which he hopes to direct: "I see film as the big mama of all the media and feel that it's the next step for me, offering me the chance to exploit all the different experiences that I've accumulated."

At the age of forty-one Carter feels he's ready to tackle what he believes will be his final career and is keen to extinguish the cultural stigma that only the young can be dynamic: "I've heard people in their late 20's say that they've left it too late to become successful and I find this disturbing. I hope that as I get older I'll continue to push at the edge of my creativity and have the confidence to scale new challenges" I would imagine the only thing that will halt Carter in his creative journey is the punishing schedule of work he already has lined up through to the year 2000.

Jacqueline Molloy

LXbizzBITS

PRODUCTS

CITYCOLOR & GIANT

Studio Due is an Italian manufacturer that has been creating lighting systems for live performances, television studios and discotheques since 1982. Two of their latest products are:

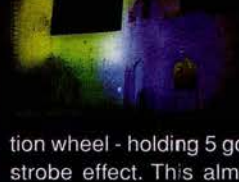
Citycolor - a square projection flood light on the market that uses dichroic filters instead of the standard colour gels. Features include long lamp life (using a 1800W lamp)



and ease of installation. It can be externally programmed or run via internal programs.



It has an extremely wide output, which makes it perfect for external applications and its colour mixing process allows you to create the colour of your choice. Price \$7,005. (ex-tax).



Giant - may be the smallest moving head on the market but it's very bright. Packed with features, the Giant utilises a HTI 150W discharge lamp, comes equipped with a 5 dichroic colour wheel, gobo rotation wheel - holding 5 gobos and a shutter/strobe effect. This almost silent effect is ideal for discotheque use, shop windows, pubs and small clubs and even exhibitions. Priced \$2,705.

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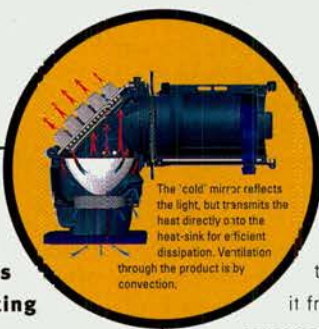


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The PACIFIC range delivers the light output of traditional luminaires of twice the wattage — 600w produces the same or more light as a 1200w profile, 1000w produces the same as a 2000w. Adjustable from a centre peak to a visually flat field using Selecon's unique planetary gear system. Beam quality is "near condensor" like, with a 'white-ness' that stands out. Pattern projections are sharp and in-focus across the complete beam.

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The "cold" mirror reflects the light, but transmits the heat directly to the heat-sink for efficient dissipation. Ventilation through the product is by convection.

the choice and versatility to deliver both the amount of light and the beam size you require.

Selecon's active heat management system takes much of the heat out of the light end and extracts it from the luminaire away from heat sensitive components such as the lamp base, wiring and operational controls. The result is a luminaire that is safer and easier to use.

With precision die cast components and the latest in plastic technologies, the PACIFIC is a compact sized luminaire with all the safety and operational features you have come to expect from Selecon, including automatic disconnection of the mains supply as the lamp module is removed from the luminaire, two pattern holder mounting slots, 360 degree rotatable lens tube interchangeable colour coded lens assemblies and lens tubes.

To trial the PACIFIC or for your copy of the PACIFIC CD and brochure contact your Selecon dealer

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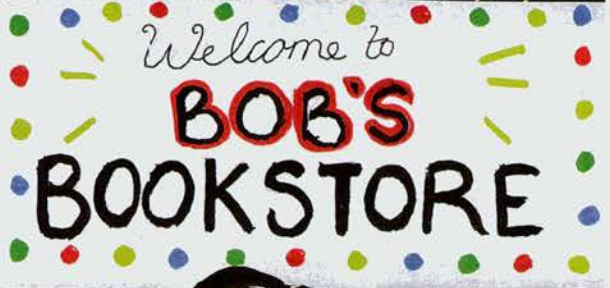
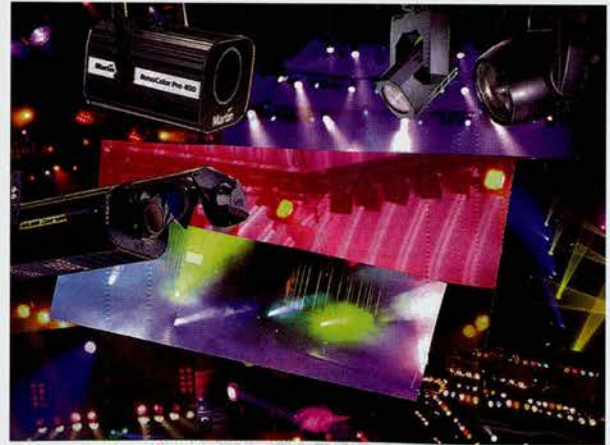
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How many times has a client said 'I went to a show last week and WOW, coloured and moving lights everywhere. I want to use that technology on my next project.'

Enter the Specialist Architectural Lighting Designer. This conceptual phase sees clients 'thinking big' and invariably asking for designs that are way out of range for the project budget. Designing theatrical lighting rigs to be installed into architectural spaces requires significantly more up front planning and concept development than your standard rock and roll gig to ensure the concept fits the architectural intent. Understanding, patience and lots of explanation on how the stage show lighting was created brings some reality to the application. But, it's still possible to achieve the same effect after considering the cost and ongoing maintenance.

Let's look at two different scenarios where new clients, Mr John Bookstore and his competitor Mr Barry Pamphlet, attempt to solve the lighting requirements of their new book stores.

Tim Warren, Senior Lighting Designer at NDY Light, delivers a case scenario



Using Theatrical Lighting in Architectural Spaces

Scenario 1 - Mr Bookstore has had a great night at the Rocky Horror Show and thinks a lighting show like Rocky Horror could be a great thing for his new stores. He approaches The Average Lighting Design Co. (ALD). He understands that they are good designers and their fees aren't extraordinarily expensive. With money to burn, dream time sets in and you envisage the most exciting lighting rig ever seen (in a book store)! The ALD are the envy of every lighting designer.

Mr Bookstore is blind in anticipation, how he will dominate the market, and crush his arch enemy, Mr Pamphlet. Money is no object and ALD have complete freedom to design and program anything into Mr Bookstore's project. (He doesn't even know the difference between lasers and Cyberlights!). He agrees to the budget and the ALD are preparing the frames for the lighting awards right now.

Scenario 2 - Across the way, Mr Pamphlet has heard of Mr Bookstore's evil plot. He is in the process of launching his counter attack in the cut throat business of selling books. He is conducting a meeting

with you, the principal designer of The Greatest Lighting Design Co. (GLD). In no uncertain terms, he does not want to be outdone by Mr Bookstore, he wants to remain competitive, and theatrical lighting in his book store is just the answer.

He explains to you that he wants to use lasers every where just like the ones he saw at Rocky Horror on the weekend. Now you start thinking of the rig of your dreams but you decide to explain that it wasn't lasers he saw merely intelligent lighting with heaps of fog and that is considerably cheaper than lasers. You convince him to stick to intelligent lighting and not use lasers as you believe it would be more cost efficient.

Mr Pamphlet has more money to burn than Mr Bookstore but, does he have any one capable of maintaining the system once it is installed? Mr Pamphlet replies 'Yes, of course. My brother-in-law is a great electrician'. At the risk of offending great electricians, the probability that Mr Pamphlet's brother in law could actually maintain the system is near zero. Upon your direction, Mr Pamphlet agrees that, in his best interests, a maintenance contract for

his system would be required.

Next you tell Mr Pamphlet that the lighting may have an effect on the books, and the effect of the fog machine on his valuable pages of text and graphics is an unknown quantity. What about powering this monster of a light show? The size of the show will require a new electrical sub station will have to be built to deal with the power load of his new lighting design. Disgruntled, Mr Pamphlet agrees to pay for it, and thanks you for catching this before it got to far.

So now you are able to make sure that the extra land required is allocated for by the architect and the building approval goes as planned. What about air conditioning? Mr Pamphlet will require air conditioning capable of keeping the lizards at Ayres Rock cool in the middle of summer. What about holding the rig and lights in the air? Mr Pamphlet agrees to engage a structural engineer to advise on methods and costs associated with supporting the rig

You suggest that considering the above factors and the overall budget, Mr Pam-

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Using Theatrical Lighting in Architectural Spaces

continued from previous page

phlet should consider limiting the show to only the reception area. Mr Pamphlet is convinced that lighting the whole store is an overkill, and that the light show in reception only is money well spent.

Meanwhile ALD are deep into design development mode for the biggest rig ever put into an architectural space, as a permanent installation, and the pressure is on. The design of the truss is in the shape of Mr Bookstore's logo some thing like an Amoebae. Mr Bookstore is counting his lucky stars he hired ALD.

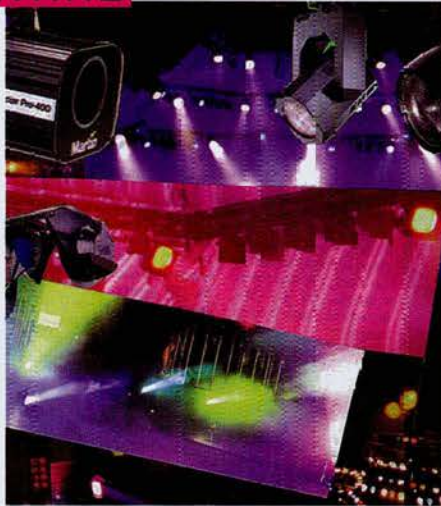
ALD talk to the laser guy and he his keen to use 100 lasers that have full colour graphics modem uploads and could probably wash your dishes and feed the cat if you pay enough for it (I've just been told that is on next years model). Mr Bookstore thinks his store will bring in people that never ever thought about going into a book store before (drummers).

ALD can see the accolades and awards rolling in from around the globe. A fax from the electrical engineer informs ALD that the electrical capacity for the lighting in the building is 40 W/m², as that is what most bookstores would require. Happily, ALD go along for the ride and decide to figure it out later. In the mean time they receive a fax from the mechanical engineer allowing heat load for about 40W/m², as this is what most book stores would be. ALD say that that is OK (not really caring a whole lot) and resolve to address the issue at a more appropriate stage.

The structural engineer is also curious as to exactly how heavy is a truss with par cans, profiles, Cyberlights, lasers and what ever else could be on it. 'Can't you make an allowance?' ALD ask.

Suddenly, ALD begin figuring out W/m², are and determine that at present their design is running at 150 W/m². In a state of panic they call the electrical engineer and ask him what the cost implications would be if the lighting design was looking to be 150 W/m². Laughing he says 'more than your little light show I'm sure'. Perhaps, some creative programming will cover the insufficient power available. And ALD are still convinced that their programming genius will dazzle Mr Bookstore and his customers.

After sending the relevant information on the truss to the Structural engineer, ALD are luckily informed that the ceiling will



hold the rig, no problems. It will only cost an extra \$20,000 for structural. Disappointed ALD must tell Mr Bookstore about the structural problems before someone else does. Even though Mr Bookstore is not happy he agrees to the extra cost because ALD assure him all is well.

Over at Organised Meetings with the mechanical, electrical, structural engineer and Mr Pamphlet ensure he is fully aware of all the cost implications. You issue drawings to all consultants and await their comments. You then consider the responses and organise a co-ordination meeting between all consultants. Any changes are agreed and are then incorporated into the design. Now, after all the interface with other consultants has finished, that allows you to be creative with the client and discuss colours, effects and perhaps having specialised gobos made with the Mr Pamphlet's logo on them. You discuss the opening night and design the system to have an LCD pad so Mr Pamphlet can start the show with just one touch.

Mr Bookstore is starting to feel uneasy. ALD get endless queries from the electrical contractor asking how they plan on turning on all these damn lights when by his calculations he has only half the capacity of what is required. ALD spend mindless hours explaining to multiple parties that not all the lights will be on all the time, so don't worry about it. Mr Bookstore has heard about the unrest and is starting to feel a bit uneasy. ALD ask Mr Bookstore to come down for a demonstration and he states that it is not quite like the Rocky Horror show he saw. ALD suggest that with a little more programming everything will be right on the night. The problem is there's only one more right until the store opening.

Mr Pamphlet is sitting pretty. You spend a few hours with the electrician confirming power locations and have a few laughs with the owner about the fantastic opening night you have both planned. Plenty of hours programming make sure all cues are to Mr Pamphlet's satisfaction. He is amazed and ask all of his friends to stop

continued on page 72

LXbizzBITS

PRODUCTS

MIDI-DMX LINK TO AV SYSTEM

Artistic Licence (UK) Ltd has recently supplied a MIDI-DMX to PSL (Presentation Services Limited) on behalf of Dataton UK for the tour of G3, a show from three guitarists headlined by Joe Satriani.

The need arose as PSL was using a Dataton AV system, a show control system designed to synchronise show elements, which can be controlled by MIDI and an Icon lighting console from LSD which could only output DMX. therefore, the MIDI-DMX which as its name suggests, can operate as either a MIDI to DMX512 or DMX512 to MIDI translator was the ideal solution.

The MIDI-DMX allowed the lighting designer to 'hit' a flash key which then triggered the video sequence from the Dataton AV unit. The sequence consisted of a video being projected onto an inflatable globe.

MIDI-DMX is the first control system of its kind to be offered as an 'off-the-shelf' solution alleviating the need for a custom built option which is always a more costly and lengthy process.

Call Artistic Licence +44 181 863 4515.

NEWS

IPI NTOMBI

South Africa's hit musical, *Ipi Ntombi* has just completed a very successful run at the 900-seat cabaret style Showroom theatre at Sydney's Star City Casino.

Ipi Ntombi returned after 25 years since it first debuted on Australian shores. This hit production has toured all over the world and also won numerous awards including the coveted 'Jimmy Durante Award' for Best New Musical.

The show is a cultural experience that blends the modern and traditional heartbeat of Africa in a musical story of love and life.

Six MAC500's, eight MAC600's and eight Martin PRO518's were an integral part of the lighting rig and have now become a permanent fixture in the Star City Showroom. As Craig Martin, the Showroom's Lighting Engineer, stated "we're very impressed with their output and versatility."



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These are just some of the great features you will find in Stage Color 1200, the most powerful and imaginative washlight for advanced applications currently on the market. Stage Color is revolutionary, thanks to its easy conversion into the Stage Zoom 1200 effects projector.

Just change the head on your Stage Color 1200 to turn it into a fantastic effects luminaire, Stage Zoom 1200. Or you can convert the other way round.

The basic unit for both fixtures is electrically and mechanically identical, so you can build up the luminaire you need at the very last moment, even just before the show begins! And do it yourself, with no need for expert help.

Both luminaires use an HMI 1200 amp, the number one choice for professional use. Both luminaires also have generous pan (450°) and tilt (252°) angles with smooth movements and microstepping resolution selectable between 8 or 16 bit.

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The standard unit is equipped with an electronic ballast, although a conventional electromechanical system is available as an option.

Stage ZOOM 1200

The 12°-24° lens with zoom and focussing controlled from the desk gives you a wide range of projection angles. The CMY colour mixing system offers an almost limitless palette and is supported by two colour-temperature correction filters (3200 and 5500 K).



