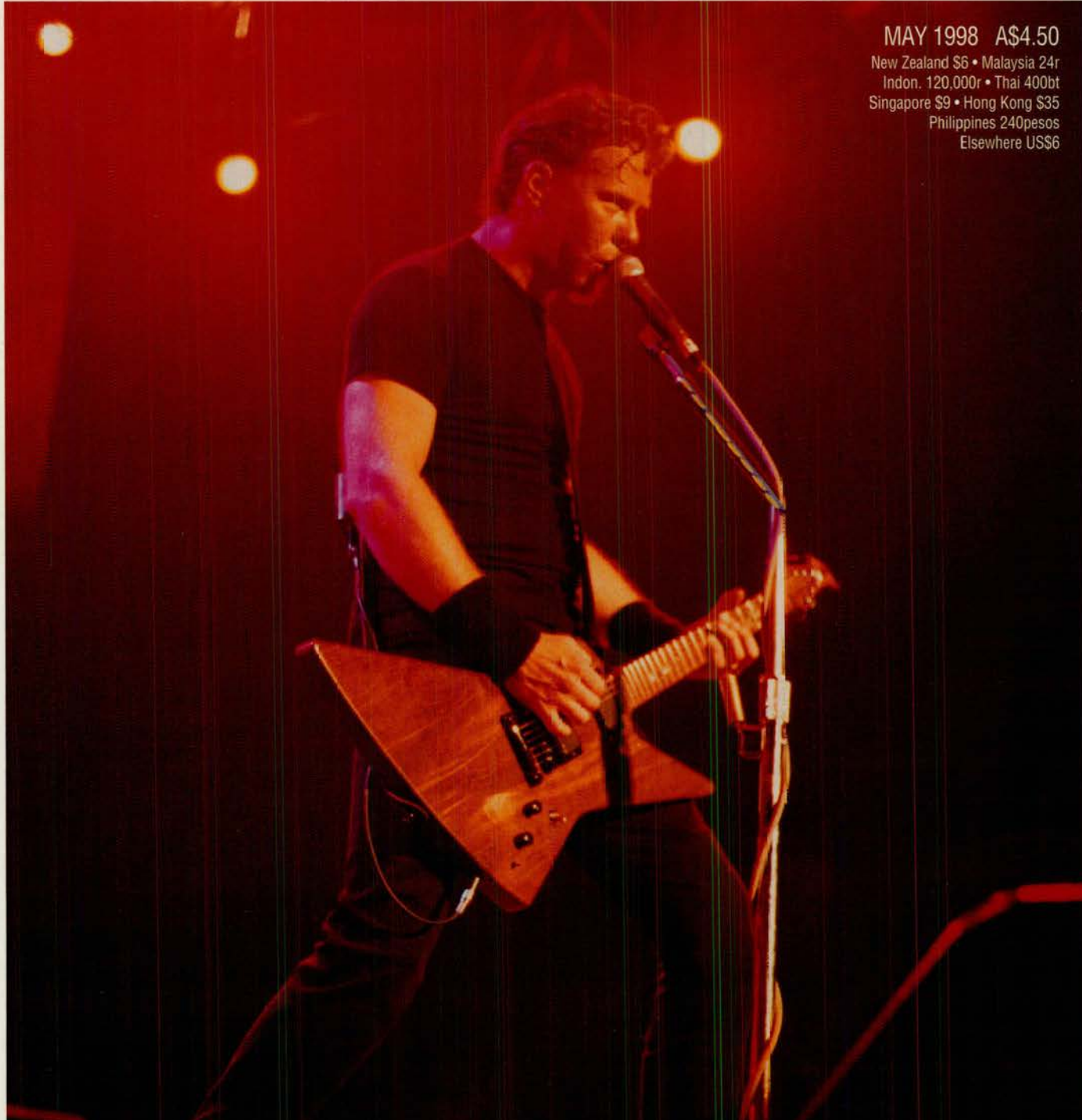


WIRELESS MIC SHUTDOWN: AUST. VHF SPECTRUM TROUBLES

Connections

THE ENTERTAINMENT TECHNOLOGY MAGAZINE



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LASERS IN OPERA
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WILDSIDE

BUYERS GUIDES:
REVERBS, DELAYS
EFFECTS LIGHTING

REVIEWS: LIL' DMXter
K2 FX PROJECTOR
AH GL4000 MIXER
SADIE/OCTAVIA DAW

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MAY 1998 #54

THE ENTERTAINMENT TECHNOLOGY MAGAZINE



HOLY FLAMIN..... Trade Show time

It was madness month if you follow trade shows SIB in Rimini set the scene - our report is on page 63. At presstime we are preparing a report on the PLASA Light & Sound Shanghai show, which was attended by our Jacqueline McIlroy. See next issue for this. Last but not least, ENTECH sizzled - with our report in the middle of this issue.

VHF WIRELESS MICROPHONE SPECTRUM THREATENED

LATE BREAKING DEVELOPMENT AT ENTECH

Report by Julius Grafton

Thanks to Ian Johnstone, Roy Morgan, and John Penhallow

Audio industry concerns that the VHF wireless microphone spectrum would be given over to high definition digital television broadcast were confirmed at ENTECH '98 last month.

Representatives from the Australian Communications Authority advised a hastily convened meeting of manufacturers and importers that although no decision had been made, it was likely that digital TV would be transmitted on the VHF bandwidth, alongside existing PAL transmissions.

This is at odds with the situation in New Zealand where digital TV will occupy the UHF bandwidth already allocated to TV. It is understood that although rural areas of Australia will continue to utilise the UHF bandwidth in use there, the geography of some Australian capital cities, notably Sydney, make widespread UHF line of sight transmission difficult.

The current VHF frequency allocation used by wireless microphones in Australia covers the spectrum from 174MHz to 230MHz - which is shared with television networks 9, 7 and 10. National broadcaster ABC on channel 2 occupies a lower frequency band (63 - 70MHz).

Digital TV, more accurately known as Digital Terrestrial Television Broadcasting, or DTTB for short, will require additional frequency bandwidth for the carriage of digital data streams which new technology television sets can decode into high resolution images and audio.

Where channel 9 currently transmits conventional PAL analogue TV on the 195 - 202MHz VHF band, additional frequencies 188 - 195MHz will be required for DTTB. In this manner, virtually all available VHF frequencies currently used for wireless microphone systems will be appropriated for DTTB.

The UHF frequency band cur-

rently used for wireless microphone systems is 526 - 813MHz, shared by conventional UHF television channels. Most notable of these is channel 28 - SBS.

According to Ian Johnstone from EVI Audio in Sydney, UHF wireless microphone users around the country currently juggle available frequencies. There are still, according to Johnstone, enough available UHF frequencies for wireless microphone use.

UHF users were also constrained several years ago, when the frequency range 903 - 915MHz was taken for further digital telephone use.

Wireless microphone system importer Audio Telex last month advised customers of the impending crisis.

Although a final decision on the choice of VHF or UHF has yet to be taken by the Australian Government, it is understood network 9 have started test transmissions on VHF channel 8, causing interference problems for some Sydney VHF wireless users. •

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Inside this issue: **16 page ENTECH report**, special section.
• BONUS 16 page 3C audio supplement in the middle of this issue



CMI awarded for Dod/Digitech sales

Pictured above are (left to right) CMI (Central Musical Instruments) Pro Products Manager: **Billy Mawer**, with CMI MD **Drago Trojkovic** and **Marc Cooper** of Dod/Digitech. They were Awarded for efforts beyond normal! CMI have ramped up their pro audio distribution this year, joined by **Peter Trojkovic** following the sale of his Troy Balance Corporation last year.

Likewise for AR Audio Engineering with Allen & Heath....

With a name change last month at ENTECH to TAG (The Audio Group), **AR Audio Engineering** are no more in name. **Steve Bray**, (left) with A&H's **Bob Goleniowski** do The Award Thing in Los Angeles for outstanding efforts in promoting awareness of Allen & Heath consoles in the Australian market.

TAG are still at the same place, and Tony Russo (the AR in the name) is still around.



TurboSound, Focusrite for Electric Factory

Turbo made a welcome debut at ENTECH 1998 last month, with a new Australian distributor - Electric Factory. Focusrite is also a new brand for EFe, who can be reached at: +61 3 9480-5988.

Samson to sue Mackie

We are one of the few magazines anywhere bold enough to report the ongoing hostilities between Mackie Designs Inc; and Samson Technologies. Samson have now launched a US \$10 million defamation suite against Mackie. Stay tuned.

Courses, Events, Learning....

- ▼ **KOSMIC SOUND** in Perth offer an entire WORKSHOP facility, which includes many free workshops and some which cost too.
 - Cosmic have a whole catalogue full, this is a very admirable initiative which we sorely hope they stick with.
 - By way of example, this month (MAY) they offer:
 - May 13th: Advanced PC Music and Audio Applications, 7pm, \$25.
 - May 20th: Reacing for Drummers. (Good notation-Ed), 7pm, FREE.
 - May 26th: Wireless Mic Systems and In-Ear Monitoring, 7pm, FREE.
 - May 27th: Copyright and how to protect music, 7pm, \$25.
- ▼ **YAMAHA** will introduce the somewhat rad new PC card / software system called **DSP FACTORY** this month. Terry Holton, the Yamaha UK R&D manager, will present the seminars.
 - The seminars are free, but you need to **call Megan on 1-800 805-413** for your space.
 - MELBOURNE, 2nd June.
 - BRISBANE, 3rd June.
 - SYDNEY, 4th June.
 - Session times, 7.30 - 8.30pm.
- ▼ **MEYER SOUND AUST.** will conduct a SIM school in June. SIM is an extremely powerful acoustical analysis tool, if you use or design professional audio systems you should appraise yourself of this.
 - Dates: 8-12 June.
 - Where: Sydney.
 - Cost: A\$900.
 - Details:** from Harley Richardson at Meyer Sound Australia, +61 7 3252-4493.

Concluding this month is a 6 night course on Audio & Music Technology. To book or find out more, call them on +61 8 9242-8842. **Congratulations Kosmic!**

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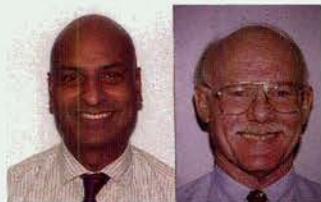
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|---|---|---|---|

✓ **MOVES**

Technical Direction Co have moved to 36-42 Chippen street, Chippendale 2050 NSW. Phone: +61 2 9698-5588.

✓ **PEOPLE**

■ **Quantegy International** (once known as AMPEX) have appointed **David Williamson** (pic, right) as product support engineer, Asia Pacific area. He gets to travel the region, lucky sod. They have also appointed **Gordon Sullivan** (pic, left) as a new Sales Executive for Sydney and ACT. +61 2 9869-0600.



■ **TAG** (previously AR Audio Engineering) announce that **Allstair Dewar** (formerly of AWA distribution) has joined the team. +61 2 9810-5300.

■ **Paul Kosky** - Australian music engineer and producer wishes it known that he is No Longer Involved with the 'troubled' **Kiss Corporation**. Contact Paul on 041 117-4939.

■ **Russell Pilling** has joined **Damien Gerard Sound Studios** as full time in house engineer. +61 2 9660-8776.

■ **Terry Callaghan** has moved from Eurovision (Sydney) to **Designed Exhibitions**. Call him on +61 2 9972-1900.

CD DEBATE RAGES

Claim, counter claim. Will Australia become a musical wasteland? Will yet more music studios close? Julius Grafton attempts to chronicle the CD import situation....

SYDNEY: Charing Cross Studio will close next month, having endured a continual erosion in their rate - from A\$780 peak per day, down to a peak of A\$450 (and less) recently.

Owner Gordon Hervey says it is better to step out rather than to persevere in a difficult economic situation.

The crisis affecting facilities such as Charing Cross has two edges to it. Firstly, technology has conspired to allow production of music outside the studio. We call it, here at the mag, the 'democratisation' of audio.

More ominously, the Government has moved to allow parallel import of CD's, which in turn has seen the major record labels slash investment on A & R. Studio owners tell me that when the legislation was introduced into Parliament, the major labels didn't wait. They simply hacked into their development budgets.

This flowed down the line to studios, who were already accepting considerably lower rates per hour due to a soft retail market for Australian released music CDs.

The issue is essentially about international competitiveness and trade barriers. Since the 1980's, Australia has been winding back Government protection of industry. I recall an era where professional audio equipment was subject to extreme import tariffs of up to 40%. These will be virtually removed soon.

Whether or not the consumer gets cheaper CD's as a result of parallel import is not known.