The frost effect offers complete linear variation, allowing a spectacular transition from a hard-edged beam to an increasingly diffused wash. Stage Zoom 1200 is also packed with graphic effects including static gobos, rotating gobos and rotating prisms. They are all fully combinable and all with indexed positioning through 540° so that a given effect can be repeated on several luminaires. These are just some of the exciting new features of Stage Zoom 1200, the sophisticated new moving-body effects projector. Stage Zoom is revolutionary too, thanks to its easy conversion into the Stage Color 1200 washlight.

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LXbizzBITS

NEWS

CINEMATOGRAPHER OF THE YEAR

Pieter de Vries was named Cinematographer of the Year for his documentary *Rat* at the national Australian Cinematographers' Society (ACS) annual awards.

ORACLE LASER NEWS

Since the release of the Oracle Superscan 360 laser scan at Entech, Oracle have been busy with several orders locally and overseas. To enable them to maintain quality, Oracle have decided to install a full metal machining workshop to cater for the production in line with their in-house philosophy. Oracle technicians who designed and built the Superscan are working on a DMX controlled version which will enable a standard DMX lighting desk to fully control the laser system - pan, tilt, patterns and colours as well as animation. The Superscan 360 can then be fully integrated into a moving light program opening the doors to unlimited creativity.

SELECON PACIFIC DEMO

The first Australian presentation of Selecon's new Pacific (prototype only) took place at QPAC in June. Present were Jason Raft (JLX), Richard Stuart (QPAC Technical Head), Tim Kennard (Herkes), Ben Meadows and Charles Wiles (QPAC), and Graham Eales (Selecon).

The First Technobeams Put to Work

The first 20 Technobeam automated luminaires rolled off the High End Systems production line and straight into a prestigious event - the Grammy Awards Show Party.

In the main Imperial Ballroom of the Sheraton New York Hotel, white Spandex shapes - cones, balls, spires - were suspended from the ceiling, each lit with colour and projections inside and out by lighting designer Art Rich. The 20 Technobeams were the main centrepiece on a tree of

trussing 20 ft high, with 5 ft legs and 5 ft arms at the top of the box truss. On that tree were eight white Spandex tubes with 12 ft diameters. On top of each tube, a Technobeam projected into and outside the tube to splash colours and patterns around the room. In all six rooms where the event was held, Studio Colors were positioned under the glass tables to highlight the cuisine.

The HES gear was supplied by Pegasus Lighting of New York.

Using Theatrical Lighting in Architectural Spaces

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by to have a look. One more check of the rig and a final run through of the show and you still one day to go. You invite the electrician and the riggers to the pub to celebrate a successful installation, and wait for opening night.

Pandemonium at Mr Bookstore's Shop. Only a few hours to opening night and ALD still haven't figured out how their ingenious programming has let Mr Bookstore down. They finally work out some sequence that is half reasonable and give it a test run. Halfway through the show, it starts getting a bit hot inside Mr Bookstore's shop. The air conditioning system has failed on overload. At the end of the show, the big crescendo sees two banks of 20 Cyberlights come on simultaneously. Unfortunately, this blows up the substation and causes a massive fire in the book shop. All patrons are evacuated as the fire engines come from nearby.

In the morning, after sifting through the remains of his book store, his pride and joy, Mr Bookstore looks to the heavens and asks himself why he was so hasty in his decision to go with an average light-

ing designer.

Opening Night at Mr Pamphlet's Store - Mr Pamphlet has been telling people for weeks to be prepared for a lighting spectacular. The light show is absolutely amazing and runs without a hitch. The audience is left with mouths agape. Mr Pamphlet goes on to record sales in the literature industry and plans on opening a chain of stores all over the world. Mr Pamphlet makes one off hand comment that sticks in your mind: 'Oh, and by the way, can we put some lasers on the next job because my wife went to see Phantom of the Opera and.....'

The Moral of the Story.

You've heard the old saying you get what you pay for but sometimes that is not necessarily what you need. Using theatrical lighting in a permanent architectural solution for your clients requires much more planning, co-ordination and detail than a standard rock and roll show, to ensure the clients money is well spent (both capital and ongoing costs) and that the solution will last the test of time.



ACTIVE LIGHTING

The first six months of the year have kept Active...well, active. There was the Hunters & Collectors final tour, the Beck tour, the Apollo Festival tour, two Seekers tours and the Indigo Girls tour. They also launched right into the Comedy Gala, TV Week Logie awards, the Ansett Cup, Julian Clary, the Cruel Sea and The Whitlams. Call Active Lighting (03) 9819 6912.

NEW CEO AT MARTIN PROFESSIONAL

From June 14th, Martin Professional has a new CEO, Kristian Kolding, who has substantial experience in the fields of commercial and international business.

THE SHOW-LIGHTING REVOLUTION



Stage COLOR 1000

Stage Color 1000 is the washlight that solves colour temperature variation problems at the source thanks to the use of a 1000 Watt halogen lamp.

Designed and built for the needs of television and the theatre, this luminaire uses a 3-filter CMY colour-mixing system to give the exact colour required.

A frost filter of the latest generation provides a wide aperture and perfectly uniform light intensity over the entire illuminated area.

With ovalized projection, electronic dimmer, beam stopper and strobe, the features of Stage Color 1000 are guaranteed to satisfy even the most demanding lighting designer.

WASHLIGHTS ALLOWING TOTAL MASTERY OF COLOUR

Only Clay Paky could make washlights so quiet (no risk of disturbing the hushed atmosphere of the theatre and television studio) and with such mastery of colour, offering an infinite choice of hues and perfect colour temperature correction.

These fine luminaires also share generous pan (45°) and tilt (252°) angles with smooth movements and microstepping resolution selectable between 8 or 16 bit. Both fixtures have automatic repositioning following any accidental



movements thus eliminating time-consuming realignment procedures, together with a convenient moving body lock system for easy transport.

Stage COLOR 575

Stage Color 575 uses a tried and tested HMI 575/SE discharge lamp with optional hot re-strike and on/off control from the lighting desk. The 4-disc cyan, yellow, magenta and amber colour mixing system can generate infinite variations of tone, with a range of beautiful pastel shades to create special atmospheres not possible using conventional 3-colour systems. The luminaire is complete with GTC, the exclusive Gradual-variation colour Temperature-Correction system.

3 filters for 3 different intensity frost effects, special effects, ovalized beam, beam stopper, strobe and mechanical dimmer are just some of the features of Stage Color 575, the washlight that offers the maximum creative potential supported by unparalleled reliability.

BUYER'S GUIDE

lighting control

Prices EXCLUDE sales tax and were correct on 15th June 1998. All care taken, no responsibility for errors. Four models only are shown in each category although these manufacturers have many more. Indicative only.

ANYTRONICS

TechScope 1800 773 187

Minidesk A range of single preset analog output desks in 4, 6 or 12 channel configurations. Each desk has fader and positive feel flash button for each channel plus master blackout switch. Requires power supply of +18V to +25V DC. From \$211.62.

Aurora 6 A 6 channel 2 preset analog output desk in 19" rack mount format. Two master level faders, twelve individual channel faders, manual or automatic crossfade up to 6 minutes. Display mode allows automatic switching between presets. Requires power supply of +18V to +25V DC. From \$516.97.

Aurora 12 A 12 channel 2 preset analog output desk allowing 19" rack mounting or desk freestanding. Same features as Aurora 6 with addition of flash level fader, slaving facilities and gooseneck light facility. Requires power supply of +18V to +25V DC. From \$822.31.

Super Aurora 12 A 12 channel 2 preset analog output desk with same features as Aurora 12 with addition of pre-programmed sequences controlled by speed control or audio activation including freeze switch. Requires power supply of +18V to +25V DC. From \$1,166.95.

AXON DIGITAL DESIGN

Coemar De Sisti Australia (03) 9467 8666

ShowCAD PC-based lighting control software and proprietary DMX card for 1024 control channels. Fixture specific templates for moving lights, autogenerate scene and patch creation, offsite editing, comprehensive softpatching, SMPTE, MIDI, DMX in/out, Analogue, & audio input. Fully featured controller suitable for all applications in particular multimedia & theme park attractions. \$5,100.

CELCO

Electrosonic Systems (02) 9714 0400

Pathfinder 60 control channels; DMX512 patch; 12 submasters; rate playback; sequencing; music signal input and slot for Q-card archive storage. \$5919.

Pathfinder EPX as basic Pathfinder plus SVGA monitor output, mini keyboard, floppy disk drive port and MIDI input/output. \$8704.

Navigator moving light console; 240 control channels; DMX512 patch; 12 submasters; rate playback; sequencing; music signal input and slot for Q-card archive storage and personality card. \$5919.

Navigator EPX as basic Navigator plus SVGA monitor output, mini keyboard, floppy disk drive port, tracker ball and MIDI input/output. \$8704.

COMPULITE

Coemar De Sisti Australia (03) 9467 8666

Photon Full feature compact console of 144/240/512 control channels, 48 scrollers, 512 DMX channels, 20 multi-purpose controllers, instant memory/channel/group/snaps/macro/chaser access, Rigger's remote, SMPTE, MIDI, DMX in/out. Professional console suit-



Strand GSX

able for smaller Studio, Theatre, Concert, Schools, etc. Also available in back-up model with full playback facility, tracking backup, and basic editor functions. Off-line editor included with all consoles. From \$8,520.

CRESCIT SOFTWARE

Coemar De Sisti Australia (03) 9467 8666

SoftPlay DMX User-friendly PC-based (Windows) lighting/motor controller. 96 control channels and 12 moving lights (8 parameter) plus 4 motor controllers. Infinite scene creation, softpatch, joystick control, offsite editing, programmable effects macros, timed crossfades. Suits smaller theatres, schools, etc. \$720.

ETC

Jands Electronics (02) 9582 0909

Acclaim 112 12 Channel, two preset, DMX512 console. 8 submasters and chase functions. Flash/solo buttons on all channels and sub masters. Grand Master and DBO functions. \$4750.

Acclaim 124 As for Acclaim 12, but with 24 channels. \$5979.51

Acclaim 136 As for Acclaim 12, but with 36 channels. \$6965.11

Acclaim 148 As for Acclaim 12, but with 48 channels. \$7782.79.

FAL

ELSTA 1800 35 80 80

Easy 2 12 inbuilt pre programmed sequences, controls any FAL scanner in sets of 4 or 6, manual control for each one or the whole group, 3RU rack mountable, splash proof covering. \$1228.69.

Lightmasters controller 512 DMX channels, large memory, hundreds of scenes and chases and shows can be created, touch sensitive touch pads, 12 sliders allow direct access to any scene, chase or show stored in the memory, external back up facility, direct manual control achievable during playback, LCD display, cross-faders. \$4097.54.

GROUP ONE

Show Technology Australia (02) 9898 1111

Elektralite CP10XT Now with 128 chan-

nels of DMX, the CP10XT is a universal moving light controller capable of programming a wide variety of different manufacturers' intelligent moving lights through the use of extensive libraries, already patched and ready for use. \$2460.

HIGH END SYSTEMS / LIGHTWAVE RESEARCH

TechScope 1800 773 187

Status Cue Link Card w/ Software ISA Link Card, which is a 16-bit full length PC Card that plugs into an unused slot of 486 or Pentium computer. Controls up to 1024 DMX channels via two data outputs (or LWR protocol) Status Cue application runs under Windows 3.11 or 95. 6000 scenes, 128 parameter palettes, 32 instant and 16 fader presets per song, 128 group selections, 8 concurrent cue lists. CD Rom support and many more features. \$5,487.67.

HSL

Coemar De Sisti Australia (03) 9467 8666

Wir Commander Windows 95 based lighting control software and proprietary DMX card for 512 control channels (expandable). A variety of timesaving scene and patch creation functions, offsite editing, comprehensive softpatching, SMPTE, MIDI, DMX in/out, Analogue, & audio input. Fully featured controller which utilising full Win95 compatibility and suitable for all applications. A variety of accessories including front end hardware and "lite" version for portable PC usage. \$3,124.

JANDS

Jands Electronics (02) 9582 0909

Stage 24/48 24 Channel, two preset, DMX512 console or wide mode 48 channel operation. Two grab masters, flash buttons and chaser control. \$1471.31

ESP II 24 24 channel, two preset or single preset 48 channel operation. Three proportional patches of up to 512 dimmers. 120 memories and up to 10 chases. Timed dipless crossfades and 2 submasters on 10 pages. \$3274.59

ESP II 48 As for ESP II 24 except with 24 submasters and two preset 48 channel or wide mode 96 channel operation. \$4913.93

EVENT 36 36 channel two preset or wide mode 72 channel control. Theatre style timed crossfade stacks. Cue linking, multiple playbacks, MIDI control and proportional soft patches standard. \$4913.93.

JB LIGHTING

Universal Lighting & Audio 1800-648-111

Scan Control 1612 DMX controller for up to 16 moving lights with up to 12 channels each, 24 conventional control channels, 576 scenes, 24 programs, direct control buttons for easy parameter selection, LCD display, accepts RAM card for backup/transfer data, 19" rackmount. \$3159.84.

DMX Controller 6 head DMX controller for moving lights, 880 scene, 20 programs, joystick, auto music control with beat adjustable counter, 19" rackmount. \$1382.18.

LIGHTPROCESSOR

TechScope 1800 773 187

Q Commander DMX console to control intelligent and generic DMX devices. 256 channels DMX, 512 scenes, 64 chases of 64 steps, 16 groups, 16 intelligent fixtures, 8 pre-programmed chases, 8 shows of 500 events, 64 playback keys, 16 ch analogue input, Ram card slot, extensive 100+ internal fixture library. \$4,817.77.

Q Extender Add on extension for Q Commander provides 16 faders and associated flash buttons which may be assigned for use in programming or playback. Assign faders as preset scene master, chase master or individual level control. \$903.33.

Q Commander with fitted Input Extender Same features as Q Commander but with factory fitted extender fader panel. \$5,634.03.

Q Store Incorporate in DMX chain to allow 64 presets of all 512 channels. Operate manually or by a simple binary input trigger. Scenes can be recalled in any order and switched or faded. Can operate stand alone as desk replacement. Has ram card slot. \$1,447.51.

LSC ELECTRONICS

LSC Electronics (03) 9561 5255

Atom 12/24 Entry level desk, 24 fader channels, 99 output channels, user selectable softpatch, quick access programming, 9 pages 12 masters, separate fade in/out times, VGA video output option. \$1420. Also available in 24/48 version \$2300.

Axiom 24/48 Mid level console, 48 fader channels, 240 output channels, HTP/LTP on any channel, 4 proportional softpatches, 9 pages of 24 masters, disk drive and analogue options, DMX512 output - standard. \$3450.

Axiom 36/72 Mid level console, 72 fader channels, 240 output channels, HTP/LTP on any channel, 4 proportional softpatches, 12 pages of 36 masters, disk drive and analogue options, DMX512 output - standard. \$4850.

Axiom 48/96 Advanced moving light console, 96 fader channels, 1024 out-

continued over

THE COMPACT REVOLUTION



Stage COLOR 300

Presenting an ultra-compact washlight with a high-quality Fresnel lens, plus an efficient and spectacular fading frost effect with perfectly linear variation.

The innovative frost system provides a unique 50° aperture with uniform light intensity over the entire illuminated area, which greatly reduces the typical loss of brightness associated with conventional diffusers.

The CMY colour mixing provides an infinite varied palette, allowing lighting designers to choose exactly the right tone of colour for each scene. With a dimmer and beam stopper on separate independent channels Stage Color 300 achieves a level of performance previously available only from far larger and more powerful luminaires.

PINT-SIZE FIXTURES WITH BIG PERSONALITIES

Clay Paky have revolutionized the world of compact luminaires, making them so efficient and versatile that they are ideal for any type of environment and application. Both models use either the HT 300 discharge lamp, offering the same features as the more powerful HT1 lamps which it is derived, or the brand new HMD 300 with a 3,000 hour average lifetime and colour temperature in excess of 5000 K. Equipped with a highly practical automatic repositioning device to correct accidental movements, both luminaires are also designed



for easy handling thanks to a convenient transport lock on the moving body. The wealth of functions provided by Stage Color 300 and Stage Light 300 makes them an ideal duo for professional and discotheque applications. Thanks to Clay Paky, top-level performance and compact dimensions are no longer conflicting requirements in the world of professional show lighting.

Stage LIGHT 300

Presenting an ultra-compact effects luminaire equipped with electronic focusing and a manual zoom lens for a wide range of projection angles. This unit provides unique features for a fixture in this category.

36 colour combinations, 2 filters for colour temperature correction and special effects filters combined with refined graphics equipment including 6 rotating gobos with indexed positioning through 540° and a 3-face prism. There is also a mechanical dimmer and a high speed strobe.

The superlative performance and features of Stage Light 300 rate it as the most advanced compact moving body effects projector on the market.

BUYER'S GUIDE

lighting control

put channels, 96 fixture moving light control, 48 banks of 16 softmasters, isolated DMX512, parallel and serial ports, video, midi, audio, disk drive, gooseneck lamps and dust cover as standard. \$9450.

LITE PUTER

ELSTA 1800 35 80 80

CX-5 DMX Desk Fully programmable, 12 sliders for rapid access to features, 300 scenes, 50 chases, 50 macro memories, built in templates for common scanners, 168 DMX channels, controls up to 12 scanners, LCD display panel, memories are nameable, Midi in/out. \$1064.75.

CX-3 DMX Desk Fully programmable, 48 scenes, 128 DMX channels, 12 group sliders, programmable chaser functions, LCD display, A/B cross faders. \$1146.72.

CX-12 DMX desk Fully Programmable, 96 DMX channels, 24 chases, 2 independent dipless cross faders, LCD display, 64 steps per chase, 24 sliders, easy to follow ergonomic design. \$2458.20.

MARTIN

Martin Professional Lighting Australia (02) 9898 1111

ProScenium Controller Full featured Windows 95 based DMC lighting controller. It offers full 512 channel DMX control - expandable to 1026 channels and is available in either laptop or monitor versions. \$2705.

3032 Controller The Martin 3032 Controller offers easy programming and complex show control by connection to an existing control board. This is achieved via the 2532 direct access board or by using the SMPTE/CD-ROM time control features. \$2460.

2518 Controller This portable DMX controller gives you fast access to the DMX controlled features. The layout is made so any fixture using up to 6 DMX channels can be controlled easily, but in general any DMX fixture can be controlled. Offering pre-programmed sequences, the 2518 controller can be either automatically or manually controlled. \$820.

Case PRO 1 Designed as the touring desk to guarantee the lighting professional gets the ultimate performance out of the lighting array. The Case PRO 1 offers full DMX control, 512/1536 standard channels, 10 playback features plus 5-3 pin converter. \$8570.

METEOR

ELSTA 1800 35 80 80

OMNI Lighting controller 256 DMX

channels, 240 scenes, 64 chases of 64 steps each, 20 shows, each show can have 4 tracks, shows live or recorded, midi controllable, can control any DMX fixture of any brand or any type all at once. \$2048.36.

NSI

Universal Lighting & Audio 1800-648-111
MLC16 DMX controller for up to 16 moving lights, MIDI, backup to 3.5" floppy, extensive fixture library, very easy to use moving light console. \$3865.57.

ROSCO

Rosco Australia (02) 9906 6262

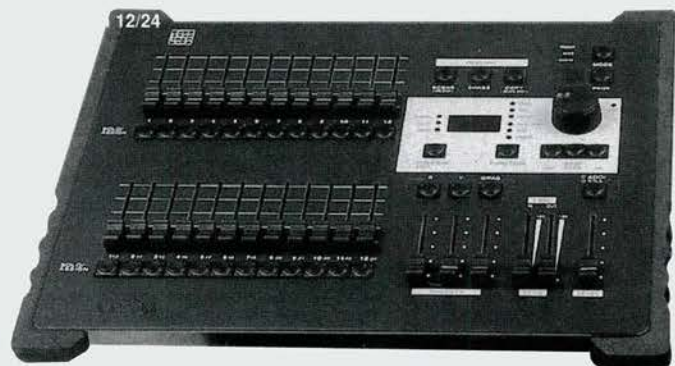
Horizon CD Rom program to use a Pentium Windows 95 PC or laptop as a desk with 3072 channels of DMX control. To drive dimmers, the Horizon inter-

GSX Compact lighting hardware platform with a choice of software packages allowing channel number and feature upgrade paths. Command panel, two playbacks, wheel, LCD display and 24 submasters. Can control up to 512 DMX dimmers or scrollers using 25, 50, 75, 100, or 125 channels. From \$5962.

LBX Compact memory + manual lighting console platform with a choice of software. Designed for concert lighting, multipurpose venues and touring, it is user configurable allowing the 96 channel manual faders to be used as a single or two preset desk with or without submasters. From \$9121.

THEATRELIGHT

Lightmoves Technologies (02) 9560 0000
Scenemaster 12/24 or 24/48



face (\$2000) is required. A submaster wing panel is available, upgrades can be downloaded free from the Web site. \$Free.

STRAND LIGHTING

Bytecraft Pty Ltd. (03) 9587 2555, (02) 9550 3955

LX 2-scene preset manual analogue control console with slider per dimmer operation. Basic lighting control for small venue, drama studio, clubs etc. 12 and 24 channel versions. Split dipless manual or timed crossfades, individual flash buttons per channel. From \$1388.

MX 2-scene preset manual control console with memory. Ideal for small venues which require basic memory capabilities and special effects. 12, 24, or 48 channel versions. 4 'pages' of memories, 24 programmable effects, two proportional channel/dimmer patches, optional memory storage card. From \$3027.

Available in two models, Standard DMX-512 output. Large memory capacity with 4 pages of scenemasters and automatic page overlay. Record & erases protection codes with a single button show operation. Independent chase speeds and assigned cross fade time. Memory Card & video monitor option. 12/24-\$1695, 24/48-\$2195.

Cuemaster Average 800 cues on 120 channel model. DMX-512 output. 10 pages of 24 scenemasters. Multiple chase speeds with level sensitivity. Independent show cues with fade times. \$4995.

Cuemaster Plus As above with additional DMX mixing of two external DMX inputs. Soft patching of any 512 dimmers to any 240 channels. 100 backup scenes in 10 pages. Independent fade timer for back up scenes. \$6995.

LX Desk over \$10k

AVOLITES

Universal Lighting & Audio 1800-648-111

Azure2000 Ergonomic designed for the professional clubs and industrials. Features 2048 control channels (4 full speed DMX lines), control 200 moving lights, 200 conventional dimmers, softpatch, response curve, HTP/LTP, 500 memories, up to 20 sequences may be run simultaneously, 10 playback submasters, 40 playback submaster buttons, 3.5" floppy drive for backup and software upgrades, colour VGA output standard, MIDI, MIDI timecode, extensive shapes, groups, palettes and over 140 fixture personalities. \$16,428.16.

Azure2000 Touring Features 2048 control channels (4 full speed DMX lines), control 200 moving lights, 200 conventional dimmers, softpatch, response curve, HTP/LTP, 500 memories, up to 20 sequences may be run simultaneously, 10 playback submasters, 40 playback submaster buttons, 3.5" floppy drive for backup and software upgrades, colour VGA output standard, MIDI, MIDI timecode, extensive shapes, groups, palettes and over 140 fixture personalities. The Azure Touring comes complete with the brilliant Avolites Graphics Tablet, keyboard and roadcase. \$21407.49.

Pearl2000 Touring 2048 channels, 120 intelligent lights, 240 conventional dimmers, shaper generator for instant creation of patterns and effects, 15 playback masters to control 450 memories, chases or cue stacks, preset focus palettes, theatrical style keypad channel selection and playback control, MIDI, sound-to-light, colour VGA output, comes complete with graphics tablet, keyboard and flight case. \$21407.49.

CELCO

Electrosonic Systems (02) 9714 0400

Explorer 120 control channels; DMX512 patch; 12 submasters; rate playback; sequencing; music signal input and slot for Q-card archive storage. \$10,383.

Explorer EPX as basic Explorer plus SVGA monitor output, mini keyboard, floppy disk drive port and MIDI input/output. \$12,548.

Ventura 1000 Celco's flagship moving lamp and conventional lighting console - offers 1000 channels consisting of up to 100 multi-parameter lamps and 240 channels of dimming. \$20,000.

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BUYER'S GUIDE

lighting control

COMPLITE

Coemar De Sisti Australia (03) 9467 8666
Ovation 4D 1536 Dimming Channels (inc. Scrollers), 250 Moving Lights, up to 2048 DMX Channels, Touch Screen, Twin Monitor Output, Off-Line Editor, MIDI in/out/thru Full feature, professional console suitable for TV Studio, Theatre, Opera, Concert Hall, or similar application. Accessories include CompuCAD, CompuLINK, VideoLINK, E-Mix Ethernet Node, Remote Video, Wire/less Remote Control w/ith/without Moving Light Control, Macro Extension Keyboard SMPTE Converters. From \$47,000.

Micron 4D 1536 Dimming Channels (inc. Scrollers), 250 Moving Lights, up to 2048 DMX Channels, Touch Screen, Single Monitor Output, Off-Line Editor, MIDI in/out/thru. Accessories include CompuCAD, CompuLINK, VideoLINK, E-Mix Ethernet Node, 2nd Monitor, Wire/less Remote Control with/without Moving Light Control, Macro Extension Keyboard, SMPTE Converter, Submaster Wing. From \$26,000.

Animator/Nexus/Sabre Moving Light Consoles Control 24/48/72/96/192 moving lights (22 parameters) and 512 DMX control channels in all configurations. Total integrated control and direct instant access to all functions. Trackball & Multiple Wheel control, macros, in-built chasers, snap, disk storage, DMX in/out, MIDI, SMPTE, multiple protocol (Coemar/High End/PMX/Data, etc) Multiple internal auto-effects for instant programming. From \$24,000.

Spark Control 24 moving lights (22 parameter), 48 scrollers, and 240 control channels 512 DMX outputs, 600 cues, soft keys, 3 wheels, trackball, integrated control and direct access to all functions, MIDI, SMPTE, DMX in/out, remote devices (c/w trackball) & native protocols. Available in 1U rack-mount version with programming and playback functionality. From \$6,999.

ETC

Jands Electronics (02) 9582 0909
Express 125 125 Channel, 24 overlapping submasters on 10 pages, 2000 macros, 600 cues, 500 groups. ETC link and ETC net connection as standard. Real time event programs. \$17209.02
Express 250 250 Channel, 24 overlapping submasters on 10 pages, 2000 macros, 600 cues, 500 groups. ETC link and ETC net connection as standard. Real time event programs. \$27454.92

Expression 3 (800)800 Channel, 24 submasters and 10 pages, 1536 DMX512 dimmers, 600 cues, 500 groups, 2000 macros, ETC Link and ETC Net connection as standard. Dual VGA Outputs.

structs for strobe rate, rotation, frost, mirror speed, focus, zoom, iris and dimming. 3 Rotary continuous constructs for RGB colour mixing. Discrete construct keys, colour construct keys, gobo keys and

(02) 9898 1111
Case PRO 2 Used internationally for touring, rental and musical applications, multi-media shows, large clubs and theatre installations. Offering colour library for CMY fixtures, fast direct access to most fixtures, offers perfect programming and playback features, and is fully DMX controllable. \$19,650.



Avolites Azure 2000

Suproroutines with 100 steps with level and timing attributes. \$57372.95

Obsession II (750, 1500, 3000) 750, 1536 or 3072 Channels, 24 sub masters and 10 pages, 1536 or 3072 DMX512 dimmers, 1000 cues, 250 groups, 2000 macros, 125, 250 or 500 moving lights, ETC Link and ETC Net connection as standard. Dual VGA Outputs. SPOA.

GROUP ONE

Show Technology Australia (02) 9898 1111

Elektralite CP100 lighting controller capable of controlling both moving lights and dimmer channels. Easy to program and operate, it has an extensive library, 1024 DMX channels, 500 cues (expandable to over 2,000), 100 chases (expandable), plus more. \$10,451.

HIGH END SYSTEMS/LIGHTWAVE RESEARCH

TechScape 1800 773 187
Status Cue Console Ergonomically designed console for use with Status Cue Link Card w/- Software fitted to 486 or Pentium computer. 32 Instant Preset keys, 16 faders, 8 rotary continuous con-

trackball. \$21,233.76.

JANDS

Jands Electronics (02) 9582 0909
Jands Hog 500 500 channel moving light console. HTP or LTP control. 12 Playback masters. Automenu and Palette button programming for quick access to beam, colour, position and groups of fixtures. \$12290.98

Echelon 1k 1000 channel moving light console. HTP or LTP control. 16 Playback masters. Effects Engine and Palette button programming for easy access to effects, beam, colour, position and groups of fixtures. \$23766.39

MA LIGHTING

Show Technology Australia (02) 9898 1111

Scancommander Desk Tour Pack is ideal for controlling any scanner. It comes with a factory set of "personalities" for almost all intelligent lights available on the market today. The tour pack includes all the accessories - trackball, memory card, micro keyboard, and drawer, Littlelite and a roadcase. \$11885.

MARTIN

Martin Professional Lighting Australia

STRAND LIGHTING

Bytecraft Pty Ltd. (03) 9587 2555, (02) 9550 3955

Strand 520/520i portable professional control console (780 W x 525 D x 150 H) with flexibility of user selectable channel capacity, operating style and application programs. Featuring a Pentium II processor and powerful integrated moving light capability. Equipped with 24 sub/supermasters the console is available in standard 520 model or high capacity 520i version. From \$20,000.

Strand 530i transportable or installed professional memory lighting console featuring a Pentium II processor; (1220 W x 610 D x 150 H) with 24 submasters and 6 supermasters for use with GeniusPro or Lightpalette operating software. Other features include 2 Grandmasters, 2 multi-function wheels, 3 graphics LCD displays and outputs for up to 4 monitors. The 530i can control up to 2000 intensity channels and 2000 attributes and has powerful integrated moving light capability. From \$30,000.