What is known is that the CD is extremely easy to pirate, and in fact is copied for profit in many markets. It is currently easy to find a counterfeit CD in the Australian market, because only the licensed label can wholesale the CD in the first place. With parallel import, where anyone can import and wholesale a CD, detecting counterfeit's is impossible.

For this reason alone, we at Connections are against the current Government's moves to allow parallel import of CD's. Free market rules OK with us, EXCEPT when pirates stand to make a profit. And they will.

Maintain the status quo.



~ OBITUARY ~

LOUIS CARL STEINFORT

Lou Steinfort, Director of Electric Factory passed away suddenly on March 25 1998.

In 1959, Lou purchased the Croxton Park Hotel and soon established it as a major force in the Victorian hotel industry. It was here that he met Sperry Gruppetta and they then went on to form Electric Factory and a 25-year partnership.

He did not sell the Croxton Park until 1984 after hosting regular performances by bands such as INXS, Crowded House, Australian Crawl and others.

His work in the community included a major part in the construction of St. Kevin's aged care facility in Templestowe. He was a supporter of a great number of charities and a founder of the Thornbury Lions Club.

It was his honesty and hard work that earned him the respect of his peers. He was an inspiration to all that had the privilege to work with and around him.

Wife Joy, daughters Annette, Rosemary, Kate and Gabrielle and six grandchildren survive him.

More than 400 people attended his funeral, indicating just how many people he touched with his kindness and godwill.

ENTECH AWARDS: THE WINNERS! See the MIDDLE of this issue

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SID'S MIC CASE



The EV N/D 857B

The EV 857 is certainly a beautiful mic of the dynamic species, and there is not much change out of \$1000.00, if one is purchased. The finish is mat black and the capsule is large (57 mm diam), with a tasteful soft gold ring, and gold printing on the neck.

The neck is 37mm in diameter and tapers to the barrel which measures 20 mm.

The neck has a recessed microswitch, for bass attenuation, and a durable plastic oversleeve on the barrel to fit standard cradles.

This mic has withstood five



years of regular use and abuse on stage, the metal mesh is not dented, and the finish is complete - except for a small amount of scuffing.

It has smacked onto the floor a number of times and been dunked into a bucket of ice. (Sounded like the foldback horns had blown.)

A hard blow can jam the neodymium magnet assembly under the screw ridge inside the capsule, with the special rubber suspension stretched to it's limit, and once one of the two small hair wires

needed resoldering.

The magnet and diaphragm assembly is large and hence requires the large capsule.

In a comparison test with two other mics of similar cost, it is difficult to describe the differences without resorting to color words, but it is not difficult to pick which is which. It is accurate to say that the EV 857 is very good with female vocals. The bass attenuation is noticeable at 100 Hz., and at times is very useful.

The rest is probably best told in the following anecdote.

Annie Ros, a jazz singer of many years fame and based in New York, appeared for two nights at The Bass Note in Brisbane.

The in-house system was specially tuned for her, and at rehearsal, given a choice, she instinctively chose the 857. In concert, she spoke, she sang, she crooned she growled, she whispered she powered.

The EV was used from left to right, from up to down, from lips to arm's length. Her pianist finessed, and the band got off. Her EVERY word and nuance was appreciated by a spellbound audience.

• **The 857 is now replaced by the N/D 967.**

Sid is a musician and PA operator / engineer from Brisbane. Talk on email with him: kidmansjatasilasfa:m@bigpond.com

✓ AGENCIES

Richardson & Devine have been appointed Australian Distributors of **Level Control Systems**. LCS is the LA based manufacturer of a range of DSP based pro audio products. Contact R & D on: +61 7 3252-4433.

Universal Lighting & Audio will now be the official importer of **LeMaitre Pyrotechnics**. In an extremely rare gesture, we at Connections are in receipt of a letter which congratulates ULA, from Lightmoves Technologies, the former distributor.

In fact, we have NEVER seen a former distributor congratulate a new one. Usually it's 'up your jumper' to the new organisation - or worse!

"We will continue our policy, established in 1989, to hold the largest stocks of the pyrotechnics product in Australia" says Lightmoves managing director Johnathan Ciddor.

ULA: call +61 7 5532-9922.

Lightmoves: +61 2 9560-0000

✗ CANCELLED

The **Professional Vision & Sound Expo**, scheduled for July this year in Auckland, has been cancelled.

'Unfortunately, with the expo now less than four months away, we did not feel confident that we could ensure exhibitors and those attending an appropriately complete show' says organiser Richard Thorne.

Connections observe that if a well regarded and previously successful show like this encounters negative sentiment, it is due to more than just NZ economic conditions. As trade show proprietors ourselves, we recognise a global trend towards rationalising shows.

Only the strong and large will survive, and that includes ENTECH. And, only IF the show is completely relevant - not only to exhibitors, but more crucially, to trade visitors.

Without genuine, motivated, and correctly qualified visitors, a trade show is nothing. Dead.



MAJOR TRADE SHOWS

- **AES 104th**, May 16-19, 1998. Amsterdam. Fax +1 212 682-0477.
- **Pro AV**, May 19-20. Perth, Claremont Showgrounds. Ph +61 8 9377-3988
- **LightFare International '98**, May 27-29, Vegas. Ph +1 404 220-2215
- **REPLItech**, June 2-4, San Francisco. Ph +1 914 328-9157
- **InfoComm**, June 9-13, Dallas. Info fax +61 2 9531-6777
- **World Lighting Fair**, June 18-20, Tokyo. Ph +81 3 3706-5687
- **Vision & Sound Expo '98**, July 1-3, Auckland. CANCELLED
- **PALA**, July 17-19. Singapore. Ph +65 227-0688.
- **PLASA 98**, Sept, London. Call +44 323 410-335
- **AES 105th**, Sept 26-29. San Francisco. Fax +1 212 682-0477.
- **LDI** Nov 13 - 15 '98, Phoenix. Ph +1 212 229-2965
- **SMPTE**, 13-16 July 1999. Sydney, Ph. +61 2 9977-0888.
- **ENTECH 2k**, March/April 2000. Fax + 61 2 9876-5715



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✓ **STUFF**

PLASA have announced their hunt for a new chief is OVER. **Matthew Griffiths** is the new Managing Director. PLASA is, of course, the most successful trade association for the pro audio and lighting industries in the world today. It hosts the annual trade show in London of the same name, and has had remarkable growth and success.

Connections (as PLASA members) say, in our usual opinionated way, that Matthew needs to now lead PLASA forward with a more international focus.

✓ **MORE STUFF**

dsp, aka **Digital Studio Processing**, (the Australian manufacturer of DAW audio workstations and similar pro audio products) have a new WEB SITE. Go see what they do, at www.dspl.com.au and drop us an email here at Connections to tell us what you think of it. Our email address is mail@conpub.com.au.

Roland Australia has acquired a minority stake in Allens, the musical retail arm of the failed Brash group.

✓ **& MORE**

LSC Electronics (the Australian manufacturer of Lighting control devices, announce new distribution arrangements in Queensland. From now, there are 4 Brisbane dealers along with dealers in Townsville, Mackay and on the Gold Coast. Call LSC on +61 3 9561-5255 for details.

USITT call for comments on proposals to change/alter the DMX 512 standard. Go to the USITT website at www.culturenet.ca/usitt to see proposals by MAY 20th.

ALSO IN THIS ISSUE:

- ✓ **AV INDUSTRY NEWS... PAGE 22**
- ✓ **THEATRE NEWS PAGE 24**
- ✓ **LIGHTING SECTION PAGE 49**
- ✓ **SPECIAL 16 PAGE ENTECH REPORT IN THE MIDDLE!**

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CLARIFICATION

Cannon Sound
Cannon Wholesale
Small Systems
PTM Entertainment

Last issue we noted, correctly, that **Cannon Sound** was moving from premises in Marrickville Sydney. We then went on to mention that the Club and Dance Sound hire business will move to **PTM Entertainment**, in East Sydney.

In actual fact, the hire entity has been operated by PTM Entertainment for some years, since the owner of Cannon Sound sold the 'Small Systems' hire business to Sydney operator, Chris Clough.

At that time, the balance of the hire activities of Cannon Sound were transferred to PTM Entertainment, who operated a driveway hire and club installation hire business from the same premises as Cannon.

That business, now known as PTM Entertainment, has now shifted into the same premises as PTM Electronics, the amplifier manufacturer, and website company. Reach PTM on (02) 9361-5847.

• MEANTIME, **Cannon Wholesale** is the business which has always been run by Neil Smith ('Smithy') and Daniel Trevor. They do second hand sales and also sell new loudspeakers and systems. They have relocated to:

Find Cannon Wholesale at: Unit 11a, 3-9 Kenneth rd, Manly Vale NSW.

Phone (02) 9948-4440, fax (02) 9948-9336.

Everyone clear on all this now?

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- > Female XLR Input
- > 35 mm Speaker Stand Socket
- > Ergonomic Handle located at centre of gravity
- > Floor Monitor Position
- > Rigging Points
- > Optional FUN-15A Protection Cover with Cable Collection System
- > Input Type: Balanced Differential for Line and Mic
- > 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%

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D.A.S.
SOUND PRODUCTS

GL4000 — Allen & Heath's Live Reinforcement Console

*One of the world's top live sound engineers, *Roger Lindsay reviews Allen & Heath's flagship mixing desk.*

Allen and Heath's GL4000 has been designed to do three jobs equally well: front of house sound, monitoring and recording. Three very diverse requirements and, as supplied, the desk is obviously configured for FOH duties.

Like earlier Allen & Heath boards, this desk has a number of small, flush-mounted blue buttons which allow the user to reconfigure various aspects, altering the way particular functions work and making them more appropriate to the different operating requirements.

A quick overview of the key facilities of the GL4000 would include 10 auxiliary sends from each input channel; four band parametric EQ with switchable Qs on the two middle bands; direct outputs; balanced inserts on all channels; groups, mains and auxes; eight groups; main stereo and mono outputs busses; a four way matrix derived from the groups and main outputs; eight manual mute groups; 128 MIDI-patch mutes with direct channel muting over MIDI; and four dedicated stereo FX returns with stereo width controls.

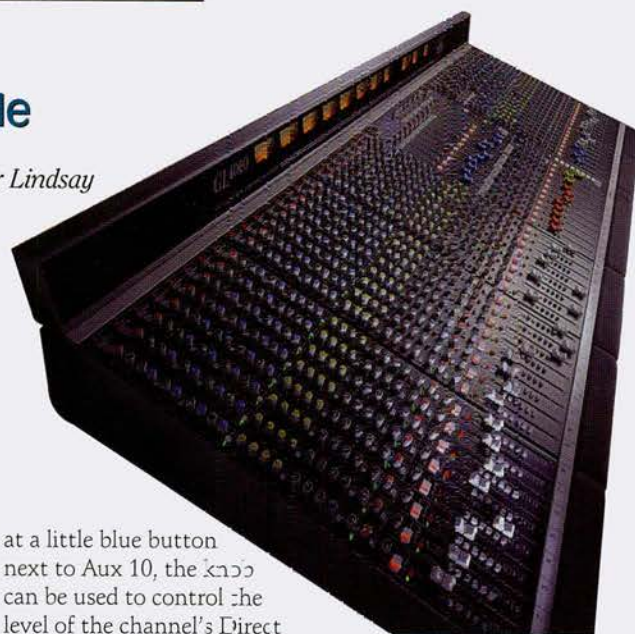
Frame sizes are available from 24 to 48 channels, expandable, and the desk can be fitted with A&H's Syslink system to allow access to all the busses in multi-board installations.

The Channel Strip

The EQ is four band, with top and bottom shelf bands and two mids — all with sweep frequency controls. The two middle bands have switchable Qs which is great — I was not expecting to find this facility on a desk at this price level. With the narrow Q setting you can notch something right down and discriminate very accurately, which is nice. The four bands of sweeping filters are excellent and there don't seem to be any omissions here at all — there is a sweepable HPF on the input stage as well to lose rumbles and other unwanted LF.

I like the sound of the EQ a lot and found it to be very natural — much smoother than I would expect from a board like this, and it sounds much more expensive than it actually is. To my ears, it is very musical — not too fierce, but there is still plenty there to play with. When I am setting EQ, I like to exaggerate wildly to find what I'm looking for in the sound, and then pull it back — it's just the way I work but I find it saves time — if the EQ is too soft it takes much longer to find the sound I want. The EQ on this board does what I want very well.

The auxiliaries are switched for pre or post in groups of four which seems sensible, and the last two have independent switching. All 10 knobs are there all the time, and internal links allow pre-EQ or pre-mute feeds to be used if needed. By poking



at a little blue button next to Aux 10, the knob can be used to control the level of the channel's Direct

Output and to switch it pre or post-fader (the Direct Output is normally fixed-level, post-fader). This makes it very useful for generating sensible feeds for a multitrack recording. I also like the fact that all the inserts are fully balanced.

There is a large illuminated mute button above the fader and the board has eight manual mute groups. Individual faders can be made safe very easily and editing mute groups and mute safes is intuitive and fast. There is also a mute preview mode so you can check what you are about to kill!

The four stereo/effects returns channels are handy — I like to keep my two main effects returns close to hand. The stereo width facility is very useful, and I have become a real fan of this already. You could use it to be quite creative, like winding the width up from mono to extra wide on an occasional snare drum reverb! At the opposite extreme of the width control, it also reverses the left and right channels.

Centre Section

The centre section has no real surprises as far as the groups and main outputs are concerned. I like having the extra mono buss which can either be routed to from the channels and groups, or (blue button time) arranged to control a PFL/AFL feed to a dedicated 'squawker' monitor.

The matrix is simple and easy to understand — four outputs which can be fed from the groups, stereo and mono busses. The four matrix outputs can also be routed directly into the first four auxiliary busses (by pressing more of those little blue buttons). This effectively means that you can access the auxes from the groups if you need to, perhaps to make a quick monitor mix from the groups instead of having to crank up the Aux 1 knobs on 40 channels!

Having the auxiliary masters on faders is also a very good idea and makes a lot of sense ergonomically. It is also a lot easier to open or close a fader quickly than to twist a knob around when you are trying to kill an effects send. The real reason for having the aux masters on faders though is so that by activating a fader reverse facility, the aux masters and group faders are swapped over. In this mode, the desk can be used as a monitor board with the aux outputs controlled on the 100mm faders instead of the 60mm ones halfway up the panel. This gives 10 monitor outputs (eight auxes plus the L/R buss for side fills), and still allows eight-track recording from the groups if needed.

The group outputs normally follow the group faders, but they can be routed through dedicated level trims at the top of the centre section and these also allow the signal to be taken pre

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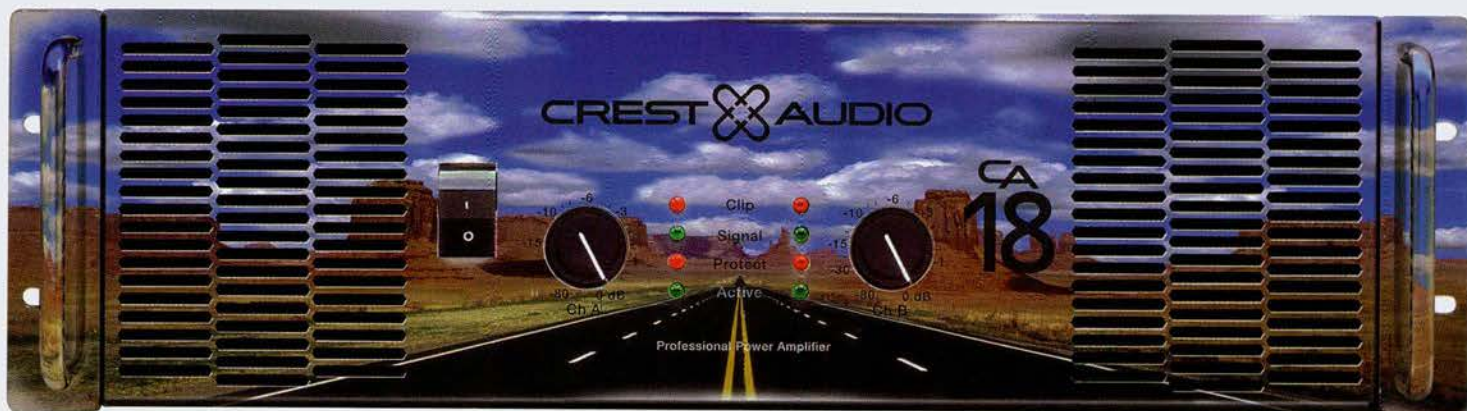
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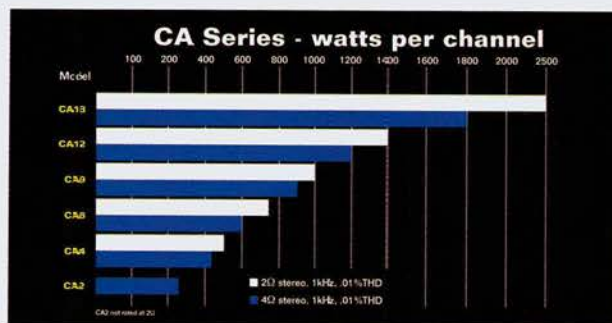
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Allen & Heath GL4000

or post the group fader. This allows very flexible eight-track recording to be made from the groups in either a live or studio situation.

The MIDI implementation provides 128 mute patches which can be recalled manually or through normal MIDI patch changes and individual channel mutes can be addressed by note on/off commands. Setting up a mute patch is done by simply muting the appropriate channels and then hitting the store button — it works like a snapshot system. The MIDI muting is completely independent of the eight manual mute groups which have their own edit and preview modes. With either muting system, individual channels can be isolated and made safe.

The back of the desk is self-explanatory. The inputs are balanced, as are the main outputs (the others are 'ground-compensated') and there are full two-socket inserts on all the groups, main outputs and auxes as well as the input channels. The stereo FX returns channels also have mono mic and line inputs in addition to a pair of jacks for the stereo inputs.

Evaluating A New Desk

When I come across a new sound desk, I primarily judge it on how the EQ works. Some boards have a very 'electronic', processed and artificial sound but others sound very musical and natural. I don't want the equaliser to sound like it is trying to make a sound that isn't there — I look for something which enhances or tailors the sound, and I've always thought Midas, for example, were particularly good at that.

So the first thing I look for is a natural sounding EQ and then I look for good ergonomics. I think that anything designed to be used in live sound must be easy and quick to operate — if it isn't, it does not belong in the live arena. In a studio situation, you may have a more time and perhaps you could sit down and read the manual to find out how something works, but for live work it is not appropriate to have to read the manual, or to have to scroll through pages of menus.

There has been a terrible temptation over the years to translate studio technology to the live arena and often the manufacturers have missed the one point that makes something 'live-worthy': it has to be fast. In a live event, things happen in instants; if you are looking round to find an aux send, or you can't reach the EQ, or you can't read the labels in dim light, it is useless! My yardstick has always been "can I get a reasonable sound on this

board within five minutes, without having somebody guiding me through it or referring to the handbook?"

**Roger Lindsay ranks among the premier division of British live sound engineers. His credits include Frank Zappa, Frank Sinatra, George Michael, Soul II Soul, Ry Cooder, Elaine Paige, The Artist Formerly Known As Prince, Sade, Pink Floyd, David Gilmour, Everything But The Girl. This article first appeared in Total Production magazine.*

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Write in Reader Service Number: 125

Octavia: SADie gets a BIG brother

Category: Power Audio Post, DAW.
Contender: Octavia.
Place: Grevillea Studio, Brisbane.
Story by: Julius Grafton.

The SADie digital audio workstation has been around for a few years now and has had a slow but respectable history in this part of the world. In the past 18 months it has started to emerge with some serious market share, limited by the two inputs and four outputs.

Enter Octavia, using the same software as SADie but with hardware galore. A base Octavia system comprises a PC, which is only used for the Windows software, and user interface - which means driving the monitor into which you look, and taking commands from the keyboard and mouse. It has a card inside for interface with the rest of the unit.

External to this is the Octavia unit itself, a four rack unit tall box with the processor, RAM, and the inputs and outputs. This box connects to the PC card via a high speed data connector. Multiple Octavia units can be chained together, using a 'Tentacle' bus. You can, in theory, create up 280 channels this way!

A neat and well built stand alone Master Control Panel allows 9 pin serial control of Things That Like It This Way, such as VTR's and DAT machines. The MCP features a very heavy (tactile, feels good!) jog/shuttle wheel, and boards of nicely weighted push buttons with internal LED's for a variety of functions. Some of these can be software reprogrammed too, for new of different uses.

The final hardware device in the base Octavia system is the Mixer, or fader panel, also built tough and seemingly to last. It has eight flying faders and function keys for channel assignment, mute, and solo. Six optical rotary encoders allow EQ, compression and other feature control.

Beyond the core system are options a-plenty, and of course one can grow a system as tasks and money allow.

For the purposes of marketing, Studio Audio and Video Limited, who make these products, call SADie a Disk Editor, while Octavia is a Workstation. At Connections we call anything with random access and a screen to see a waveform, a Digital Audio Workstation, or DAW for short. Some people call them Digital Audio Editor, too. But we like to KISS - Keep It Simple, Stupid!

IN THE FIELD

A good profile of an Octavia system is the one in use at Grevillea Recording Studios in Brisbane. They are smart studio people who recognised before most that simply recording music was a fast ticket to oblivion. Today they do a lot of film work.

I spoke with Bruce Jacobson, who is the Post expert there.

One recent project is 'Tales of the South Sea', a one hour series, of which all 22 episodes were posted at Grevillea.

"We recorded all the orchestral components. Octavia gave the composer the ability to record sections of the cues, or complete cues, and compare the performances and edit together the best of those afterwards".



Grevillea purchased a Fost' variant of Octavia, where the hardware is configured for 8 inputs (digital and analogue) and 24 outputs.

"The reason we specified 24 outputs is that we can dump straight to 24 tracks of DA-88, which is still, unfortunately, the interchangeable tape format. DAW manufacturers haven't allowed common file formats or the ability to read each other's files yet" Bruce told me.

8 INPUTS AT GREVILLEA

"With 'Tales' orchestra tracks, we did some diligent pre-mixing on the way in, so we still had flexibility for the mix".

But surely there is a scenario where you may need 24 inputs? I asked Bruce. (Octavia can be expanded, of course, so don't get the wrong idea here!)

"All our work is a combination of orchestra and synthesisers, most people have chosen to use a pre-mix of the orchestra as it's being recorded. There isn't a need to have an orchestra split across 24 tracks. I've also got a DA-88 plugged into the digital outputs as a backup for peace of mind, it runs along as we record".

"Because it's all non-destructive editing, we can keep working then choose the best take, the best section, keep it and get rid of the others. At the end of every call or day, we back up to Exabyte tape.

"We have six hard disk drives one inbuilt into Octavia and five 4Gb Western Digital removable drives outside. Any one drive can read or write all 24 tracks".

"We've got that many drives in case we have, say, a cue a couple of times that happened to be five minutes long- that may run close to the wind in terms of disk space".

Octavia allocates disk space according to what it knows is available, on software you can set a preference as to where you would like your data stored. If one hard drive of any size is full, Octavia will switch to another mid stream. It's seamless.

CAPABILITY

"I haven't exceeded the capabilities of the system yet. The biggest ask? Currently we are doing an animated show up here

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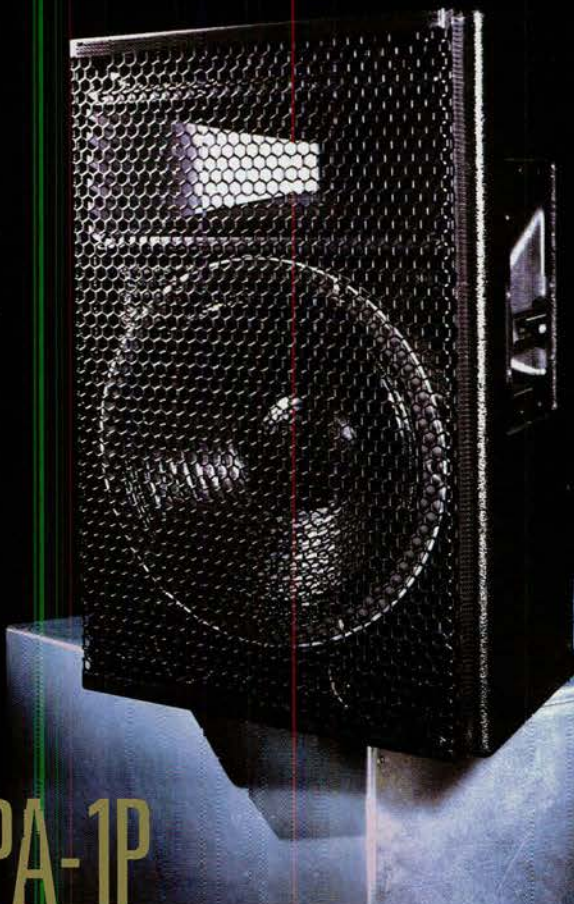
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*John Meyer holds numerous patents including a low distortion driver/horn combination which is utilized in the UM-1P, and one for the perfectly aligned phase response through crossover (zero-pole crossover) utilized in both the UPA-P and UM-P.