Strand 550i the largest in the range. This high capability console has all the features of the 530i but with 48 submasters and 6 supermasters. (1485 W x 610 D x 150 H) Each console is provided with a range of interface connections including 4 DMX ports; 2 VGA monitor outputs; Ethernet port; Parallel printer, serial remote and hand-held remote ports; Midi in/thru/out; Analogue out. From \$35,000.

next month:

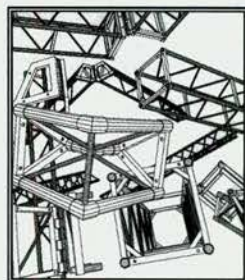
LIGHTING DIMMERS

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ETC OBSESSION II

By Geoff Squires

"Holy DMX goat, Batman, is that a lighting desk?" "Yes, Boy Robin, Its the new toy from ETC." These are the words that spring to mind when you first take a look at ETC's new Obsession desk. It looks like it was designed for the Batcave, with its very futuristic lines. It's a very strange feeling to be presented with a desk that has more style and flare than I could ever hope to have, why isn't it just in a boring old box?

I've been asked to review the Obsession in the Lyric Theatre, at the Old Performing Arts Complex. QPAC is so taken with ETC that the entire complex will soon be run by a variety of ETC desks, including another Obsession due for the Optus Playhouse (Stage V). These new desks tend to run more like a PC these days than like the old faithfuls the Tempus M24. Software now plays a big part in the way a desk functions.

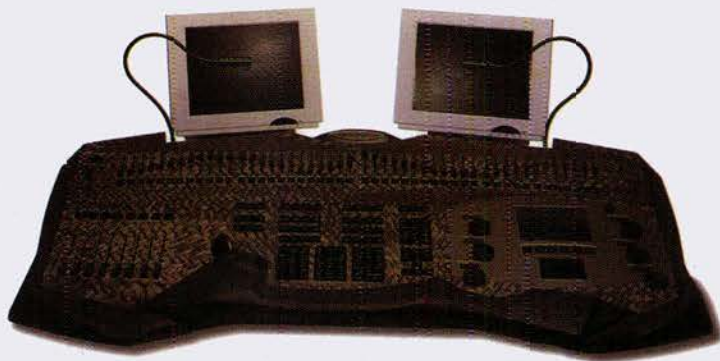
EASE OF USE

I spent the morning with Ben Meadows, who is one the lighting gurus at QPAC, while he took me over the "Bat Wing" as it has been called by all those there. He describes it as "so easy to use due to its layout, each working mode easy to access. For new operators it's just a matter of finding the buttons, the syntax is very easy. And it looks funky"

FEATURES

The Obsession II can do a total of 1,000 cues, 100 effects, 2,000 macros (which are recorded keystrokes, push one button instead of a whole string), 126 simultaneous faces, a hard drive (which makes things soooo much faster) and a keyboard are just a few of the bells and whistles these things come with. In fact the specifications page is like a mile long of all the stuff it does, so I won't bore you with details, if you really want to know hassle Jands who are the distributors.

It also differs from standard desks in that the desk itself is only really an interface between the user (i.e. us) and the processor



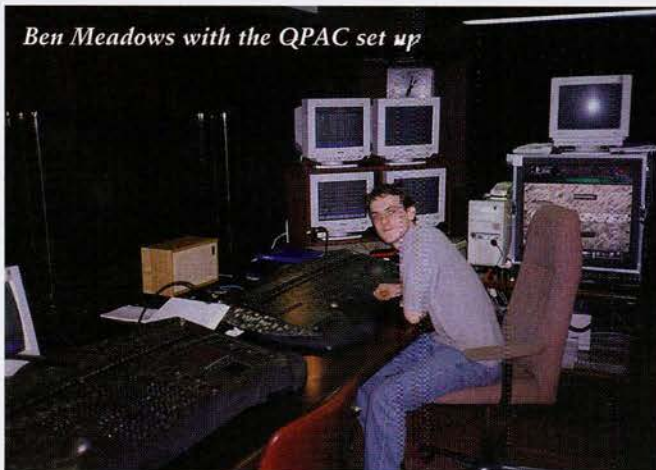
unit which is a separate entity. The two parts talk to each other via ethernet, which is a computer protocol. Ethernet connects every thing via a network hub, so in addition to the desk and processor, a video interface and other toys can be added.

SET UP AT QPAC

The setup at QPAC is one the brochure describes as

typical. It essentially comprises of two complete systems linked to a DMX switcher and again the entire package by ethernet. The operator works from one desk or face panel while the other console duplicates everything. In the event of a failure the DMX switcher automatically switches control to the other processor. The video interface in the control room allows for a total of four monitors at the operator's disposal.

Throughout the building are Ethernet nodes or outlets of the ethernet hub, which allow extra toys to be utilized throughout the building. Therefore another video interface sits back stage with a monitor and keyboard that allows for remote operation for things such as softpatching or even recording of cues and a third video interface at the production desk allows the designer to see what is going on. In addition there is the hand held riggers remote which can also do more than just bring up channels. The desk has two full user modes, which allow two people to operate different parts of the system simultaneously. It also has three "phantom" modes, which are the same as user modes but operate on a more restricted level.



CONTROLLING DIMMERS

QPAC's choice for dimmers in the Lyric has been Bytecraft, comprising of Bytesize 438's and 5k hightops, a total of 540 dimmers. This means that the Obsession's onboard dimmer interface goes unused, instead Bytecraft's Dimmaster system relays any problems through a separate system to a separate PC. This system wasn't fully operational as yet as QPAC was still awaiting a software upgrade, which Ben can't wait for. He says it's great to be able to monitor the racks because if there is a problem it come up on the screen with all the information, rather than wasting time having to look through the show's lighting bible to find out the relevant information.

MOVING LIGHTS

A new addition to the Obsession has been the ML or Moving

continued over



Cast in concert incorporating Chroma-Q. Courtesy of Paul Normandave, Lighting Designer, and Rob Hayward, Photographer.

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ETC OBSESSION II (continued from page 80)

Light. It comprises of a LCD touch screen, a touch pad and six encoder wheels. It works similar to a hog in that you can download the library of fixtures from the hard drive and address them as fixtures. Ben says it takes a bit of time to customise the ML section but it makes it easier to operate. The last show he did he customized the ML section to run scrollers, which meant that all the designer had to was give a colour number and Ben would wheel to the number instead of figuring out percentages to get to the right colour. Ben also said that the touch was a "bit rough" in that it wasn't precise enough but could be used a rough positioner before fine-tuning with the wheels and that the ML section of the manual could be a bit more detailed, but it was easy enough to figure out.

IMPROVEMENTS

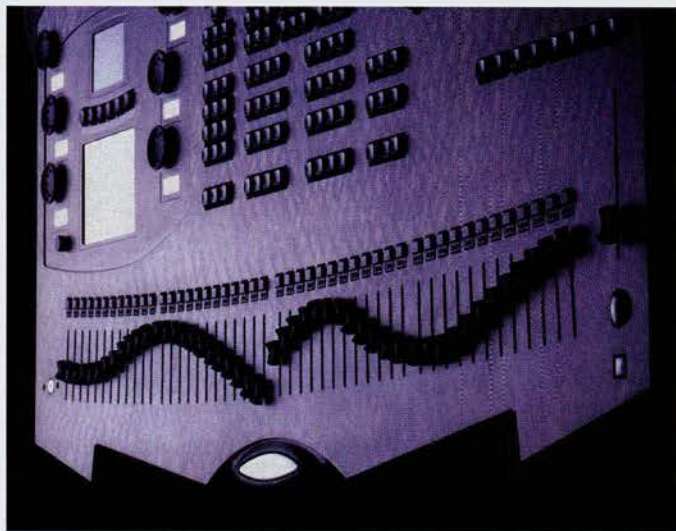
Another little quirk is trying to get an effect to run with a cue which can create difficulties with timings. The effect has to be assigned to a submaster, then a macro recorded and assigned to the cue. A very difficult and cumbersome way to get an effect to fade up and down as part of cue fade. Ben would also like to see a record lockout switch as a separate thing. The phantom user mode will lock out record but also locks out other features such as macros.

CONCLUSION

On the whole Ben thinks that the desk was very easy to learn, in fact I was able to record cues in a matter of minutes. They haven't had too many problems as ETC have been brilliant with Product support, a story I have heard repeated from other ETC users. I like the Obsession, its a great desk with a great look, I just wish I could afford it. As it is software upgradeable from disk, it will be easy to keep up with new developments and improvements. I also like the fact that manuals, upgrades, and off line editing programs are available on the net, something I wish my desk manufacturer would do, it almost appears that they have abandoned us. In all a great product that can only get better.

ACCESSORIES

Designers Console - compact control panel for remote use



containing all the programming and playback controls of the Obsession II console.

Remote Focus Unit - LCD screen and integral keypad let you set channels, check dimmers, or run cues from virtually any location. Use up to 8 RFU's simultaneously with discrete user IDs, without affecting recorded cues.

ETCNet Interfaces - ETCNet is a data communications protocol that allows you to link ETC lighting control equipment with a lighting control network.

Obsession Off-Line - free from the website allowing you to create and

modify shows with your personal computer.

OBSESSION II SPECS

The Obsession II is available in three models:

Obsession II 750 - 750 channels, 125 moving lights.

Obsession II 1500 - 1536 channels, 250 moving lights.

Obsession II 3000 - 3072 channels, 500 moving lights.

Price varies due to fluctuation of the dollar.

PHYSICAL

Weight:26.8kg; Width:120.65cm; Depth:62.55cm; Height: 14.48cm.

Manufacturer: ETC (Electronic Theatre Control) +1 608 831 4116. www.etcconnect.com

Australian Distributor: Jands Electronics +61 2 9582 0909

New Zealand Distributor: Contact ETC Asia for details

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LXbizzBITS

NEWS

IES PRODUCT MEETING

The Installation of Intelligent Lighting Systems

Paul Owen from Lightmoves Technologies will cover technical aspects of integrating intelligent lighting systems into architectural environments from the design process. Ranging from the selection of the luminaires to the final installation and commission of the project.

Paul will also cover the data cable specifications, optic coupling, DMX networks, lighting control solutions and integration of this proprietary control into existing energy management systems.

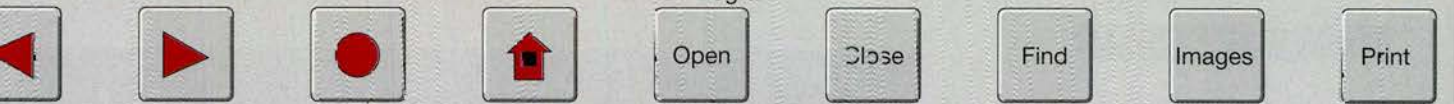
Finally the presentation will cover smart programming procedures of these intelligent lighting systems, as well as explaining the advantages and disadvantages of different techniques that can be used.

Venue: North Sydney Leagues Club. Date: 4th August. Time: 6pm.
Call Tracey Catterall (02) 9560 0000 for further information.

AVLA NEWS

AVLA have added the Penn Truss System which was the Entech 98 Penn Stand to their hire inventory as well as some Clay Paky Miniscan HPE's. AVLA have been appointed Service/Repair Agents for both Martin and Clay Paky.

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Morocco has a booming new film industry. European and American producers are attracted by the range of spectacular locations, the low cost, and the eager local crews.

In May, an American/English crew were shooting a remake of *The Mummy* in Marrakesh. Streets were blocked off, the city hall was altered to look like a museum, and banks of lights hung from cranes.

Kate Winslet was working on a small film there. When I recognised her at La Mamounia Hotel, she denied it. A few hours later, I saw her again, and she lowered her dark glasses, and said to me, "Psssst, it is me, but don't tell anyone!"



MULES with Zebra Stripes

Filming in the Moroccan desert

MADELEINE MURRAY ON LOCATION IN NORTH AFRICA

Ouarzazate, 400km south of Marrakesh, is surrounded by desert, and mountains. The Draa river flows into a large lake nearby. Martin Scorsese shot *Kundun* at the film studio here. When I visited, three film crews, and an Electrolux commercial, were working on location in the area. The Berber Palace, a swank ramparted 5 star hotel, had crew calls posted for *The Seventh Scroll*, *Esther* (from a Bible series now in its sixth year), and *A Time to Love*. The latter was an English film, set over three generations, in Europe and South Africa. The Italian crew were busily transforming Morocco into South Africa, including painting white mules with black stripes to look like zebras.

A Time to Love

The gaffer, Sergio Dori, was a lovable guy, with Mambo shorts, a flak jacket, and a ponytail. He spoke to me in Italian, translated into English by the 1st AD. The DOP was "the great" Blasco Giurato, who had shot *Cinema Paradiso*.

Dori brought all his gear from Italy, as there are no rental facilities in Morocco. In a four day trip, Dori and his crew drove two trucks and a generator through France, Spain, and took the boat over to Morocco.

The entire two month shoot has been location work. The main problem has been wind, fierce sandy desert winds. Dori spent a lot of time building wooden frames and supports to protect the lights. Moroccan



assistants held them steady.

Dori loved the Moroccan light. "We had a scene with wounded soldiers, with a river close by. There was a very special light, that I was stunned with, and it worked perfectly. There are times that the most beautiful lights in the film are offered by the nature. There is no: one single light in *Apocalypse Now*!"

In a tent scene, Dori created desert light by setting up the new model A-tri 4Kws outside. When they go out into the real

desert, where gennys cannot go, Dori brings reflectors, painted silver and gold, to light the actors' faces.

They didn't have to worry about voltage, because they brought their own generator. Dori keeps his generator in a former frozen fish truck, and it's mighty quiet. "There are gennys in Morocco, but they are noisy, and unreliable. Our bulbs need a permanent and solid source of power," Dori said.

The train set

I drove 15km out of town, to find the crew working, at high noon, on a hot, sandy expanse, with the Atlas mountains behind. A railway carriage had been built, and was sitting on tires and makeshift stand. The scene in progress was the interior of the carriage. With the 40 degree heat, the actors, director and DOP must have been quite warm inside. Outside, the genny churned away, Dori rigged lights through the windows, and two Moroccans simulated train movement by pumping away at two long pieces of wood under the train. Cables, and lights lay in the sand. Sergio laughed and joked with everyone. I was brought chairs, water, coffee, and generally treated like visiting royalty.

There was no shade anywhere. Extras, in military uniform dozed under the shade of crew trucks. The 'zebras' stood by, waiting for their scene. All in all, a delightful, but slightly surreal day.



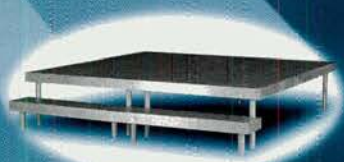
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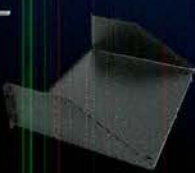
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COMPULITE SPARK

By Andy Ciddor

The moving light is now totally pervasive: springing up in dance, musicals, drama and even the occasional opera. In response to this trend Compulite have developed the Spark, another in the wave of hybrid lighting consoles designed to provide a full-functioned conventional dimmer control desk integrated with a moving light controller suitable for a moderate number of robotics and scrollers. The Perth Theatre Trust purchased a Spark desk to share between the main theatre at its Subiaco Theatre Centre which currently has a Strand Tempus M24 and the Perth Playhouse which has a Strand Gemini. I caught up with the Spark at the Playhouse where Ian Boase, the venue's head technician, was using the desk for its third production. Boase has been using the Playhouse Gemini for over eight years, so making the move to a different console placed him back at the bottom of a very steep learning curve.