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HEAR WHAT YOU'VE BEEN MISSING WITH AKG'S NEW INDIVIDUAL VIRTUAL MONITOR SYSTEM

IVM 1 INDIVIDUAL VIRTUAL MONITOR SYSTEM

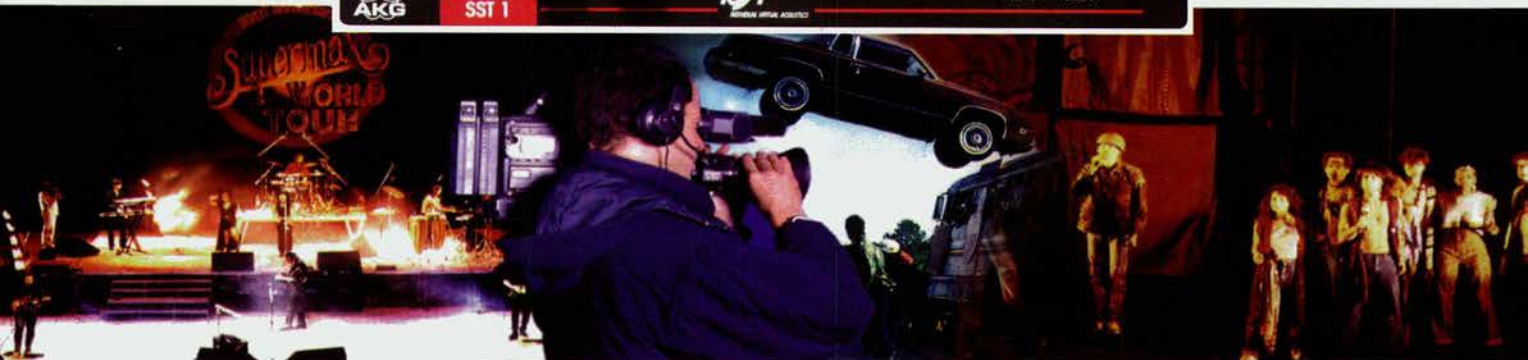
The good news is that in-ear-monitor (IEM) technology has significantly improved the performance of on-stage monitor mix systems. The bad news has been a localizing of the mix in the center of the artists head rather than a more dimensional mix from the outside. This psycho-acoustic phenomenon is known as in-head localization of sound (IHL), and has prevented the artist from hearing a natural representation of the on-stage mix ... until now.

AKG, the leader in studio microphone and headphone technology for more than 50 years, now introduces the future in IEM technology - the Individual Virtual Monitor (IVM 1) system.



Providing all the benefits of a conventional in-ear monitor (IEM) system, AKG's Individual Virtual Monitor (IVM 1) system redefines the state-of-the-art by incorporating binaural audio processing. This revolutionary technology dramatically improves in-ear monitor (IEM) by moving the on-stage mix out of your head and back onto the stage where it belongs. IVA™ technology gives you the "feel" of traditional wedge and side-fill monitors while eliminating the problems of feedback and excessive stage volume levels. The monitor engineer will love it, the FOH engineer will love it and most importantly, you'll love the difference it'll make in your performance.

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Octavia: SADie gets a BIG brother

with 24 tracks of dialogue and 40 tracks of effects all playing from the array of drives. Not all simultaneously of course, one track is for one character, then the effects are split over various tracks".

"All the processing and dynamics are done in real time. You don't wait for a cue. Tell it to EQ a track, compress, put on a comb filter - it does it there and then".

Much is made of the processing power of Octavia in their PR. The central issue is that like Fairlight and dsp (Digital Studio Processing), the action isn't in the PC - all audio processing is external. This way you can pour as many chips and as much RAM as you like, or can afford, into your product.

In the case of Octavia, each box uses four AT&T DSP3210 processors, said to generate over 145Mflops of processing power. This is a particular specification which your writer knows exactly nothing about!

At this time the standard audio-to-digital (A/D) input converters operate at 20 bit resolution, although 24 bit is possible and indeed an option. At Grevillea they have a couple of on-board 24 bit converters, which they plug into digital inputs of Octavia when required. Internal Octavia processing is 32 bit, floating point.

HARDWARE ROUNDUP

Aside from the previously mentioned Octavia box, the PC with a card in it, and the two operating surfaces (Fade Panel and Master Control Panel), Octavia has a host of options.

One commonly specified is a drive container, suitable for four SCSI hard disks, or a mixture, with a CD burner and an Exabyte drive. It is tough, fan cooled, and of similar appearance to the core Octavia unit.

People looking for more than 8 in and 8 out will opt for extra Octavia units, so a 24/24 system will use three of these and one



or possibly more drive containers. Of course you can forego the drive Container, as each Octavia unit has two SCSI slots as well. Grevillea also use external, removable hard drives on a SCSI chain and so didn't require the Drive Container.

VIDEO WITH OCTAVIA

At Grevillea they slave to video the standard way, which means a Umatic VTR is used to play vision, supplied by the video

house, and acts as the time code master.

Connecting this parallel control device to Octavia is done via an Editron synchroniser, allowing external control of the Umatic functions. Like jogging and shuttling and spooling ahead.

A new option for random access video within Octavia is available, this utilises a 'Portia' card in the PC, which will digitise a video input, compressing it into a JPEG format. This is then written to another hard drive, and stored.

This way you can use an external monitor (or a video projector) to view the full motion vision.

The big advantage is no waiting for the VTR to do it's thing, in other words: Random Access, which is the beauty of any hard disk based format. Go to a track or a cue or a point - immediately. No rewinding or fast forwarding!

THE WRAP, BY BRUCE

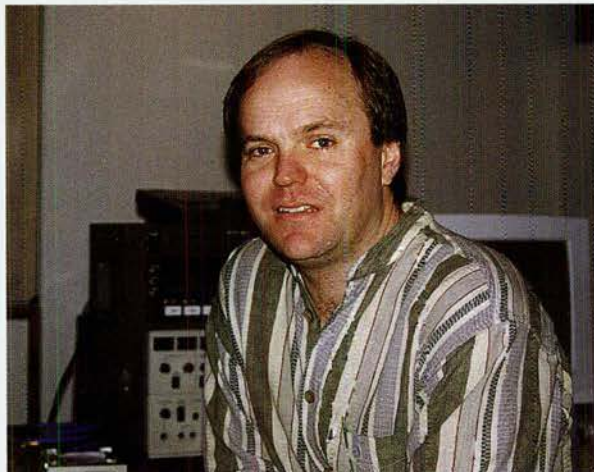
Why Octavia? "We looked at Fairlight and ProTools, but we already had three other SADies".

"I like the software upgrades not costing a brass razzo! I think we're all a bit sick and tired of having to pay for an upgrade when the operating system changes. I just come in and find an upgrade sitting on my email, and it's cost me nothing!"

"I like the factory backup, I've put some curly ones to them in the past, and I get an answer. They are very interactive with their clients, they don't take the high and mighty attitude. You are making a big investment, and you are treated the same as the BBC who have hundreds of the things."

'Come on, Bruce' I say. 'This is pissing me off. Is there ANYTHING at all you don't like about Octavia?'

"No. It's been 100% enjoyable the whole way."



Bruce Jacobson, Grevillea Engineer, Director

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Metallica

By Julius Grafton

Mick Hughes has one of the hardest live audio jobs in the world today. Mixing Metallica.

Hard, because as anyone who has approached mixing hard rock or 'metal' will know, getting good sound over the top of a tidal wave of backline is very challenging. But Mick has 14 years experience - with the one band!

Cut to the gig.

The band walk on with house lights ablaze and kick in - the stage wave hits you hard as the PA runs right up to limits. But this is extremely well mixed, I can discern every instrument, every drum part and every vocal bit. The words you can't really understand, mostly because that's the way they are sung or uttered - but the whole live sound is completely there. The punters are in party mode.

How does Big Mick get it that way? Especially since this is the fourth gig for a completely new type of PA, the VDOSC system, from Europe, and its first time downunder. Normally Mick would use the most industrial strength PA, unquestionably the EV Manifold system, most famous for use by AC/DC here last year.

In fact, the second this gig gets under way is the instant of sudden truth, because I've been unable to compute just IF such a small PA can kick.

VDOSC is a line array meaning you hang a column of boxes - and that's it. The column has 90° dispersion horizontally, so that about 75-80% of the venue is covered by two columns of 12 boxes each. There are twelve subwoofers down on the deck too.

Those seats not serviced by the VDOSC arrays are the seats at the very sides, where bands have hung eight or so Turbo TMS-3 boxes. It makes for a cool way to appraise the VDOSC, walk out of the array spray into the Turbo sound zone.

Six more VDOSC boxes each side would complete a whole VDOSC PA, numbering just 36 flown boxes.

The system runs tonight at 118dB weighted, and the backline is hitting the mixing area at 108dB weighted!

The Midas XL-4 mixer and four gorgeously illuminated effects racks are all on the floor. "I don't like being on a riser. They don't pay to see me, and if they can't see me they can't through anything at me!" In the middle you're in the best possible spot, I'd rather be right off to one side. That way if it's crushing right off to one side, then it's really crushing in the middle! They're rocking, man!" Mick is a man of the people, despite approaching old age. He is every minute as old as your editor

VDOSC IN USE

The power comes from Crown 5000VZ amps, the system electron-

ics is a couple of BSS signal processors. It's all pretty ordinary really, the trick is the 'whole system' approach used by the designers.

The line of 12 boxes acts as one big source. You can very definitely walk in and out of the VDOSC sound field. This is a cylindrical field, created by the line array, a line array is where the components are stacked vertically. So the high frequency horns are the exact middle of the VDOSC cabinet, with 2 x 7" mid range speakers either side, then one 15" woofer at each side. These components all form a column when stacked up.

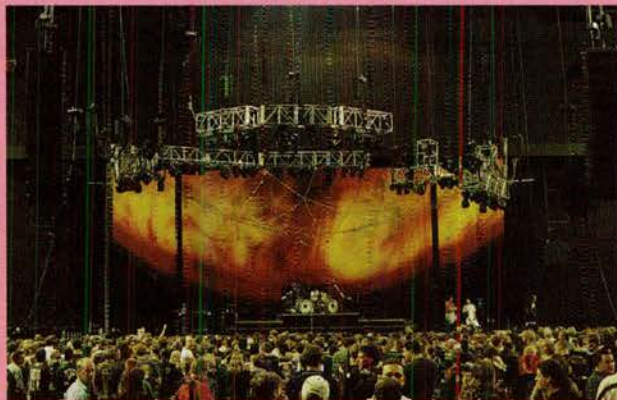
Amplification is simplified too, with each block of two boxes powered by just two amps - one whole amp for the 4 x 15", one side of the other amp for 3 x 7" speakers, and the remaining amp side for 4 x 2" compression drivers. These are all wired for an amp load of 4 ohms.

Mick was assessing the system for future use. He was also about to check out the new EV X-Array system in Japan around about presstime, with a view to using it for Metallica's next world tour.

"I wasn't scared to try it - if you make a wrong call on a PA you make a rod for your back!"

GUITAR SOUND

Metallica have the most creamiest thick guitar sound on record,



and they match it live. The sound is dominated by the guitars, but not overwhelmed by them.

Mick explains the process: "They have some pretty serious guitar racks, you're talking about Messa Boogie, programmable EQs and preamps. They're a big barnc, they can afford lots of tackle. They can have whatever takes their fancy".

"The interface from them to me is via a sealed speaker (a 4 x 12) in a flightcase for each guitarist. I mic one 12" speaker (of the four in each box) with two Audio Technica 405C's, one

in a cardioid pattern sitting right in the middle of the speaker, which gives you some attack and brightness, and right beside that is another 4050 (pictured at right) which I use with a figure of eight pattern".

"My philosophy is, if you put an SM 57 on a cone speaker, right up against it (to reduce outside spill) then you're picking up about two inches of cone by the time the mic pattern opens up. To get a bigger pattern, you get more noise and the signal to noise ratio goes to hell. I thought, 'I'm sick of 57's on guitars', and finally found the 4050 which has a huge pattern and it can take huge SPLs. They are right on the grille of the speaker".

"The patterns are so big. You listen to each individual microphone, they sound really strange - big in their own right, but put them together! I seriously advocate the use of these".

"People are catching on to the 4050".

"We use one isolation box for each guitarist".

"For the clean sound for James we have a JC-120 (Roland) Jazz Chorus amp which we've also got in a sealed enclosure, I mic it in stereo with 2 4050's. It gives great width".

"Keeping to sound to noise ratio down on the stage is very important to maintain a decent sound with the least amount of problems".

The bass is simply run into a DI, from a mixer which sums the various radio inputs.

DEALING WITH DRUMS

The drum kit has every cymbal miked individually with a Shure SM 98 on a gooseneck off the stand, extended away from the bell of the cymbal out towards the edge.

"You get a bit of stick noise too, and with eight of them I can position them for a stereo picture".

"The high hat mic is an AT 4041, which is quite nice. For kick drums I use two Shure SM 91 boundary mic's. I sit those on a

perspex plate. I like them for attack, they have a smooth high end compared to a lot of other boundary microphones. The pickup pattern of the mic picks up the sound of the shell".

"I put it on perspex because the frequency response of a boundary microphone is dependant on the surface it's sitting on. If you throw it in there on a pillow, it's too intermittent in terms of response. The perspex is velcro'ed onto a heavy weight, which sits on the drum pillow. The mic just sits there, about 7" from the skin".

The perspex is velcro'ed onto a heavy weight, which sits on the drum pillow. The mic just sits there, about 7" from the skin".

"The snare has two Shure SM 57's at 90° to each other, to change the pickup pattern. Lars tends to play all over the snare, doesn't always hit in the middle - an X-Y axis type of thing. I pinched the idea off a guy from the BBC, he miked a marching snare and they play them all over the surface".

"Under is a Shure SM 81, just for the rattle of the springs underneath. On the Toms I use Shure SM 56's - all gated".



NOISE GATES AND EFFECTS

"I don't particularly like gates but with this kind of music the drumfill is crushingly -extremely- loud. I'm using these new Klark Teknik gates, the DN 510. I key the gate with a trigger taped to the side of the drum shell. You have a problem with a lot of noise triggering the gate threshold. So what I do is use a CDucer tape on the side of the shell, instead of using an audio source as the trigger, it keys off the drum vibration! And it's wonderful! You can set your gates as loose as you like, and he just taps 'em! So instead of dancing with the gate threshold all night you just leave

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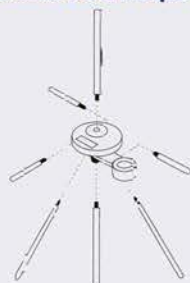
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Write in Reader Service Number: 104

them, and the triggers (C-Ducer's) stay on the drums for the whole tour".

"It's a whole lot more accurate than relying on an audio trigger from the actual drum mic. The C-Ducer lines just run down the multicore to the FOH area, and are then plugged into the side chain input of each noise gate".

"I do excite all the toms with a B3E 662, on the subgroups - and one on vocals, and bass".

"I don't EQ the vocals on the desk either, I have a programmable graphic on the vocal subgroup".

Reason? The band like to sing into any microphone, any where. The vocal microphones, Beta 58A's are all set to the same height. The main EQ for the lead singer suits all the other vocalists.

The eight cymbal mics are all EC'ed with a Medici 'Mastering' EQ inserted on the group.

Mick has a raft of Behringer Composer's, given him by the firm. "A stunning piece of kit. It's like a compressor but better than some other ones. I actually A-B'ed them with a BSS DFR-402 - they sounded like shit in comparison!"

For that elusive 600 ms delay he uses a Roland SDE-630.

Then there's a TC Electronics M-5000, "stunning. Use it on vocals".

"A Digitech Vocaliser is supplied by the band, it does locked vocal harmony, it kind of locks tunes. An Alesis DM5 drum machine is used a little bit on the kick drum to augment it.

"I have a BassFex, a sub harmonic enhancer to extend the output of the floor toms". Then there are a couple of Klark 780 reverbs, a new XMP-1 Lexicon, and a Yamaha 990 reverb for toms. An Eventide H3000 is for overall big drum reverbs.

Then there's an older Korg thingumy... "I can't remember the number! It's like a harmoniser that pitches down at a given interval - it's used for a song called Master of Puppets - it goes Master - Maassteerr - Maaasssttttttzzeeerrrrr - it pitches down on the delay!"

Finally, over in the system drive rack are a pair of funky looking things with big gas cooking knobs - called a Distresser. "They emulate tube compressors! Daff. Defy anyone to spot the difference by listening! They have a high pass and a side chain built in, you can make it ignore the low end altogether".

REWARDS

The band decided to go into business with Mick and monitor engineer Paul Owen. They figured they were paying out millions to hire gear each tour, so why not buy some?

They bought the whole FOH and monitor electronics, with cables. The Midas XL-4 FOH desk has flying faders, and cost 68,000 quid with a wingboard, then the effects cost about 125,000 quid. Two

Genelec 1032A near field monitors are used at FOH too.

Mick and Paul own the gear, and pay the band back via equipment rental. The band get consistent equipment, the crew get to hire the gear out between tours.

The band hire racks and stacks, arc stage monitors with amps when they go on the road.

MONITORS

Paul Owen has been with Metallica for 12 years, last year on the world tour he had 24 mixes to cope with. This show had just ten sends. The world tour had 305 gigs in 38 countries, and 90 wedges under the stage!

Paul had to follow each band member around the two stages and catwalks, and make sure monitors followed. The monitors carried the guitar sounds - I had to do the sustain for them too."

"I ended up having a 'home base' position where they could go, but it was really busy"

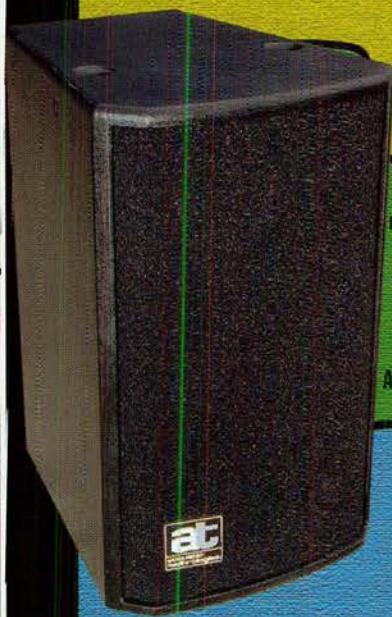
The stage for that tour was so big that time domain problems arose too, which can only be cured by getting enough monitor level and having the snare in every send for tempo. The only way to get it in real time is to get monitors loud enough. •

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Mick James - Mick James Electronics (Audio & Lighting Consultant, Installer). Call (07) 5572 0133



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"Over the years I have flirted with other brands but I have always come back to Acoustic Technologies. I have received nothing but intelligent, considerate advice and appreciate the way AT have tried to come up with the ultimate product." **Don Befts - Veteran Session Musician**

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Making Snow in Summer

◆ *Tall order? Staging Connections deliver the ice...*

Foxtel decided to stage a lavish media launch of its coverage of the Winter Olympics Games in Nagano and gave Staging Connections just three weeks to pull it off. "A bit unusual for a job this size!" said Justin Cowell, Special Events Manager at Staging Connections.

The pre-function area at the ANA in Sydney was miraculously turned into a Japanese

wintergarden with the help of 3 tonnes of white quartz rock and white chiffon drapes from floor to ceiling. Japanese water fountains were also installed complete with Coy Carp in a pond. "They were difficult to keep alive," said Justin.

The main feature in the room was the large replica of Mount Fuji: 4.5m high by 12m wide. It was designed to split in the mid-

dle to reveal a 4x4 cube wall. Smoke, lighting effects and a Japanese drummer added to the moment. Then a direct satellite link to Nagano, arranged by Foxtel, was screened.

CREDITS: Event Manager: Justin Cowell, Technical Director: Dean Maxwell.

• *Approx. 60 crew were involved in the installation and packdown for this event, on a very tight schedule.*

GEARHOUSE BUYS BOJO

International presentation hardware and services company, **Gearhouse Group Plc**, have announced the acquisition of **BOJO Productions**, arguably Australia's finest event theming company. The company will be re-launched as **Gearhouse Theming Pty Ltd**, and will retain BOJO's existing staff and assets.

Former BOJO manager **John Bond**, has been appointed Managing Director of Gearhouse Theming, and the company will continue to operate from BOJO's former Gold Coast premises.

The use of theming at corporate and entertainment events has developed significantly over the last few years.

BOJO Productions founder and owner **Lloyd Bond** said that he was delighted that Gearhouse had made the commitment to theming and the acquisition of BOJO's sets, props and creative concept assets. •

SHORTS

• **Showcorp** won an award for Best Corporate Product Launch at the Special Events Week 'Contact 98' convention in Sydney. They won the award for the launch of Hyundai Finance in 1997 at far north Queensland. Pictured are **Lyndsey Thompson** (ML Savvy & Savvy), **Fiona** and **Colin Baldwin** (Showcorp) and (right) **Alan Melchest**

• **Burkinshaw Consultants** announce the availability of

the Snow White staging system: all-white carpet and S4 stage modules. Call: 0412 386-481.

• **Kirby Productions** delivered a multi-media breakthrough at the Telstra E-Commerce launch last month. Teaming with **New Toys** and **Gearhouse**, they produced a visual centerpiece, using Synztec cubes.

Send news: fax Julius
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Haycom & Hughes do it again

At this year's Melbourne Momba Festival, Haycom Staging projected video onto two 20 metre aquascreens as part of the River Spectacular.

Two Hughes were rear projected from a distance of 35 metres onto each screen to display the sensational video footage produced by Accolade.

This was the first time in Australia, according to Haycom, that video has been successfully projected onto a waterscreen. The benefits in using video compared to 70mm film were lower cost, greater flexibility, and more immediacy.

Haycom use Hughes JVC IIA projectors which are arguably the brightest video projector type currently available.



A/V Training is THE issue

By Brett Bower



There is a big difference between the audio-visual companies of ten years ago and the modern staging companies that exist in Australia today.

The AV industry has gone through massive change over the last decade and it would seem the growing pains have not stopped. The market seems to have split itself in two.

On one side, are the larger events and big budget road shows. The other half can be defined as high volume, high maintenance. It seems like this end of the industry is saturated at times with smaller operators, it is extremely price sensitive and it can be hard to maintain relationships with your clients. Your competition is always offering to do the same job cheaper. The most defining characteristic of this end of the market, is that the quality of the events being staged varies greatly. Some AV and staging companies realised long ago that cheapest doesn't equate to best and it doesn't take long for the customer to realise the risks and move on to a safer option.

Another difference is that the successful companies of the 90's take on a consulting role- listening to what the client wants to achieve, the message they want to deliver and finally advising them of the options available within their budget.

Long gone are the days of handing your client a confusing list of equipment with a number at the bottom of the page. Clients now expect a written summary of the event explaining how it will look and how your audience will feel when the product is finally revealed from behind that scrim.

Companies now sell the benefits of the presentation equipment, not just the features. Who cares how bright that new projector is, just tell me how it will help me sell my idea or product.

When you look at the way the modern AV company operates. It is clear that the staff training programs they have in place lead to a higher level of service for their clients.

Keith Wootten from **Video Plus** in Sydney explains how they have regular training programs in place for both technical and sales staff. They even have seminars for clients on a regular basis called "Tips & Tricks" inviting clients in to look at the latest technology.

Video Plus often invite hotel banquet staff in for training on the basics ie, operating slide and overhead projectors.

Keith says, "It is all part of providing a higher level of service and it cer-

The market seems to have split itself in two. On one side, are the larger events and big budget road shows. The other half can be defined as high volume, high maintenance.

tainly helps to maintain and develop relationships with our clients".

As I said at the head of this article, the industry has come a long way in the last decade and it is still developing. Even though the growing pains still exist for some operators, I am sure they will rise to the occasion. You have to agree that the standards and expectations of our clients are higher now than ever before. I look forward to reporting back to you each issue on the challenges facing our industry and the AV companies doing it right.

• Brett Bower is International Rep for Asia/Pacific for the ICIA - the International Communications Industries Association. Contact him on +61 2 9531-6777

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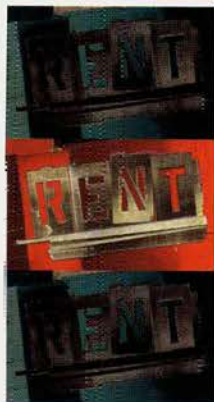
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SHOWS WE'VE SEEN LATELY A PUNTER'S PERSPECTIVE



This show starts without a curtain, a rock group wander onto the set and start to play. The informality is recognised by the audience, who all seemed to be in on the plot before the first act ended.

Maybe it was because we were in the Nederlander Theatre in New York just a few miles from where the Rent story is set. This is a modern musical about youth in New York.

The program tells a riveting story about how playwright Jonathan Larson struggled for seven years to get the show staged, then dropped dead after the first dress rehearsal.