USE

The Spark is being used to run productions that use robotics or colour scrollers or need a DMX feed to additional equipment, although Boase can envisage the day that the Spark, or something like it, will replace the Gemini permanently. He has found that using the Spark requires a major switch of mindset, to the extent that he feels the plotting on the first production to use the desk was slowed down by his unfamiliarity with Spark at that time. "Every time I went to record a modified lighting state, I managed to record only the modified channels instead of the new state." Boase recalls "now, should the need ever arise, I'd have to go and look up the manual to find out how to do it!"

FEATURES

The basic Spark has 240 dimmer control channels (*note that a free software upgrade is released this month increasing control channels to 340*) driving up to 512 dimmers, 48 colour scroller channels and can drive 24 robotic luminaires each with up to 22 attributes (adjustable parameters) or more robotics with fewer attributes. Instead of the usual two DMX streams for output, the Spark can optionally send High End Systems proprietary protocol from the second output, making it very friendly to Cyberlights, Trackspots, Technobeams etc. DMX and SMPTE timecode inputs and MIDI in, out and thru are also available as options.

Twenty controllers (Compulite's term for a fader, assign button and associated status indicators) on the console can be configured as group, scene, channel, chase, spot, snap or macro masters to provide an immensely flexible system. Scroller, level and attribute control is via three assignable wheels with pan and tilt controlled through a trackball, whilst crossfades are handled by the usual pair



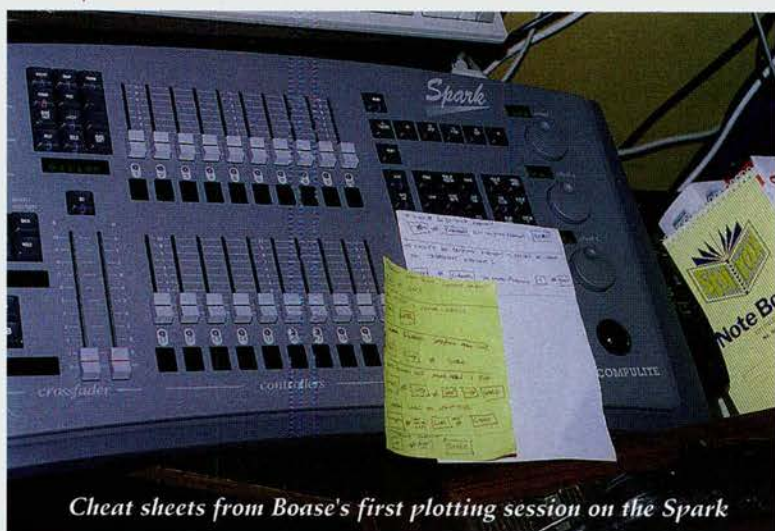
of faders.

The Spark is based around common computer components, utilising a 486 SLC microprocessor, a standard 101 key PC Keyboard, an S-VGA colour video monitor, a 3.5inch floppy disk and goes through what looks remarkably like an MS-DOS boot sequence before becoming a lighting console. In a power-loss simulation test it took fifteen or so seconds to reboot and restore the lighting to its previous state, a fairly long time for a modern lighting controller. *(Coemar added: As the DMX lighting standard specifies that all fixtures and dimmer racks remember the last DMX level if DMX is removed, the lights will not black out during this time).*

In operation Spark can handle ten simultaneous chases, eight-part fades, one hundred macros (*999 with the upgrade*) and hundreds of cues, proportional soft patch, unmastered dimmers for house lights or effects device control, assignable dimmer curves, memory tracking and custom robotic device definitions. In short, there is hardly a function that you could possibly require from a mid-range console that you couldn't do with a Spark - or any other desk in its class. So what is it that makes the Spark a good desk for the Perth Playhouse?

SUPPORT

The quality and promptness of support from Coemar Desisti Australia, Spark's Australasian distributor has certainly impressed Boase. "Richie Mickan at CDA was very patient and helpful when I was first starting to come to terms with the way Spark works. If I there was something I was trying to do which wasn't obvious in the manual he would get advice from Compulite's head office in Israel, often within the day."



Cheat sheets from Boase's first plotting session on the Spark



FAVOURABLE ELEMENTS

Boase is also pleased with the range of informative, easy to comprehend display screens and the fact that all of the desk displays are LED's Light Emitting Diodes rather than the more difficult to read Liquid Crystal Displays which seem to be very popular with design engineers, but rarely with the board operators who actually have to read them. As a long time Strand desk operator Boase is pleased with the fact that once you have hit the "Go" button on the Spark hitting it a second time does nothing. "It's great knowing that you can't get that Strand *Double Hit* on the GO button" he said "If you want to start a new fade before the current one's finished, you have to reach over and hit the GO TO key." For those who aren't familiar with the problem, Boase is referring to the fact that some types of Strand console (including the Playhouse Gemini) occasionally mistake one enthusiastic tap of the FADE button for two taps, skipping ahead to the next memory without the operator realising.

After years on the Gemini, Boase finds the Spark's ability to store multiple versions of a production on a single backup disk a particularly useful feature, especially when the LD casually says "I didn't like the way that cue looked on this run. Change it back to the way it was yesterday." One feature of the Spark which has not been used by Perth Theatre Trust is the very sophisticated designer's remote unit which provides memory recording and robotics setup and control in addition to the usual channel control functions. When questioned further on this Boase produced the rather slender manual and pointed out its almost complete lack of useful information, commenting that they didn't have the time to spend during a fitup to try to figure out what it does and how to use it. *(Coemer say: Yes, it is slender as it only discusses instructions specific to that device and the actual key presses required to operate the remote control are identical to the main console hence no extra knowledge is required for operation).*

CONCLUSION

Boase is now happy with the Spark: "It's well put together and feels reliable. It was initially frustrating to plot or, due to my unfamiliarity with the way it works, but given enough time on it, I'd prefer it to the Gemini because of its capabilities."

Price Spark standard configuration as described: RRP \$14,418 tax excl (subject to change with currency fluctuations)

Manufacturer: Compulite +972 3 5401 266/9
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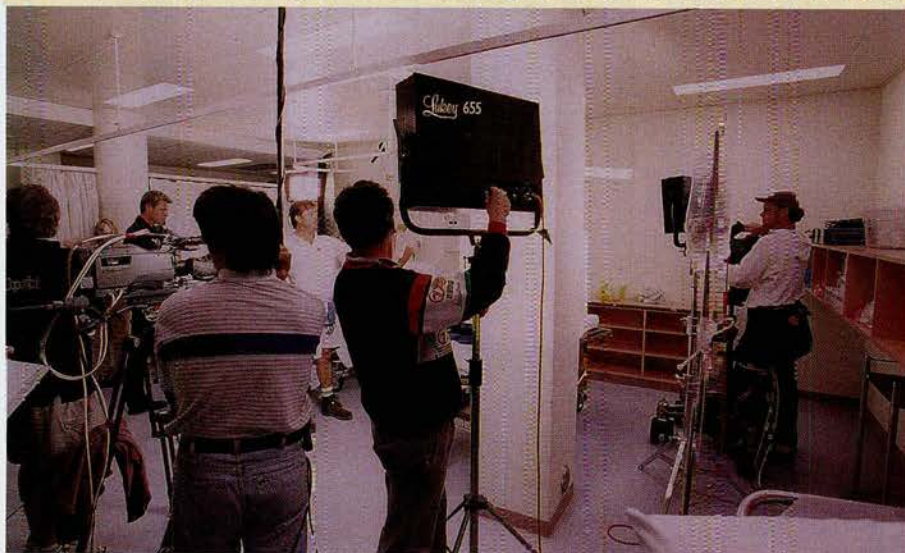
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TV LIGHTING - NO SWEAT, JUST TAKE THE TUBE!

Channel 7 Lighting Director John Norton dimming the Lukey 655 on the set of All Saints.



The closed confinement of TV studios or the low ceiling location sets - like this hospital scene for Channel 7's medical drama *All Saints* - traditionally required massive air conditioning plants to suck out the heat generated by banks of tungsten light fixtures.

So OSRAM Australia and lighting manufacturer Total Lighting got together to develop a new way of using a special combination of fluorescent lamps to create a more ideal light for TV sets.

The light fittings used were Total Lighting's Lukey 655 and 436. The Lukey 655 is operated by three OSRAM QT2x55 dimmable electronic ballasts and six DULUX® DELUXE Colour 12/32, 55W lamps. The luminaire produces the same light level as a standard 5kW tungsten halogen soft light using only 1/15 of the power.

The Lukey 436 is operated by two CT2x36 dimmable electronic ballasts and four DULUX® DELUXE Colour 12/32, 36W lamps. The Lukey 436 was designed as a smaller, more compact unit of the Lukey 655, making it ideal for location shots. Both units have the option for DMX control.

"The DULUX tubes are dimmable down to 10% with no appreciable loss in colour rendering nor colour temperature," said John Norton, Lighting Director Channel 7. "This allows for very quick resetting of lights."

OSRAM's LUMILUX® DELUXE light can be white, white or white. The light colour of a fluorescent lamp is determined by the composition of the fluorescent material used to coat the inside of the tube. It is therefore possible to generate white light in a wide variety of shades for a wide variety of applications. The OSRAM

LUMILUX® DELUXE colour 12 provides a spectrum of 5400K. The colour 32 gives a colour temperature of 3000K. Both tubes have a colour rendering index of approximately RA96.

As the photo indicates, the overhead fluorescent tubes were changed to the LUMINEX® DELUXE colour 12. This lighting was then supplemented with the Lukey. To warm the facial tones, John Norton changed every second tube in the Lukey to a colour 32.

"By doing this we achieved a colour temperature of approximately 4300K," said John.

As with all discharge lamps, nothing happens in a fluorescent lamp unless suitable control gear is used. Modern high frequency electronic gear such as the QUICKTRONIC® from OSRAM replace conventional control gear and starters to ensure that fluorescent lamps offer even greater economy, better lighting and longer life.

Channel 7 used this new technology in their studios at the Nagano Winter Olympic Games and now more frequently on location, like *All Saints*.

By using fluorescent light instead of tungsten halogen soft lights the studios are much cooler with obvious savings on air conditioning. The fluorescent tubes in the make-up rooms are now balanced to the studio lighting creating exactly the same lighting conditions, thus simplifying the role of the make-up artist.

Also, by using 1/15 of the power compared to standard tungsten halogen lights, the energy savings are considerable.

Future developments in this area point in the direction of location battery lighting.

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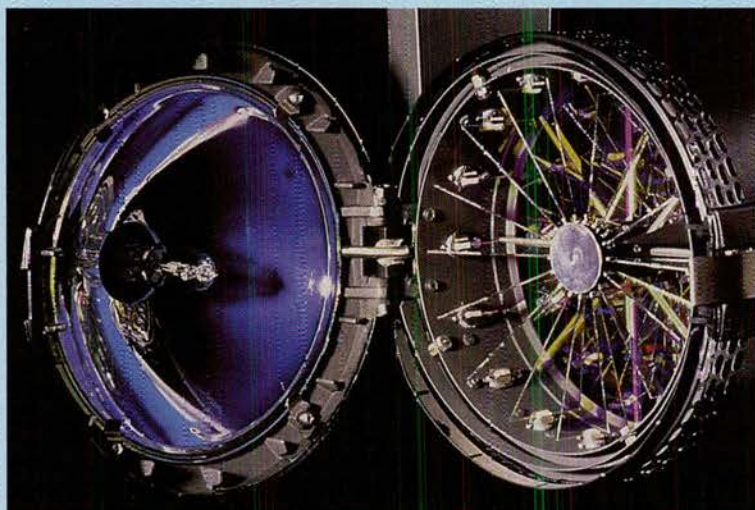
PHILIPS LIGHTING

Philips advance lamp technology

Philips Lighting supplies a range of lamps designed especially to meet the differing requirements of applications that face the technical lighting engineer.

In the entertainment arena Philips offers single-ended quartz halogen lamps for stage and theatre lighting. These lamps have different filament shapes such as the well-known "Bi-plane", coiled coil and M-shaped. They are especially designed for environments where longer life is of greater importance than 3200K colour temperature. The Biplane lamps feature a staggered filament configuration, which gives the advantage of emitting more light from the focal point of the optical system - up to 25%, depending on the type of luminaire.

When 3200K is important to the application, especially in areas such as studio and film lighting, the Philips "E" class lamps are the solution. In this category Philips provides a variety of mains voltage halogen lamps featuring grid filaments in biplane construction. This design gives a highly luminous and compact square of light. It also allows more vibration and shocks to be withstood due



to the larger distance between the filament parts.

As well as single ended Halogen lamps, Philips provides 3200K double-ended linear halogen lamps for Studio, film, theatre and disco lighting. Many people are familiar with this existing range of lamps, but may not be aware of the latest innovation - The "Blue Pinch" lamps, which made their debut at Entech.

In a lamp the pinch is one of the most critical elements. The pinch is the area of the glass envelope that is pressed flat to seal in the gas-filled interior. The current provided to operate the lamp is run

through the pinch via very thin Molybdenum conductors - which cause the pinch area to heat up.

Philips' BLUE PINCH pinch protection process increases the permissible temperature of the pinch to 500 degrees Celsius, typically an increase of 100 degrees Celsius over existing lamps. The advantages of facilitating a higher pinch temperature are four-fold;

1. Significant reduction in optical lens size
2. Significant reduction in fixture size and weight
3. Can provide the potential for elimination of cooling fans
4. Reduces the incidence of premature lamp failure

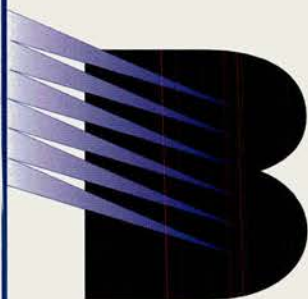
The blue colour of the ceramic housing in the BLUE PINCH lamps indicates that it can only be used in luminaires specifically designed for them. Specially designed luminaires are already on the market in Australia, with more releases imminent in the coming months.

For more information contact Philips 13 14 01.