Along the way some usually shifty New York characters had invested in the show, one turning to his henchman halfway through a rehearsal and saying: "I love it, get the chequebook out".

It's a show about today. The characters are close to real life, where Larson obviously ate cheap and went cold through those wicked New York winters in the years leading up to the show opening.

Despite the New York kitsch, we Australian's Got It. We left the theatre speculating the show would tour with some minor adjustments, and returned home to advertisements for auditions in Sydney.

The audio is straight forward and moderately loud. Designer Kurt Fischer simply had to deal with on-stage chorus and leads who needed to get heard over the top of the six piece band, stage right. The actors wear those little headset microphones, which work well.

Lighting is invisible, you fail to register that there is lighting at all, which is the mark of good traditional theatre lighting design. Blake Burba won a well deserved Tony Award for lighting this show. I think you could throw Par Cans and old Pattern 263's at RENT and the show would still work.

The set and forget has the band inside, the cast use three tables and a few chairs to get the story over. Because it's about New York, the city itself as a subject is part of the reason it works. You get a feeling of the essence of the place in the way the musical works. You couldn't set the RENT story in another place, but I am pretty sure you could tour the play. Sydney gets a chance to see how, late this year.

• **Highly recommended** for anyone 12 years or older. - JG



THEATRE

Clippings

▼ The current production for Brisbane's La Boite Theatre is The Conjurers, a show for which the three performers were required by magic trainer Steven Eishop to swear an oath never to reveal the secrets behind the magic tricks before starting rehearsals. Kate Stewart is the designer, Ken McLellan the composer and Glenn Hughes who is working with La Boite for the first time is the lighting designer.

▼ The Australian Theatre of the Deaf (ATOD) will be holding workshops in the techniques of visual communication and non-verbal theatre in Sydney in July. ATOD is a touring company and can devise workshops to suit any industry interested in improving communication techniques. They can be contacted on 02 9310 1255.

▼ Her Majesty's Theatre in Sydney recently sold 7,000 tickets for The Boy From Oz in a single day - a record for the theatre. It's interesting to note that the publicity for the show describes it as an Australian production yet the lighting designer is imported from the US, an odd decision considering the wealth of talent available in Oz.

▼ Red Shed Theatre company based in Adelaide is shortly to close after losing their federal funding. There are several other Adelaide based companies who are enduring a similar funding crisis and have already closed or will close shortly. ArtSA has decided to take a leaf out of Jeff Kennett's little blue book of economic rationalism and put out to tender for a single company to fill the gap. \$350,000 is up for grabs to anyone from anywhere in Australia who wants to have a crack at it.

▼ Victorian Arts Centre is currently exhibiting props and costumes to celebrate Australian comedy. Items on display include the dressing gown and hot water bottle from Barry Humphries character, Sandy Stone. Effy's bra is also a key exhibit!

▼ The Queensland government are having a spending spree!! They plan to inject \$320 million into a new cultural precinct on Brisbane's South Bank. Queensland Theatre Company will receive \$20 million of the funds for new facilities which will include a 500 seat space.

People

▼ Graham Walne the well known British theatre practitioner and author has settled in Australia. For the past thirty years Walne has been a high profile member of the arts community. He has lectured at RADA, worked with the Bolshoi Ballet, acted as consultant on Shakespeare's Globe theatre and published extensively. He has settled in Perth and is currently working on projects in Perth and Singapore.

▼ WFO said that a career in lighting design will always keep you hidden from the public. LD Richard Montgomery appears onstage in Gravity Feed's current production, The Gravity of the Situation. He performs that age old trick of wheeling two luminares on stands backwards down a slope!

▼ It would seem that there are pockets of bizarre hiring practices in regional venues throughout Australia. Deep Pocket, our unnameable source inside the Equal Opportunities administration, has revealed that at the Goldfields Arts Centre in Kalgoorlie four of the six staff are Librarians, all born in the Chinese year of the Pig. If you want to get work in a regional venue it's probably advisable to have a set of twelve birth certificates on standby.

BACKSTAGE NEWS

BY JACQUELINE MOLLOY AND ANDY CIDDOR

Trade Shows

▼ For those in the West unable to make the trek to EnTech to see the latest in entertainment technology, the WA equivalent to EnTech and SMPTE is Pro A/V 1998 which takes place on the 19th & 20th May in the Robinson Pavilion at the Claremont Showgrounds, Perth. (See the review of Pro AV 1997 in Connections July 1997)



Waapa's production of 'Caucasian Chalk Circle'
(Pic by Andy Ciddor)

ments. There are lighting designer profiles, technology updates, product reviews, plenty of coverage of trade shows and exhibitions throughout the world (including EnTech, of course) and feature articles across a broad range of lighting areas. Somewhat US centric in viewpoint, but probably the best lighting mag you'll find. Subscriptions: \$85 (they take Australian cheques in Aussie dollars) from Lighting Dimensions, PO Box 425, Mount Morris, IL 61054-0425 USA. (Editor's disclaimer: columnist J. Molloy freelances for these magazines sometimes!)

Hiccups

▼ Australian Ballet had an unusual experience at the Sydney Opera House recently when a technical glitch forced the company to perform Act III of Swan Lake on the Act II set. I bet that confused a few punters not to mention the crew and the dancers!

Magazines

▼ Lighting Dimensions has been a valuable lighting information source for over 20 years in various formats under a range of publishers and in its present incarnation covers lighting for live performance, film and television, architecture and themed environ-

Stage Safety Alert!

▼ If your venue has The New Jim Rose Circus slated to appear, watch out for their use of angle grinders onstage during the performance. Sparks fly when BB, The Circus Queen takes to her metal encased genitals with an angle grinder. We're not certain how your local OHS should deal with the fact that she doesn't wear gloves and safety goggles, much less a shirt!

• This page is about what you're doing in the theatre so don't be shy about passing on your news to news@kilowatt.com.au or by fax to (08) 9227 8190.

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You can still stereo link Channels 1 and 2, 3 and 4, you still have Sidechain access to all four channels, and you still have somewhere to mark what channel is what on the front panel!

In today's competitive audio environment, every piece of equipment has to

earn its place in the rack. The original ARX Quadcomp earned a place in racks all around the world; the Quadcomp II will continue that tradition.

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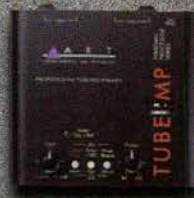
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LETTERS

*#/@%XX -?!

Valvo not 1st

I commend you for publishing in the April issue the recent 'Valvo' venture by Jands.

I am surprised by the claim that the use of valves is a world first. Valve dimmers were in production in Britain and America some 50 years ago. The British system devised by J.T. Wood of strand Electric used three thyratrons (the modern thyristor or silicon Controlled Rectifier is the solid state equivalent of a thyatron) each dimmer being in fact a grid controlled rectifier.

This salient fact was entirely unnoticed by the inventors, being discovered only after several overheating and failure of neutral cables. A further problem was that each valve consumed 30 watts for filament heating, so they were expensive to run and even more expensive to keep cool.

• Denis Irving,
Entertech, VIC

*Denis also understands the story was an April Fool's gag. -Ed.

Help me into TV

This sounds like a really stupid question but how can someone get a "start" in the commercial TV industry???

I have tried everything I know and still no luck.

I work for Channel 31 in Melbourne as a Presentation Coordinator, Trainee Technician and Audio Operator. Also have done some Floor Managing and Camera Operating. I have a Cert. of Audio Engineering as well. I also have done theatre and studio mixing.

Can anyone help me???

Helene Wilson
(helenew@connexus.net.au)

Apostrophe man

Tsk tsk, now I've mentioned this once already. This is your second warning. I direct your attention to your absolutely classic fuck up in paragraph five, page 30 of the March issue.

In the first sentence, as the 'expense' belonged to the (singular) rental firm it requires the possessive apostrophe before the s and should read thus; rental firm's expense.

Now, as if to further illustrate this point by including its corollary, another errant apostrophe at the end of the paragraph moved from between the k and s in weeks and landed between the last two letters in billings. It should have read "week's billings" ('cos billings belong to the

week.) So, in one paragraph, you lose two apostrophes and put another where it shouldn't be.

Now, this isn't an errant spoty faced seventeen year old cadet journo we're talking about. This is the editor, the man in charge of the magazine's standards.

Now, next time I'll write a really tedious Email. So don't do it again.

Paul Hicks, email.

* Hes write, folle's! -Ed

Drug use

I was very disturbed to read the letter in the April issue of Connections about 'endorsed' drug use in the entech industry. I completely fail to understand how ANY business can condone or in any way encourage the use of drugs of any kind. Blacksheep Productions is a completely drug, smoke and alcohol free workplace and, whilst this is usually not a problem with full time staff, casual employees often find this policy hard to understand.

The use of drugs (specifically those which are 'performance enhancing') not only affect the health of the individual, but also affect the safety of every other workmate. In the long run, employees who use drugs suffer dramatic losses in performance,

and end up being a detriment to the business anyway!

Not only do employers have to actively discourage drug use, but employees need to take a very firm stand against any form of peer pressure - this should be heeded by the young man referred to in the letter!

It is hard enough to find staff in this industry who are talented, without having the extra worry of them not being clean.

I can assure the angry parent who wrote the letter that under no circumstances would Blacksheep ever turn a 'blind eye' to this sort of behavior, nor would we even consider employing drug users. I encourage other responsible employers to do the same.

Ben Alcott,
(ben@blacksheep.com.au)

* I got a LOT of calls about the letter, most seeking to wheedle out the identity of the person and firm involved. We protect confidentiality here at Connections. The ISSUE is greater than the instance. I understand some humans can miss one nights sleep and still function. Some humans use drugs socially which is fine by me. The problem is that in an increasingly litigious workplace, an accident damages claim is denied due to drug impairment of a crew member, in which case liability rests with the employer - or worse still, the client. -Ed

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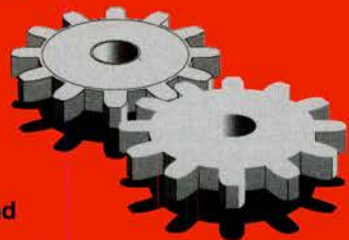
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HOW TO DO IT

TOM MISNER'S PRACTICAL STUDIO TECHNIQUES

PART 4. DYNAMIC CONTROL (Continued from last month)

Selecting The Compression Ratio (Continued)

There are no easy charts available on how to use a compressor, only a few guidelines based upon years of studio experience. The guidelines listed below should only be used as a starting point - fine tuning will always be necessary.

Setting 1: Bass instruments
Ratio 4:1 up to 8:1
Attack time: Slow
Release time: Slow

Bass instruments are very susceptible to pumping effects, but they can be eliminated through careful adjustment of the compressor's release and attack times. Long attack times will 'lift' the bass line above the mix.

Setting 2: Getting more sustain
Ratio 8:1
Attack: Fast
Release: Short

A short release time will affect the duration of the instrument's sustain; the sound will remain at a louder level for a longer period. The setting must be accompanied by a fast attack time, but there's a price: you will lose some of the instrument's natural peaks and 'crispness'. Very suitable for heavy metal guitars.

Setting 3: Drums and percussion
Ratio 12:1
Attack: Fast
Release: Fast to medium

This setting can be used to limit the maximum level going to tape, thereby making it easier to record at a higher level. It should only be used on short-duration instruments such as kick drum, snare drum and percussion-type instruments such as piano.

Setting 4: Level averaging
Ratio: 2:1 or 4:1
Attack: Medium
Release: Medium

This setting is used to even out program material which has slower peaks but is constantly changing in volume. If the change in volume is excessive, increase the ratio or decrease the threshold until there are no volume fluctuations. Especially useful for stereo compression of the final mix.

Setting 5: Percussive Backward Sound
Ratio: 8:1
Attack: Very fast
Release: Very long

Most effective on short duration signals.

Ducking Effect

The effect is used to lower the level of backing music when a vocal is introduced. The music program is put through the compressor and a split of the vocal is connected to the compressor's key input (an additional input that allows an external signal to control the gain of the compressor). Each time the vocal signal arrives, the compressor is keyed into compressing the music signal. When the music and vocal are mixed together, the vocal will stand out yet the overall level will remain the same.

Stereo Compression

All stereo signals should be compressed by a stereo compressor or by two mono compressors connected through a stereo link. The link ensures that both channels always receive the same amount of gain reduction. Compressing a stereo signal using two mono compressors which are not linked together means that each channel will get different amounts of gain reduction, causing the centre image to shift to the side that is least compressed at that instant. Since this happens very quickly, the centre image will seem

to shift from left to right continuously. Most compressors have a 'stereo' switch or a detector input, necessary for stereo operation.