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This list does not include Fluorescent and Par fixtures

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ABSTRACT FutureScan 3 CE, Hard Edge Moving Light	M33	DE SISTI Leonardo Piccolo, Film/TV Fresnel Spot	Range from 1000W-20,000W
ABSTRACT FutureScan 3 CED, Hard Edge Moving Light	HQ1 150	DE SISTI Giotto Cyc Lights, Single/Multi Flood	Range from 1000W-20,000W
ABSTRACT FutureScan 1 Package, Hard Edge Moving Light	A1/231	DE SISTI Duccio Groundrow, Single/Multi Flood	Range from 1000W-20,000W
ABSTRACT Gladiator Revolution, FX Projector	A1/231	ETC Source Four Range, Fixed Beam Profile Spot/Single Flood	HPL 575 (Ushio)
ABSTRACT Gladiator CED, FX Projector	HQ1 150	F.A.L. Starlight 1200, Followspot	HMI 1200
ABSTRACT Galactic Moon, FX Projector	A1/232	F.A.L. Opera 2500, Followspot	HMI 1200
ABSTRACT Twister 3, FX Projector	A1/231	F.A.L. Inse HMI-575-N, Followspot	HMI 575
ADJ Astroraggi II, Centrepiece Effect	2 x EHJ / 2 x M33	F.A.L. Scala 575, Followspot	HMI 575
ADJ Gyrator, Centrepiece Effect	2 x 64514	F.A.L. Inse 1000-N, Followspot	CP/70 1000W
ADJ Skylight II, FX Projector	2 x EHJ / 2 x M33	F.A.L. Scala 1000, Followspot	CP/70 1000W
ADJ Gobo Moon II, FX Projector	ELC	F.A.L. Scala 2000, Followspot	CP/72 2000W
ADJ Mushroom, FX Projector	2 x 64514 / 2 x 64690	F.A.L. FAL 2000, Hard Edge Moving Light	HSD 200 / MSD 200
ADJ Rotogobo, FX Projector	EFR	F.A.L. FAL 1000, Hard Edge Moving Light	HSD 200 / MSD 200
ALTMAN 360Q, Fixed Beam Profile Spot	EHF	F.A.L. Proscan X, Hard Edge Moving Light	HMI 1200
ALTMAN Shakespeare, Fixed Beam Profile Spot	HX600	F.A.L. Roulette 575, Hard Edge Moving Light	HMI 575
ALTMAN Explorer, Followspot	HMI 1200	F.A.L. PF4030 Galactica, Centrepiece Effect	HMI 575
ALTMAN Voyager, Followspot	HTI 400	F.A.L. PF4070 Pentagon, Centrepiece Effect	HMI 575
AMERICAN DJ X-treme, Hard Edge Moving Light	EVC 250W	F.A.L. PF-4015 Mini-Octopus, Centrepiece Effect	HSD 200
AMERICAN DJ Mystic, Centrepiece Effect	64514	F.A.L. PF-4050 Nebula, Centrepiece Effect	HMI 575
AMERICAN DJ Sunray III, Centrepiece Effect	64516	F.A.L. Promo 2, FX Projector	HSD 200
AMERICAN DJ Coloray, Centrepiece Effect	BRL 50w	F.A.L. Promo 1, FX Projector	MBIT 150
AMERICAN DJ Tempest, Centrepiece Effect	MBIT 150	FUTURELIGHT Promotion Scan, Hard Edge Moving Light	MSD/HSD 200W, MSD 250W
AMERICAN DJ Roto Gobo, FX Projector	FCR 100W	FUTURELIGHT Duke, Hard Edge Moving Light	HMI 1200W/GS
ANTON/BAUER Ultralight 2, Film/TV Portable	BAB / EXN	FUTURELIGHT Genesis / Voyager, Hard Edge Moving Light	HMI 575W/GS
APOLLO Climax, Centrepiece Effect	2 x M33	FUTURELIGHT Cross Beams, Spider Miracle Centre Effect	HMI 575W/GS
APOLLO Paradox, Centrepiece Effect	1 x M33	FUTURELIGHT FX-150, RT-150 FX Projector	EFR
APOLLO Polaris, FX Projector	1 x M33	GENI Blaze, FX Projector	EHJ / M33
APOLLO Neutron, FX Projector	1 x M33	GENI Wild Blaze, FX Projector	EHJ / M33
APOLLO Atomix, FX Projector	1 x M33	GENI XTC, FX Projector	EHJ / M33
APOLLO Megatron, FX Projector	1 x M33	GENI Spyro, FX Projector	EHJ / M33
ARRI Studio 1000w, Film/TV Fresnel	CP/71	GENI Nimbus, FX Projector	EHJ / M33
ARRI Studio 2000w, Film/TV Fresnel	CP/73	GRIVEN Splendid, Centrepiece Effect	HMI 1200DE
ARRI Studio 5000w, Film/TV Fresnel	CP/85	GRIVEN Helios DMX, Centrepiece Effect	HMI 1200DE
CCT Freedom 600, Fixed Beam Profile Spot	GKV 600	GRIVEN Shuttle DMX, Centrepiece Effect	HMI 1200DE
CCT Freedom 800, Fixed Beam Profile Spot	HX 800	GRIVEN Cyclope, Centrepiece Effect	HMI 575DE
CLAY PAKY Shadow Basic HMI 575, Followspot	HMI 575	GRIVEN Circus 575HMI, FX Projector	HMI 575DE
CLAY PAKY Shadow HMI 1200 Range, Followspot	HMI 1200	GRIVEN Cruiser 575HMI, FX Projector	HMI 575DE
CLAY PAKY Mini Scan HPE, Hard Edge Moving Light	HTI 300 / HMP 300	GRIVEN Kubo HSD200, FX Projector	HSD 200 / HMI 575DE
CLAY PAKY Golden Scan III, Hard Edge Moving Light	HMI 1200	GRIVEN 400w UV Projector, UV Light	EYE 400W UV
CLAY PAKY Golden Scan HPE, Hard Edge Moving Light	HMI 1200	HIGH END SYSTEMS Cyberlight, Hard Edge Moving Light	MSR 1200-2
CLAY PAKY Stage Scan, Hard Edge Moving Light	HMI 1200	HIGH END SYSTEMS Tracksport, Hard Edge Moving Light	QT 8500 (Lightwave's Lamp)
CLAY PAKY Stage Color 1200, Soft Edge Moving Light	HMI 1200	HIGH END SYSTEMS TechnoRange, Hard Edge Moving Light	MSD 250-2
CLAY PAKY Stage Color 1000, Soft Edge Moving Light	T/19	HIGH END SYSTEMS Studio Spot, Hard Edge Moving Light	MSR 575
CLAY PAKY Stage Color 575, Soft Edge Moving Light	MSR 575/2	HIGH END SYSTEMS Studio Color Soft Edge Moving Light	MSD 575-2
CLAY PAKY Stage Color 300, Soft Edge Moving Light	HTI 300 / HMP 300	JB LIGHTING VaryScan 3 Special/Plus, Hard Edge Moving Light	HSD 200 / HSD 250
CLAY PAKY Stage Zoom 1200, Hard Edge Moving Light	HMI 1200	JB LIGHTING VaryScan 4 Compact Plus, Hard Edge Moving Light	HMI 575DE
CLAY PAKY Stage Light 300, Hard Edge Moving Light	HTI 300 / HMP 300	JB LIGHTING VaryScan 5 Multivision, Hard Edge Moving Light	HMI 1200DE
CLAY PAKY Astroraggi Power, Centrepiece Effect	HSR 400	K5600inc Joker200/400/1200 Portable PAR HMI, TV/Film Fresnel	MSR/SE
CLAY PAKY Astroraggi Twin, Centrepiece Effect	FDV	LOWEL-LIGHTING Lowel Fren-L 650, TV/Film Fresnel Spot	FSK 300W (imported)
CLAY PAKY VIP300, FX Projector	HTI 300 / HMP 300	LOWEL-LIGHTING Lowel Rifa-Lite, TV/Film Fresnel Spot	JCV 500W (Ushio)
CLAY PAKY SIP300, FX Projector	M38	LOWEL-LIGHTING i-light, Film/TV Portable	I-55 55W/I-100 100W (automotive)
CLAY PAKY VIP250, FX Projector	EHJ / M33	LUKEY 655, Film/TV Softlight	DULUX L 55W/12 or 32
CLAY PAKY VIP300DIA, FX Projector	HTI 300 / HMP 300	LUKEY 436, Film/TV Softlight	DULUX L 36W/12 or 32
COEMAR Focus EHP, Fixed Beam Profile Spot	CMD 1800 custom made by Osram	LUKEY 236, Film/TV Portable	DULUX L 36W/12 or 32
COEMAR Focus EHP 2500 HTI, Fixed Beam Profile Spot	HTI 2500W/SE	LYCIAN Superarc 1266/1267, Followspot	HTI 400
COEMAR Centro Pro, Fixed Beam Profile Spot	6872P, 6874P	LYCIAN Starklite II 1272, Followspot	HMI 1200 / MSR 1200
COEMAR Centro Mastercolour, Fixed Beam Profile Spot	12113R	LYCIAN 1290 XLT, Followspot	HS 2000 2KW Xenon
COEMAR Zenith, Zoom Profile Spot/Stage Fresnel Spot	6872P, 6874P, 6873P, 6820P	LYCIAN 1236 Clubspot, Followspot	FLE 360W
COEMAR Corto, PC Spot/Stage Fresnel Spot	6872P, 6874P, 6873P, 6820P	LYCIAN 1238 Super Clubspot, Followspot	FLE 360W
COEMAR Passo, PC Spot/Stage Fresnel Spot	6998P, 6993P, 6996P, 6995P	LYTEQUEST Motorhead Mk.1, Hard Edge Moving Light	ELC 250W
COEMAR Solar, PC Spot/Stage Fresnel Spot	6872P, 6874P, 6873P, 6820	LYTEQUEST Motorhead Mk.2, Hard Edge Moving Light	HTI 150
COEMAR Ribalto 1, 3, 6 Flood	12113R, 7785R	MAD LIGHTING MadScan 305HP, Hard Edge Moving Light	EFR 6423
COEMAR Sequenza 1, Single/Multi Flood	7785R, 13989R, 6358	MAD LIGHTING MadScan 411AP, Hard Edge Moving Light	MBI 150/T
COEMAR Testa 1200MSR, Followspot	MSR 1200	MAD LIGHTING MadScan 511MP, Hard Edge Moving Light	MBI 150/T
COEMAR Testa 2500SHA, Followspot	HMI 2500W/SE	MAD LIGHTING MadScan 611ARP, Hard Edge Moving Light	MBI 150/T
COEMAR Testa 575MSR, Followspot	MSR 575	MAD LIGHTING Star 311 AP/411 AP/511 ARP, FX Projector	MBI 150/T
COEMAR Testa 1000/1200, Followspot	6996Z, 6995Z, 6895Z	MARTIN Roboscan PRO812, Hard Edge Moving Light	HTI 150 / HTI 152
COEMAR Testa 2000, Followspot	6994P	MARTIN Roboscan PRO518, Hard Edge Moving Light	HSD 200
COEMAR NAT TM/MM, Hard Edge Moving Light	HMI 1200W/GS	MARTIN Roboscan PRO1200, Hard Edge Moving Light	HSR 1200
COEMAR Microscan 3, Hard Edge Moving Light	MSR 575 SE GX9.5	MARTIN MAC 500, Hard Edge Moving Light	MSR 575/2
COEMAR Comet, Centrepiece Effect	MSR 400	MARTIN MAC 600, Soft Edge Moving Light	MSR 575/2
COEMAR CF1200 Spot, Soft Edge Moving Light	MSR 1200 SA	MARTIN MAC 1200, Soft Edge Moving Light	HSR 1200
COEMAR Versatile, FX Projector	Round Lux 1000W GX9.5	MARTIN PAL 1200, Soft Edge Moving Light	HSR 1200
DE SISTI Monet, Film/TV/Stage Fresnel Spot	Range from 1000W-20,000W	MARTIN Centrepiece, Centrepiece Effect	HSR 1200



LAMPS FEATURE

LIGHTING FIXTURES & THEIR LAMPS

This list does not include Fluorescent and Par fixtures

MARTIN Wheeler, *Centrepiece Effect*
MARTIN Lynx, *FX Projector*
MARTIN Destroyer, *FX Projector*
MARTIN Punisher, *FX Projector*
MARTIN Magic Moon, *FX Projector*
METEOR Probeam 75, *FX Projector*
OPTIKINETICS K1, *FX Projector*
OPTIKINETICS K2, *FX Projector*
OPTIKINETICS K2+, *FX Projector*
OPTIKINETICS K4, *FX Projector*
PANI BP 2.5 HMI, *FX Projector*
PANI BP 4 Compact, *FX Projector*
PANI BP 6 Gold, *FX Projector*
PROLITE PR7-ZPM/T (series III), *Zoom Profile Spot*
PROLITE PR7-ZPW/T (series III), *Zoom Profile Spot*
PROLITE PR7-ZPM/A (series III), *Zoom Profile Spot*
PROLITE PR7-ZPW/A (series III), *Zoom Profile Spot*
PROLITE PR7-PC (series III), *PC Spot*
PROLITE PR10-PC (series I), *PC Spot*
PROLITE PR12-PC (series II), *PC Spot*
PROLITE PR22-PC (series II), *PC Spot*
PROLITE PR5/6-F, *Stage Fresnel Spot*
PROLITE PR10/12-F, *Stage Fresnel Spot*
PROLITE PR22-F, *Stage Fresnel Spot*
PROLITE PR12-FS/1200, *Followspot*
PROLITE PR12-FS/2000, *Followspot*
PROLITE PR22-FS/2000, *Followspot*
PULSAR Profile Spot/Fresnel, *Zoom Profile/Fresnel Spot*
PULSAR Fresnel Pebble Convex, *Zoom Profile Spot*
QFEX Inflection EVC, *Hard Edge Moving Light*
QFEX Inflection HSD, *Hard Edge Moving Light*
RYGER Defender, *Hard Edge Moving Light*
RYGER Discovery 250 DMX, *Hard Edge Moving Light*
RYGER Tiny Scan, *Hard Edge Moving Light*
SELECON PACIFIC range, *Fixed Beam Profile Spot*
SELECON Acclaim Range, *Zoom Profile/Fresnel/PC Spot*
SELECON 1200 Range, *Zoom Profile/Fresnel/PC Spot*
SELECON Arena Range, *Stage Fresnel Spot*
SELECON Acclaim Cyc/Flood, *Multi Flood*
SELECON Aurora Cyc/Flood, *Multi Flood*
SELECON Chorus 1200, *Followspot*
SELECON Performer MSR, *Followspot*
SELECON Performer Quartz, *Followspot*
S.G.M. Newton, *Followspot*
S.G.M. Victory II, *Hard Edge Moving Light*
S.G.M. Victory II Pro 150, *Hard Edge Moving Light*
S.G.M. Galileo Ray/575/II 575, *Hard Edge Moving Light*
S.G.M. Galileo II/IV 1200, *Hard Edge Moving Light*
S.G.M. Giotto, *Soft Edge Moving Light*
S.G.M. Colourdynamic, *Colour Changing Light*
SLS HELLAS Panscan 4, *Hard Edge Moving Light*
SLS HELLAS Panscan 3, *Hard Edge Moving Light*
SLS HELLAS Panscan Junior, *Hard Edge Moving Light*
SPACE CANNON Ireos 4kW/7kW, *Hard Edge Moving Light*
SPACE CANNON Black Devil 2/4kW, *Hard Edge Moving Light*
SPOTLIGHT 650w range of Fresnels/PC's/Profiles
SPOTLIGHT 1200w range of Fresnels/PC's/Profiles
SPOTLIGHT 2500w range of Fresnels/PC's/Profiles
SPOTLIGHT Quadro 1000 Range
SPOTLIGHT Quadro 2000 Range
SPOTLIGHT Domino, *Cyc Flood*
SPOTLIGHT Daylight TV Fresnels
STRAND Leko, *Fixed Beam Profile Spot*
STRAND BRIO Coolbeam, *Zoom Profile Spot*
STRAND Quartet Range, *Zoom Profile/PC/Fresnel*
STRAND Prelude Range, *Zoom Profile/PC/Fresnel*
STRAND Cantata Range, *Zoom Profile/PC/Fresnel*
STRAND Alto Range, *PC/Fresnel Spot*
STRAND Redhead, *Single Flood*
STRAND Blonde, *Single Flood*
STRAND Nocturn 1000, *Single Flood*
STRAND Coda 500, *Multi Flood*
STRAND Pirouette, *Soft Edge Moving Light*
STRAND Supernova, *TV/Film Fresnel*
STRAND Bambino, *TV/Film Fresnel*

M38
 64637 / EFP / A1/231
 ELC / M33
 ELC / M33
 EHJ / M33
 EXN 50W
 6958 / 77485
 MSD 200 / HSD 200
 MSD 250 / HSC 250
 MSR 575/2
 HMI 2500
 HMI 4000
 HMI 6000
 T/25 / T/27
 T/25 / T/27
 GKV 600W
 GKV 600W
 T/25 / T/27
 T/19
 T/19 / T/29
 CP/72
 T/25 / T/27
 T/19 / T/29
 CP/72
 T/29
 CP/72
 CP/72
 T/27
 T/27
 EVC
 HSD
 ELC 250W
 ELC 250W
 ESP 100W
 GKV 600W / BP1000 1C00W
 T/27
 T/29 / T/19
 CP/72 2kW / CP/91 2.5kW
 THD 500W
 P2/12 1250W / P2/7 1000W
 T/29 / T/19
 MSR 1200
 CP/91
 HMI 1200
 M33
 HT 150
 HMI 575 GS
 HMI 1200 GS
 MSR 1200
 M28
 HMI 1200
 HM 575
 MSD / HSD 200
 4kW/7kW Xenon
 2kW/4kW Xenon
 T/26
 T/25
 CP/91
 T/19
 CP/43
 P2/11
 MSR/HMI 575/1200/2500/4000
 CP/77
 GKV 600W
 T/26
 T/26
 T/29
 CP/92
 DXX 900W
 FEX 2000W
 Q1 1C00W
 Q1 503W
 CP/91 2500W / CP/92 200CW
 HTI 1200W/2500W/4000W
 CP/82 / CP/40 / CP/89 / CP/41

STRAND Polaris, *TV/Film Fresnel*
STRAND Castor, *TV/Film Fresnel*
STRAND Arturo Range, *Film/TV Softlight*
STRAND SuperQuasar 25/12, *Film/TV Par*
STRAND SuperQuasar 40/25, *Film/TV Par*
STRAND Iris 625W/1000W/1250W, *Film/T / Cyc*
STRAND Orion 625W/1000W/1250W, *Film/TV Cyc*
STRAND Iadi 1000W/800W, *Film/TV Cyc*
STUDIO DUE Mini Beam, *FX Projector*
STUDIO DUE Giant, *FX Projector*
STUDIO DUE Predator, *FX Projector*
STUDIO DUE Citycolor, *FX Projector*
TAS Profile, *Zoom Profile Spot*
TAS Spot 300/500 PC Eco, *PC Spot*
TAS Spot 650/1K/1.2K PC/ Eco/AL, *PC Spot*
TAS Colore Fresnel, *Stage Fresnel Spot*
TAS Inse 1200MSR, *Followspot*
TAS CF6, *Hard Edge Moving Light*
TAS KP12, *Hard Edge Moving Light*
TAS Mini Ultrascan 1/2, *Hard Edge Moving Light*
TAS Synchro Digital, *Centrepiece Effect*
TAS Duetto, *Centrepiece Effect*
TEATRO Acuto 2000, *PC Spot*
TEATRO Spazio 2000, *PC Spot*
TEATRO Spazio 1200, *PC Spot*
TEATRO Onda, *Stage Fresnel/PC Spot/Profile*
TEATRO Punto, *Stage Fresnel Spot*
TEATRO Tratto, *Stage Fresnel Spot*
TEATRO Riga Asymmetrical, *Film/TV Cyc*
ULA CP150, *FX Projector*
WILDFIRE WF-400SF-E, *Stage Fresnel Spot*
WILDFIRE WF-401F-E, *Stage Fresnel Spot*
WILDFIRE WF-250 Series, *Stage Fresnel Spot*

CP/93 / CP/40 / CP/89
 CP/94 2500W / CP/41 2000W
 P2/12
 HMI 1200 / 2500
 HMI 2500 / 4000
 P2/10 / P2/7 / P2/12
 P2/10 / P2/7 / P2/12
 P2/20 / P2/11
 HSR 400
 HTI 150
 HMI 575
 HMD 1800
 6998P, 6993P
 6872P, 6874P, 6873P, 6820P
 6998P, 6993P, 6996P, 6995P
 MSD / HSD 200W, MSD 250W
 MSR 1200
 MSR 575W/SE
 MSR 1200W
 MSD / HSD 200W
 HMI 575W/GS
 ENH 250W
 CP/72
 CP/72
 T/29
 T/27
 T/25
 T/29
 J500
 HQI 150
 WF-L100 (Wildfire's own lamp)
 WF-L100 (Wildfire's own lamp)
 L103 (Wildfire's own lamp)



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STAGE & STUDIO LAMP REFERENCE CHART

LIF Code	ANSI Code	Philips	Osram	Sylvania	GE
A1/220	BRL		HLX 64610	772100	18234
A1/215	FCR	7023	HLX 64625	782130	14876
A1/216	FCS	7158	HLX 64640	782120	13598
A1/223	EHJ	7748S	HLX 64655	772120	14874
A1/229	EFM		64607		41251
A1/230	EFN	6853	HLX64615	545002	41252
A1/231	EFP	6834	HLX 64627	545018	41253
A1/232	EFR	6423	HLX 64634	782160	41253
A1/234	BRJ	6550	HLX64633		18235
A1/239	EVD	7787	HLX 64663	548110	18238
A1/259	ELC	13163	HLX 64653	548400	37462
	FDV		HLX 64642		
	EVC	6958		614650	
	GKV				35376
	ENH			549601	38686
	EHF				37051
CP/23 / CP/67*					30428
CP/39 / CP/68		6993Z	64721		20321
CP/40 / CP/71	FKJ	6995Z	64747	780703	20285
CP/41 / CP/73		6994Z	64789	780606	31844
CP/43 / CP/72		6994P	64788	546240	20309
CP/70	FVA/FVB	6995P	64745		30439
CP/77	FEP	6983P	93734	545150	31839
CP/77	FEL	6983P	64743 ^{120V}	547000	35607
CP/81	FKW	6872P			30455
CP/82	FRG/FRH	6873P	64718	546300	30458
CP/85		6963Z	64805		
CP/89	FRK/FRL			546320	30481
CP/91		6894Y			30415
CP/92		6975Z			30391
CP/93					30384
CP/94					30499
M/28	EVA	7724	HLX 64623		29229
M/33	FGX	6958	HLX 64657	614650	29230
M/38		6874P			29096
M60	EYF				20843
M69	BAB		41860WFL	225165	20814
P1/11		13162	64571		
P1/12			64580		
P1/13		PF 810	64540		
P1/15		PF 811	64575		
P2/7	EKM	13989R	64741		20249
P2/10					19697
P2/11	EME	13477R	64729		23760
P2/12		6358R	64751	19695	19695
P2/13	DXX		64571	544670	30347
P2/20		7786R	64583		
P2/27	FEX		64781	545170	35339
T/11 / T/19*	FWP/FWR	6996P	64744	615480	30436
T/12 / T/21		6998P			30424
T/18 / T/25		6820P	64670	615420	64670
T/26 / T/27	FRE	6823P	64718	615450	30476
	GCT	6823P			30479
	GCS	6820P			30480
T/29		6897P	64752	615510	30443
K1	THD	500TH		587000	29186
K4		1000TH		587003	29181

Explanation of Lamp Codes

A1 Prefix - L.I.F. (Lighting Industries Federation) reference indicates lamps which were primarily designed for use with slide, film and overhead projectors.

ANSI Codes - These are 3-letter codes assigned by the American National Standards Institute. They provide a system for assuring mechanical and electrical interchangeability among similarly coded lamps from various manufacturers.

CP Prefix - Lamps designed for use in conjunction with film balanced for 3200K. These are single ended types intended for use in Fresnel/ellipsoidal luminaires etc.

P2 Prefix - Again for use with 3200K film stock for open faced luminaires and video sun guns.

P1 Prefix - For use with 3400K film stock.

T Prefix - Lamps intended for theatre luminaire applications. These are of lower colour temperature (2900 - 3050K) and longer life than the often similar CP types.

M Prefix - Tungsten Halogen low voltage lamps without reflectors.

HERKES

"stock at hand"

With the combined outlets of NSW and QLD, Herkes Professional Lighting is arguably Australia's largest supplier of equipment to the lighting industry and lamps make up a significant part of this business. Herkes say that "stock at hand" is their catch cry.

Lamp technology sees new products being released on a regular basis and Herkes carry considerable levels of all types of lamps whilst keeping abreast of new lines on offer. Their stock includes:

- "T", "CP" and "P" class lamps for theatre and studio fixtures as well as all types of Par lamps.
- A wide range of discharge lamps for moving lights and display fixtures.
- All dichroics for 12volt fixtures and other odd voltages for the many fixtures that take this range.

Herkes stock only reputable brands such as Philips, GE, Osram, Sylvania and Ushio. For more information call Herkes (02) 9319 3133.

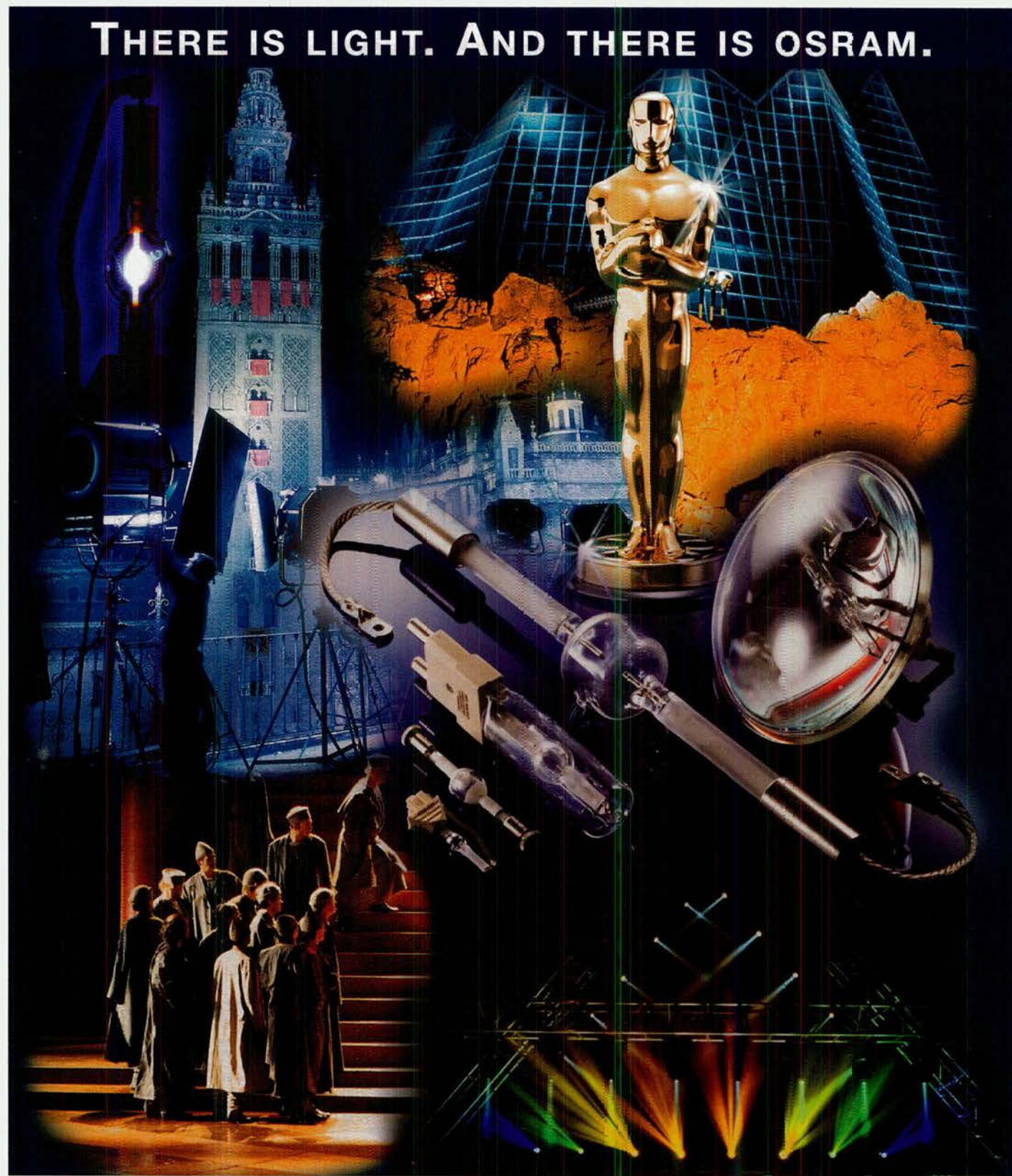
* the lower number is a mono plane filament lamp, the higher a bi plane filament lamp

Please note that we have only included the most established lamp manufacturers in Australia.

Only the lamps stocked here in Australia are listed

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OSRAM has been responsible for milestones in the photo-optical sector with its development of innovative lighting solutions and manufacturing technologies. OSRAM provides a range of lamps to best meet a diversity of requirements in many different fields of application: from simple high-precision incandescent lamps through to modern discharge lamps. With the continuous improvement of the HMI® and XBO® lamps, which have been so important and successful in the film industry, OSRAM is setting the pace in the Photo Optic industry. For more information call 02 - 9481 8399.

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OSRAM

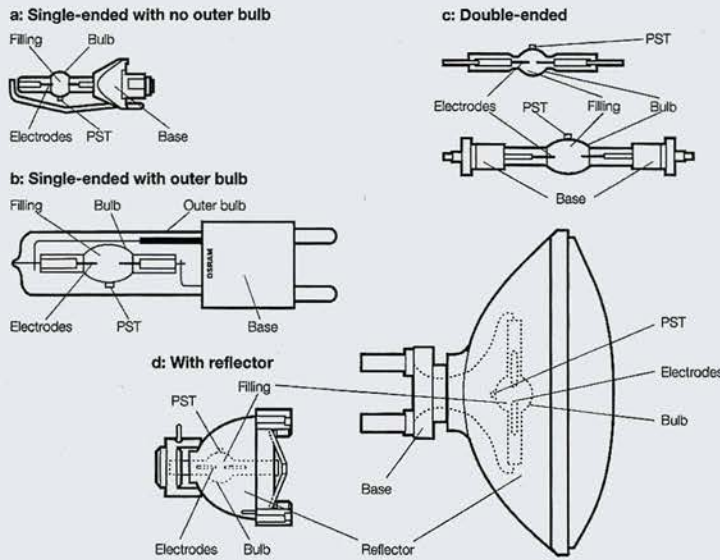
A Brief History and General Description of Metal Halide Lamps

Lamps such as HMI, HMP, HTI, HSR and HSD are all ac-powered metal halide lamps in which light is generated by an electrical discharge in a high-pressure chemical atmosphere. They therefore belong to the same family as HQI lamps for general lighting purposes. HMI lamps were developed by Osram in the 1960s and their first public appearance was in 1969 when the HMI 575 was used to light the first colour television transmission in Germany. At the Munich Olympics in 1972, HMI lamps were installed on a grand scale to provide the best possible TV pictures. Soon afterwards, the HTI reflector lamp became established for film projection.