Expander

Expanders are devices that make a sound fade away more quickly once the level goes below a threshold determined by the engineer. As the sound passes through this threshold, the expander applies gain reduction, expanding the signal's dynamic range beyond its natural decay characteristics. Some interesting guitar effects can be obtained with the expander.

Limiter

It can be said that a compressor with a ratio or more than 12:1 is a limiter. A limiter is used to prevent signal peaks from exceeding the headroom of audio equipment and causing distortion. They are commonly used to protect the recording or broadcast chain from unexpected peaks that may cause overloading. If the signal is characterised by single short peaks of high level, a fast release time should be used so the compressor can quickly return to normal operation. In a program with many such peaks, a slower release time should be used. If the program contains many peaks it is better to raise the limiter's threshold, reducing the sensitivity of the device and the number of peaks which trigger its action.

De-essers

A de-esser is a frequency sensitive compressor that only compresses frequencies in the range from 3 kHz to 6 kHz. They are used to minimise the 'sibilant' sounds (ss, tz, ch) in vocals and similar problems in other sounds. They do not act upon the mid or low frequency spectrum.

Noise Gates

A noise gate is a level-controlled switch that opens and closes depending upon signal strength. Once the signal exceeds an operator-determined threshold the gate 'opens', and when the signal decreases below the threshold the gate 'closes'.

The features found on a noise gate are similar to those of a compressor/limiter with the exception of ratio. The gate can only have two states of operation - open or closed - therefore, it requires no ratio. The attack and release times have similar functions as on a compressor - the attack time determines how long the gate takes to open, while the release time determines how long the gate takes to close. The gate often has a long control which adjusts how far the gain drops after the gate closes, and a key input which allows an external signal to open and close the gate.

Gates are commonly used to eliminate background noise from instrument or vocal microphones when they are not being used. By setting the threshold level above the level of the leakage or noise, we can ensure that the gate closes once the input signal falls below this level. You will need to adjust the attack time control to prevent false triggering, and the release control to make sure the gate closes quickly without cutting off part of the signal.

Summary

As with most studio equipment, it takes some practice until a novice engineer has learned the art of setting up dynamic control devices correctly. Many professional consoles have a built in 'dynamics section' which usually includes a gate, compressor, limiter, expander and de-esser. If they are used correctly they should not be heard working.

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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HOW TO DO IT

DUNCAN FRY'S LIVE SOUND MIXING - MIXING CONSOLES

MIXING CONSOLES (PART 4, Continued from last month)

OTHER CHANNEL CONTROLS

48 V Phantom

Some microphones - condenser microphones - need power to make them work. This switch sends 48 volts DC down the microphone line to the microphone, and is cancelled out at the balanced input stage of the console.

Be careful when using a console that doesn't have individual phantom power switches on each channel, but only has one switch for all channels. It's either on all channels or it's off. If everything is balanced there should be no problem, but if not, then something unbalanced can fry.

Also bear in mind that plugging and unplugging phantom powered microphones during a changeover can send large bangs through the whole system!

Pad

This is a switch that lowers the microphone Input gain by 20 to 30 dB. In effect it makes the microphone input a bit deaf to the signal coming in. You may have to switch the pad IN when the channel overload LED is coming on even when the Input gain is turned right down.

Make sure you don't have too many of them, or all of them, switched in. The system will still work, but you will have to pick up the missing gain by driving everything else harder, increasing both the noise level and the risk of distortion.

A simple Pad design

If the console you are using has no Pad switch, here is a simple



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design that can be mounted inside 2 XLR connectors.

Ø Reverse

Phase Reverse. This swaps over the + and - lines on a Balanced Input. It is useful for microphones that may be wired out of phase, or microphones that are too close together and causing phase cancellation, such as on the rack toms of a drum kit. They will sound hollow or dull with little or no low frequencies. Push the switch In and Out to compare; one will sound much better than the other.

Mic/Line

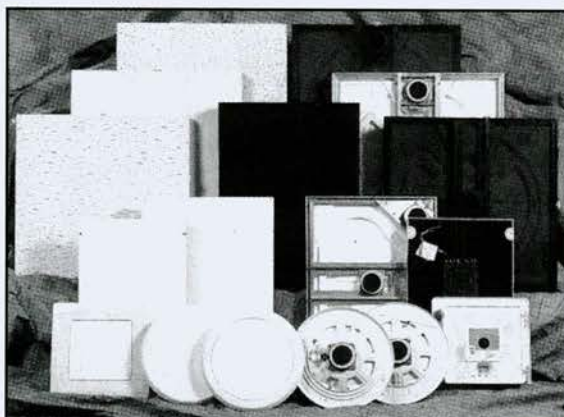
This switch changes the gain control circuitry depending on whether you are plugging in a microphone, or a line level signal such as an Effects return, CD player, DAT or tape deck.

On many consoles there are separate Microphone and Line inputs, the microphone usually being a 3 pin XLR (Cannon) type and Line a guitar jack. This enables you to have two different things plugged into the one channel, switching between them as necessary.

For example, you could have an effects return plugged into a Microphone input, with the gain turned right down, and a CD or tape deck plugged into the Line input on the same channel. This way you could use the effect during the set, and play a CD or tape in between sets. It saves on channels if you are running short.

High Pass Filter (Lo Cut)

This rolls off the low frequencies from about 80 or 100 Hz down. It should be switched IN on any channels where you don't need that kind of low frequency information which will only muddy up your signal: Hi Hats, Vocals, some guitars (especially acoustic). It should be switched OUT on Drums and Bass guitar.



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LIVE SOUND MIXING - MIXING CONSOLES

EQ In/Out

This switches out the EQ section of the channel to enable you to make comparisons between the sound with the EQ switched In or Out.

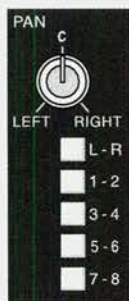
Watch Out. It is a favourite trick of headline band engineers to switch OUT the EQ on vital channels just to have a little fun at the support band engineer's expense! If you're the person mixing the support band, check that these switches are IN.

Group Assigns

Also called Subgroup assigns, Bus assigns, Submaster assigns

These switches are only on consoles that have Groups. If the console you are using is, say, a 16 into 2, it won't have these. If it is a 16 into 4 into 2, then it will.

Group assign switches determine where the signal from the master channel goes - either straight to the Left/Right masters, or to a Group master to be linked up with similar signals.



Sends signal to LEFT or RIGHT or BOTH when in the Centre

LEFT sends signal to Group 1, RIGHT to Group 2

LEFT sends signal to Group 3, RIGHT to Group 4

LEFT sends signal to Group 5, RIGHT to Group 6

LEFT sends signal to Group 7, RIGHT to Group 8



1 sends the signal to Group 1

2 sends the signal to Group 2

3 sends the signal to Group 3

4 sends the signal to Group 4

...and so on

For example, on a 4 group console, you could assign all the drums to Group 1, the guitars and bass to 2, vocals to 3, and maybe keyboards to 4. With an 8 group console you could do the same in stereo.

This may sound unnecessarily complicated, but in reality it's not. These group masters run directly to the Left/Right masters, and in this way you can use one (or two if you have enough) slider to control the overall level of the drums, one the instruments, one the vocals, and so on.

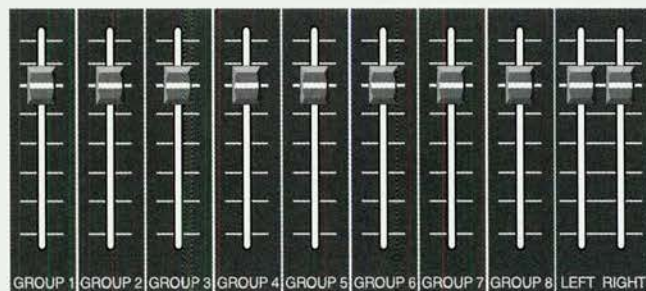
No matter what you do on a console that has groups, remember this one thing:

If you haven't pressed down one of the switches, the signal will not leave the channel! You haven't told it where to go.

Most group assigns work in conjunction with the Pan control. Other consoles have discrete assigns - one switch per group, independent of the Pan control.

A typical 8 Group (8 Bus) Master section.

The groups are there to make life easier for you. You can run any channel to any group or straight to the L/R masters, in whatever arrangement suits your needs. You could run your Lead Vocal straight to L/R, and just send the backing vocals to a group so you can put a gate across them.



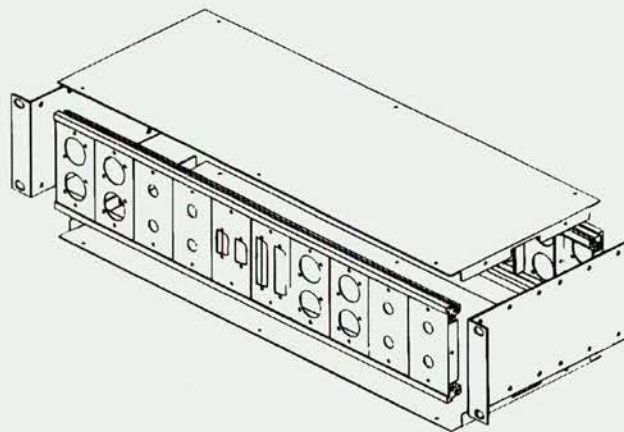
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SNOW JOB II

The burgers are on me - literally

Someone once said that an opera is a form of torture that seems like it's been going for at least three hours but when you look at your watch it's only been twenty minutes!

Well, so it was for the last gig of a seemingly never ending snow tour - but actually only two weeks. A bit like that opera.

During the last show, my trusty assistant Chris and I were studying the map to see the quickest way home. We had two options; go back the way we came, a long slow flat way that would add an extra two hundred and fifty kilometres, or we could go over the top of the mountain, over a road that was just a dotted line on the map, and save ourselves four or five hours.

"Think we'll make it over the mountain OK?" I wondered

"No worries," said Chris, eager to be home for his mum's Sunday roast. "Let's do it!"

So we got up bright and early the next morning and headed off up the snow covered mountain.

We had asked the guy at the service station where we filled up the previous night whether the road was open.

"Yeah, I think so," he replied, and turned to look at the truck. Our gaffer tape spider's web that was masquerading as a windscreen didn't exactly fill him with optimism.

"Holy snappin' arseholes - you're not going to take that thing

over the mountain, are you? How're you going to see where you're going? What if you break down or slide off the road? Jeez, I wouldn't do it if I were you, mate."

What a cheerful bastard. Filled us up with confidence and a tankful of Australia's most expensive petrol and sent us on our way.

As it turned out, going up the mountain was the easy part. The big truck lurched and slithered along the snow and slush covered twisting dirt road until we reached the top of the pass. There we stopped to warm our hands on the bonnet of the truck and take a few snapshots. Then it was back into the truck for the easy downhill run.

The sun was just starting to warm things up as we made our way down the other side of the mountain. On this side, the road was even more winding. Suddenly we turned a corner into the shadow of the mountain and into a patch of pure white dense fog. We couldn't see a thing! I turned the wipers on - nothing - they just skimmed across the high spots of the plastic windscreen. Switching the headlights on only reflected back into our eyes and made it worse.

I slowed the truck down to a crawl, crunched it into first gear and let it idle along at less than walking pace.

Then, just as suddenly, we were out of the fog into brilliant

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sunshine again. Great, I thought, let's get moving. Then, around another corner into more fog. Then more sunshine. Then fog. This went on all the way down the mountain. So much for getting an early start! We should have taken the long way round - we would probably have saved ourselves a couple of hours!

Finally we cleared the mountains and were soon cruising along the relatively flat highway. It was about lunchtime, so Chris said

"I'm hungry. Let's get some burgers and put them on the fuel bill!"

That sounded like a good deal to me! So we stopped at a greasy thumb roadside diner, bought two hamburgers with the lot, some drinks, and set out on the road again.

By now Chris was driving, and I said "Do you want me to drive while you eat your burger?"

"No. I'll be OK," he said, and chomped into it.

Hot egg yolk squirted everywhere.

"Yuk," he yelled, then "Aagh" as a piece of red hot tomato fell out of the burger and landed on his chin. Frantically he tried to wipe the food off his face and jacket, while at the same time grabbing the steering wheel to go round a corner. His hands, dripping in egg yolk, hot tomato and burger fat, slipped on the wheel and we started heading towards the ditch.

"Shit a brick," I yelled, and grabbed the wheel from my side, trying to look out of my square inch of non-gaffer taped windscreen at the same time.