Since then, much has happened. HMI lamps are now available in single-ended and double-ended versions in wattages ranging from 125W to 18000W. They can be restarted at any stage of their cooling down period after they have been switched off, as can HMP lamps.

HMP lamps are relatively recent additions. These are tailored specifically to the requirements of overhead projection.

In addition to the traditional reflector versions, HTI lamps are now supplied in many different models with single-ended and double-ended bases. HTI lamps are short-arc lamps with extremely high luminance values. The latest members of the HTI family are the HSR and HSD single-ended lamps with outer-bulbs suitable for cold starting only.



In 1988, Osram was awarded an Oscar by the Academy of Motion Pictures Arts and Sciences for the invention and continuous improvement of HMI lamps for professional motion pictures. Metal halide lamps belong to the larger family of discharge lamps.

In contrast to incandescent lamps, which are thermal radiators pure and sim-

ple, these lamps generate light from an arc formed between two electrodes. Whereas incandescent lamps are subject to certain physical restrictions in terms of luminous efficacy and colour temperature owing to the maximum thermal load that can be placed on the tungsten filament, metal halide lamps are not restricted in the same way, which opens up an entirely new range of possibilities.

The most important advantages over incandescent light are the three to

METAL HALIDE LAMP REFERENCE CHART

Osram	Philips	Sylvania	GE
HMI 575W/SE HMI 1200W/SE HMI 2500W/SE HMI 4000W/SE HMI 575W/DE HMI 1200W/DE	MSI 575W HR MSI 1200W HR MSR 2500W MSR 4000W MSI 575W MSI 1200W	BA 575 SE HR BA 1200 SE HR BA 2500 SE HR	CSR575/HR CSR1200/HR CSR 2500/HR CSR 4000/HR
HTI 150W HTI 152W HTI 300			CSS 150
HSD 200 HSD 250	MSD 200 MSD 250	BA 200 Disco	
HSR 400 HSR 1200	MSR 400W MSR 1200W		CSR 400/CS CSR1200/CS

four-fold increase in luminous efficacy (almost 100 lm/W), a daylight spectrum with a colour temperature between 4500 and 6500 K, and a luminance value which is 20 times higher, bringing the lamps very close to an ideal point light source. What's more, the light from metal halide lamps has a colour rendering index of between 80 (HTI) and 95 (HMI), which almost matches the maximum possible "natural" rendering of non-luminous colours (100).

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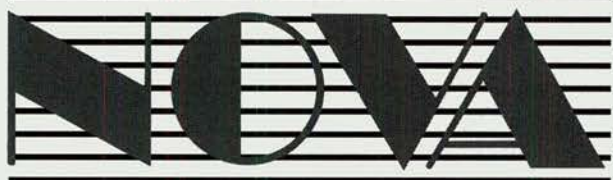
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Write in Reader Service Number: 184

Club Sandwich

Edited by Caroline Grafion

The Empire Strikes Back

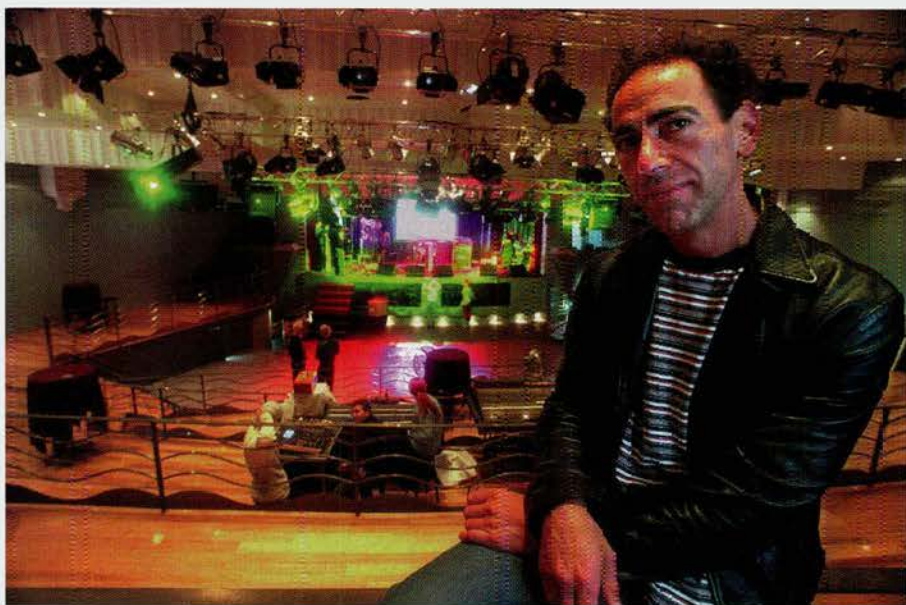
Years of blood, sweat, tears, vision, joy and A\$3.6m, have produced one of Melbourne's leading entertainment venues. The once great art deco cinema, The Empire Theatre, has been reinvented and is simply called 'Empire'.

When Nick Costas purchased the cinema eight years ago, it wasn't much more than a carpark. Costas then established a video store on the ground floor, whilst renovating the upper level to its former glory, following the original building plans.

Costas suffered the usual objections from locals, who argued the usual "downgrade the area" points. But honestly this venue is class! right down to the ladies room (with deco period cone-shaped granite basins and bevelled mirrors), velvet booths, glass impregnated floors and ornate plaster work. Each floor board has been individually crafted to fit the contours of the venue.

The multi-functional venue caters for everything from touring acts, live TV (Channel Seven's new 'Live and Kicking') and radio broadcasts, comedy and cabaret acts, corporate functions, and dance nights. A glass atrium restaurant, features chefs from several famous Melbourne eateries.

The technical installation brief to Derek O'Leary of Labsystems, from Costas, was "to



Empire Owner Nick Costas

make the system versatile, powerful and the best in house system available; so live acts would love to work there".

O'Leary says, "Apart from the audio and lighting systems, several other niceties have

been provided by the venue at our suggestion; These include a goods lift to stage from a street level loading bay, a green room with shower and toilet, and five other dressing and meeting rooms".

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The Audio Spec

The FOH system comprises 12 x JBL Sound Power SP215 cabinets for Mid/Highs, flown in four clusters of 3. Each cluster can be individually positioned both horizontally and vertically, providing flexibility and imaging to suit the variety of performances. Sub bass is delivered by 8 x JBL System 18's. The active, stereo 40,000 watts RMS system is powered by 22 x JBL MPX series power amplifiers. EQ is fully programmable, with 16 presets available, software is controlled via a RS232 data link to front of house. The FOH position also features 96 balanced audio tie lines, adequate for most touring acts.

Due to the large, varying floor areas and ceiling levels, a separate time delayed zoned speaker system was designed. 8 x JBL Control series SB2 sub bass boxes are concealed at the rear of the main room. 16 x wall mounted JBL Control 28 speakers and four clusters of 3 x Control 28's provide zoned audio for the tiered levels. The individual zones, are provided with independent level, EQ, time delay and limiting. Local volume control is via a Labsystems RVC-4 VCA zone controller. The 16 x JBL control series speakers fitted in the dining areas, can be fed either locally for background music, or from the main room if audio is required throughout the venue.

The audio equipment list also includes: 3 x Technics SL1200 Turntables and Cassette Deck; 2 x Pioneer CDJ500 Professional CD Players; Shure Prologue 141 Mic and Tv30d Dual Diversity Radio Mic System; Rane Mp24x Disco Mixer, Ac23b Stereo Active Crossover, 2 x Ad22b Digital Time Delay and Rpe228 Programmable Graphic EQ; 3 x dbx 166a Stereo Comp./Limiters and 2 x 2231 Stereo Graphic EQ/Limiters.

The Lighting Spec

Seventy five meters of concert Tri-Truss in seven (500 kilo capacity) spans, are fully motorised for easy rigging; Thirty six meters of fixed 50mm alloy lighting bars; 9 x Jands 12ch. DMX dimmer racks (GP12's and HP12's) - 108chs - 270,000 watts; Control is via a Jands Event 60 Plus; 100 x Kupo Par 64's; Special effects; 10 x Clay Paky Golden Scan III's; The venue has its own substation and 10 x 3 phase outlets are provided.

The Venue

Empire
Operational 7 days
174 Peel Street, Windsor, VIC 3181
Tel: +61 3 9529 6500 Fax: +61 3 9521 3301
Contact: Marilen Tabacco.

The Installation

Labsystems
Tel: +61 3 9885 0888
Contact: Derek O'Leary.

NEW DJ STUFF



New in the Gemini Platinum Series is the PS-646 Pro. The PS-646 has most of the features of its predecessors the 626 and 676 - true cut (26dB) cr bass, mid and high of each channel for effects; recessed removable crossfader; beat sync indicators; mic Neutrik® combc 1/4" or XLR jack; gain controls for each channel; talkover; balanced and unbalanced master outputs; DJ booth output; dual mode display; cue section and split. BUT! the PS-646 has 4 channels; 3 phono, 6 line and 2 mic inputs. Priced at A\$699 from Disco World on +61 3 9735 058E.

Left - Gemini PS-646 Pro

New arrivals in Australia from Numark are the DM 1002X and DM 2002X Mixers both featuring KILL switches. The 1002X has 4 phono, 2 line and 1 mic inputs -35dB KILL and gain, bass, mid and high controls on each channel; crossfader reverse switch; sweeping -30dB cuts; transform switching. The 2002X features include, rotatable input selector toggles; Master and booth outputs; 35dB KILL and gain, bass, mid and high controls on each channel sweeping -30dB cuts; PFL cueing with mix control; ALPs faders; Transform switching and beat light indicators. The DM 1002X costs A\$429 and the 2002X is A\$529, from Show Technology Australia on +61 2 9898 1111.



Above - Numark 2002X Mixer

Vestax have upgraded the popular PMC-46 with the release of the MK-II. Features include rotary input fader; VCA controlled crossfader with variable curve control; rotary monitor select switch - the monitor system can be selected from either split or stereo cueing; Analogue VU master level meters; AUX send/return and sub master output. Priced around A\$2795 from Moore Music on +61 3 9419 0344.



Above - Vestax PMC-46MK-II

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THE PA PAGE

With Michael Orland

EPISODE IV: A NEW HOPE

The story so far: Only a few months ago You were loading with your mate for a band down at the local, when that band's soundguy grabbed you and told you you were doing sound for the support band. Fortunately your mate had a copy of Connections in his bag with an article on the back page by some total wanker detailing how to take your first mix. You weren't even sure if you'd gotten away with it until the band approached you afterwards and told you you were the soundguy they'd been searching for! Six months later, The Grungemasters are killing it on the indie charts and your reputation as a kick arse soundguy is secured. Then the band decides to break from touring while they record their followup CD, All very well, but you've still got rent to pay. Then it happens. One of the soundguys you worked with last month recommends you for a gig as houseguy at Kickatinalong RSL while the regular guy takes a few weeks off. And you're suddenly immersed in the weird alien world of Planet Cabaret.

The first mistake many rock dudes make when they put on a collared shirt is that they'd better turn the music down to muzak. I still occasionally get it wrong. The last time I did sound for this country's most awarded nice family values club act, I got summoned backstage during intermission. "Hey, Michael, what's with the levels?"

"Umm, I thought I'd better keep it down because of all the pensioners here tonight." "Shit man, %#* & the pensioners! They'll be dead soon' And they got no cash! Give it some stick for the middle ageds and we can clean up on the merch after the gig!"

Funny thing about volume. Only the music you dislike is too loud. When you hear a song you like an your car radio you turn it up. When it's followed by a song you dislike, you turn it down. When you play your personal live recording of The Grungemasters last gig, mum and dad ask you to turn it down. So you assume that mum and dad hate loud music. Well, guess what? The other day, while you were out, they nearly blew the backs off their hifi speakers with their soundtrack recording from "The Big Chill". And grandad nearly did the same when he stayed over with his "Stompin' At The Savoy" CD. True, the older you get, the more you appreciate peace and quiet. But it's part of the universal human experience that the music that speaks to you personally draws you closer to it.

Pub rock gigs are easy. If punters want it loud they move up the front. If they don't, they hang next to the bar. In clubland it gets tricky. People sit at tables. Often where they're told to. So you need to suss your audience. Pained expressions and people shouting in each other's ears before getting up and leaving may mean you have it a

little loud. On the other hand people casually chatting and laughing among themselves could mean the music needs a little more push to make an impression. When it's just right, all attention should be focused on the stage.

During soundchecks, performers or "artists", as they prefer to call themselves, can get pretty nervy. And the younger the soundguy, the more paranoid they become. The worst is when they have a radio mic and wander around the auditorium advising you while you're trying to set up a mix. You might have everything turned down but the guitar while you try a couple of EQ settings on it. And they'll stop the band and say over the mic "I think you might have the guitar a little loud." It's important in these instances to stay calm and exude confidence (not to be confused with arrogance). Soundchecks aren't just about setting up sound. They're also about making the artist feel comfortable. Maybe you think "Hey, I'm a soundguy. Child psychology shouldn't be part of my gig." Think again.

When they inevitably question the overall volume, do and say whatever you must to reassure them. But go with your gut during the show. This isn't really being sneaky. All that really matters to the artist is audience response. When they are all queuing for autographs after the show and saying how wonderful the sound was, the artist will think the sun shines out of you.

Now, about their monitors. Now that you're on Planet Cabaret you can leave the extensive equalising you used to do for demanding rock gigs behind you. NOT. Set them up LOUD. If you're asked to turn them down during soundcheck, don't lose your settings. Often the artist will motion you to turn it back to your original settings during the gig. Do your prep work. Feedback during a rock gig is part of the live vibe. But during cabaret it's death.

Cabaret musicians are a whole different type of animal. Unlike The Grungemasters, who were mainly in it for fun, these guys are in it for the same reason as you. Hey, it's their gig. It's just what they do. They mostly enjoy their gig, but they wouldn't actually use the word "fun". For fun they do jazz gigs in Balmain pubs on Sunday arvos.

It helps to understand not only their reasons but also their linguistics or "lingo". When the drummer asks for some frontline in his fill he doesn't mean the vocals. On Planet Cabaret "frontline" means the brass section. And when you hear them saying the chick keyboard player lugs really well, don't go offering her \$20 to help you carry out the PA. "Lug" means the ability to play standards at call without reading charts. And when they talk about Mo adulation or setting up a big arse groove, well, any Simpson's devotees can explain..

Michael Orland runs TPAC, call him on +61 2 9799-7219

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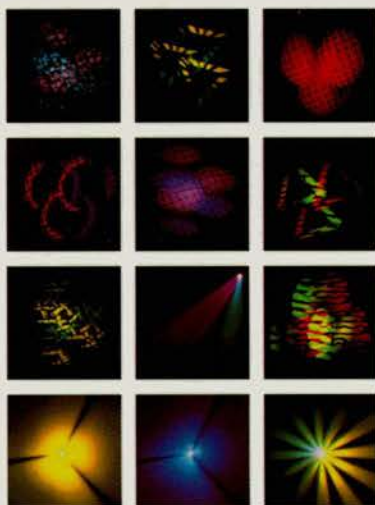
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