The wheel jumped and slipped in my burglary hands as I tried to control the juggernaut. The load crashed around in the back as I pulled the truck one way, and Chris pulled it the other! I think we must have travelled about a kilometre or so on the wrong side of

the road before I finally managed to drag the truck over to the proper side of the road and stop.

We sat in the truck panting, staring out of the windows. There were pieces of hamburger and splashes of egg yolk and drink all around the cab. Then, as we calmed down, we both started to laugh!

"Perhaps I'll drive," I said.

"OK," agreed Chris.

As we finally neared home, a large sign said 'Truck Check Station - All Trucks Must Stop'. Squinting through our gaffer tape windscreen, we pulled the old Toyota in and waited for the inspector.

"We're in deep shit now", I said to Chris. "They're either going to fine us or put us off the road or both!" Luckily I had filled in my Log Book up to date, so I held it in my hand and waved it at the inspector as he wandered out to see us. He opened it up, riffled through the pages, grunted, looked at the windscreen, then at us.

We smiled at him. He stared back at us.

"How far are you going?" he asked.

"Melbourne"

"And where have you come from?"

I told him. His eyes popped out of his head.

"What? Over the mountain? Like this?" He scratched his head in amazement, looked at his watch, then with an explosive sigh he handed me back the Log Book.

"It's the end of my shift," he said. "If I stop you for this I'll be another couple of hours at least. Get out of here - I haven't seen you!" And he turned and went back into the office.

"Thanks mate," we yelled, and headed off home. •

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Write in Reader Service Number: 131

ProTalk!

Digital signal degradation

Most people think that because its digital the signal doesn't suffer degradation. This could not be further from the truth and there are two other sad facts to this. When it is degraded, it's really degraded. The other sad fact is that what you have lost cannot ever be recovered, unlike analogue.

They do not put this in the advertising brochures.

Phil Snow philsnow@mira.net

One of the most common causes of digital signal degradation is dirty or worn DAT recorder heads. Worn or dirty DAT heads will cause a high error rate and lots of interpolations, producing a noticeably worse sound.

The way to avoid this is preventative maintenance. Have your DAT regularly serviced by a qualified technician.

(One of the great features of the Panasonic SV-3*00 range is that they have an error readout built

in, so you can visually check)

Another similar cause is badly scratched CDs, again making the error-correction circuits work overtime. Never touch the playing surface. Commonsense really, but I'm always amazed at how many badly scratched CDs I see.

Andrew Host, CD Makers (at Tiger) a-host@geocities.com

The main cause of digital signal degradation is usually massive data errors being cancelled by error correction systems. This mainly applies to CD and tape based formats but some hard disc recorders do it as well. The first indication is poor imaging, followed by loss of high frequency and eventually clicks, glitches and "splating" sounds.

To minimise this, use the best media available for your machine, handle media with care and have your equipment serviced regularly. For mastering, its

necessary to measure these error rates, which is why 1630/Umatics were popular, and also why most DATS and CDR's are inadequate.

I suspect 24 bit recording doesn't exist in Australia yet. If it does, it would have to be truncated to 16 bit for replication.

Anyone contemplating going digital should be cautious concerning tape based systems. They are very expensive to sustain and have a limited future. Hard disk recorders, being computer derived, are getting cheaper and better all the time.

Paul Bryant Mastering.

Turn up the big speakers and all the holes in 16 bit digital shows itself. I find it very disappointing compared to analogue.

I don't listen to C.D.'s like I used to listen to records and I think it is the lack of realism that causes this. With a record you could ever just listen to the styles in the grooves with out complication we can only hope the 76HKZ sampling and higher will restore what's been missing in the horrible 44.1 KHZ C.D. I mainly record analogue and if I don't, its because the client cant afford the tape costs

-Guy Dickerson, Megaphon

I often notice a slight difference in the sound coming back off DAT (compared to the analogue original), in the top and bottom ends. Things sound a bit flat or dull, more one dimensional, so that's why main monitors that exaggerate the top and bottom often don't sound as exciting as the same mix on near fields. We only use digital for the stereo master (DAT), but I have heard a difference when comparing the ADAT xT, (where they increase they increase the bit note), compared to the originals. So I have no doubt the extra bit's make a difference.

-Greg Dixon, Aphek Studio

Once you have made the jump of converting analogue to Digital A/D, stay digital as long as possible. Because it is at the A/D stage that all the problems of Digital accumulate.

You can certainly hear the difference between 16 bit and 24 bit. But unfortunately CD is 16 bit. We operate in both worlds, and certainly hear the difference between 16 bit and 24 bit. But unfortunately CD is 16 bit.

We operate in both worlds, certainly analogue is excellent. But digital is cheap and convenient. I would consider buying a hard disc system only now. Probably Pro Tools 24 or Sonic Solutions.

-Norman James McCourt, The Ranch

We have a number of different digital formats including 16 Bit hard disc, 16 Bit ADAT, 16 Bit C.D recordable, along with DAT recorders and the old P.C.M Sony System. We have never had any problems with signal degradation as such but it can occur if interconnecting leads are not the correct impedance or if your interconnect points such as plugs and patchbay are faulty.

16 Bit seems to be totally adequate for most projects but I guess manufacturers want to sell new and better products to us all and so 20 and 24 with higher sample rates will eventually take over. Weather this technical improvement is warranted is debatable, I'm sure the general public will never detect any noticeable improvement.

For us the new 20 Bi to ADAT machines look like a good proposition! Hope I can check them out at ENTECH!!

-Barrie Clissold, Wombat RD Recording Studio

We currently use 16 track ADAT with "SEBATRON" value pre-amps. Analogue is great but to keep costs down and offer reasonable prices to customers we have opted for 16 ADAT.

To compensate we have introduced the "SEBATRON" value pre-amp which gives us the flexibility do incorporate the value edge.

-Mendo Kundevski, Jam Hut

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CONTROL 25

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EnTech

ENTECH APRIL 22 - 24, 1998. A SPECIAL REPORT

OUR MOST SINCERE THANKS!

To everyone who made ENTECH 1998 the most outstanding success. What a way to end the 1990's!

To our **135 exhibitors** ~ thanks for your unprecedented commitment.

To the **4,894 trade visitors**. Thanks for your time, and thanks for your business.

To the **1,216 Exhibitor Staff**, the floor crew, the Sydney Exhibition & Convention Centre, the contractors and everyone else associated with ENTECH ~ thank you for helping.

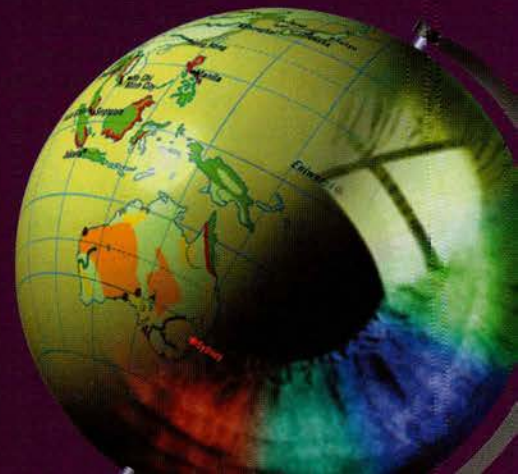
To the **trade associations**, PLASA, ShowSafe, ICIA, and others ~ thanks for mobilising support and thanks for being there. Thanks **to the press** who had the foresight to preview the show.

To **you**: if you came, or if you considered attending. If you voted for the Awards. If you told a colleague about ENTECH. If you are reading this.

- **For without your support, a trade show cannot be an EVENT!**

(There is NO ENTECH in 1999)

SEE YOU IN SYDNEY
FOR ENTECH 2K!



Connections

ENTECH APRIL 22 - 24, 1998. SPECIAL REPORT



In case you've been away...

The story so far:

ENTECH 1998 was the fourth and largest show yet. ENTECH was held on April 22nd through 24th, in two halls at the Sydney Exhibition Centre. ENTECH is short for Entertainment Technology.

On show were 135 exhibitors in the pro audio, lighting, vision and staging genre's. They were committed, some of the displays occupied over 150m² - it was a visual tour-de-force.

Attending were 4,894 trade visitors along with 1,216 exhibitor staff.

The show ends the 1990's in style, not returning until 2000. It's owned and run by the publishers of Connections.

EnTech '98: A Pommie Journalist's Impressions

by Mark Cunningham

It didn't take too long to succumb to Julius Grafton's tempting invitation: "Come to EnTech where the technology's cool and the beer is even cooler." And, unfortunately, so was the weather. Rain by the bucket load. Not exactly what I expected to experience on my first ever visit to Australia. However, the inclement conditions failed to dampen the spirits of exhibitors and visitors alike in attendance at what was probably the friendliest trade show I've attended to date.

That friendliness was apparent not only in the industry professionals I met, but it just felt like it was hanging in the atmosphere within the Sydney Exhibition Centre. Compared to the extremes of FLASA and the Frankfurt Musik Messe, EnTech is tiny. But hey, who needs quantity when there's quality in abundance — the spacious nature of the show makes it easier to view and learn about new

products without that claustrophobic feeling that always brings out the worst in me.

It's a comfortable show, with very relaxing lounge chairs and snack areas that allow for good meetings and impromptu interviews for us journo's. It's not unbearably loud like some other shows, thanks to the Noise Police who were quick to avert any such nonsense by rebel exhibitors (One firm did their credibility no end of damage when they wound up the volume for five seconds' worth of... 'My Sharona'!)

Judging by the numerous chats with native exhibitors, the show was a big success. Duncan Fry of ARX Systems was a happy man at least. "I think EnTech's pretty close to being the definitive trade show for this market place although it's a relatively Sydney-biased view of the industry. That's not necessarily a negative, seeing as it's our biggest city. Just about every major

player is here except one. This is a very hard market to sell into because every brand is represented in Australia and so everybody's scrambling for their share of the action."

My own impression was that exhibitors get a lot for their money. Fry agreed: "EnTech is fairly priced. It's not a huge bargain but it beats the hell out of the AES show and the Frankfurt Musik Messe which has to be the most overpriced exhibition in the world. EnTech's support services don't appear to be jacking up the costs to an unbearable level. We go shows all around the world but local ones are good because we always see people we've never met before, some of whom are starting new businesses, have visited our web site and were curious to see us in the flesh. So all things considered, we view our presence at EnTech as being a very profitable investment..."

(continued next page)

INSIDE THIS 32 PAGE FEATURE

This is our roundup: 135 exhibitors, by six journalists ~ in three days. Can it be done?

This special report is simply a **snapshot** of the show ~ there was more at each exhibit than we can talk about herein. ENTECH forms the starting base for the year, and Connections Magazine heavily relies on what we see at the show, it influences our coverage in the year ahead!

EnTech

A Pommy Journalist's Impressions



It was also interesting to get the pommie view on the value of EnTech. Glyn O'Donaghue of A.C. Lighting commented that while he hadn't met anyone new on his stand he was able to devote more time to talk to other exhibitors, many of whom are his customers. He did a fair bit of business too.

"We've come away with quite a few orders which isn't always the case when we go to trade shows. A lot of people are buying into WYSIWYG and we've also done a few good deals on our Starline Mark 5 and Chroma-Q, so I'm looking forward to those products being used on Australian shows very soon. We've been three times now and I'm sure we'll be back in 2000."

Martin Kelly of Martin Audio, represented here by TAC, was very impressed. "I've been busy, and made contact with some important people connected with the cinema market, and that's encouraging because of our new line of cinema systems. Interest in our products for rock'n'roll touring and installation has also been very good. My only gripe is that we've got to wait another two years for the next EnTech because it's such an enjoyable show, in a great location, and I truly believe that the market would support it in 1999."

Finally, a word about the EnTech Awards Dinner at the Metro on the Thursday night. Unlike similar UK-based awards events which have become increasingly elitist in their approach, this was trimmed with irresistible, tongue-in-cheek humour, and not for one minute did it take itself too seriously.

The food was excellent (when it eventually arrived), and I was completely bowled over by the standard and diversity of the live entertainment — two bands, a flamenco troupe and, to round it all off, that hysterical 'keynote address' by Dr Karl Kruszelnicki.

I'm still wondering as to **what the hell** his speech was all about, but at least I had something to keep my mind occupied on the long flight home. Roll on 2000!

• Mark Cunningham is the co-owner and Publishing Editor of the international live industry magazine *Total Production*.





1998 ENTECH ENDS DECADE IN STYLE

SYDNEY: It was acclaimed as the friendliest and most attractive trade show of its kind yet staged in Australia, but it was the exhibitor commitment which gave ENTECH '98 the edge. Held April 22nd through 24th at the Sydney Exhibition Centre, ENTECH truly 'came of age' this year.

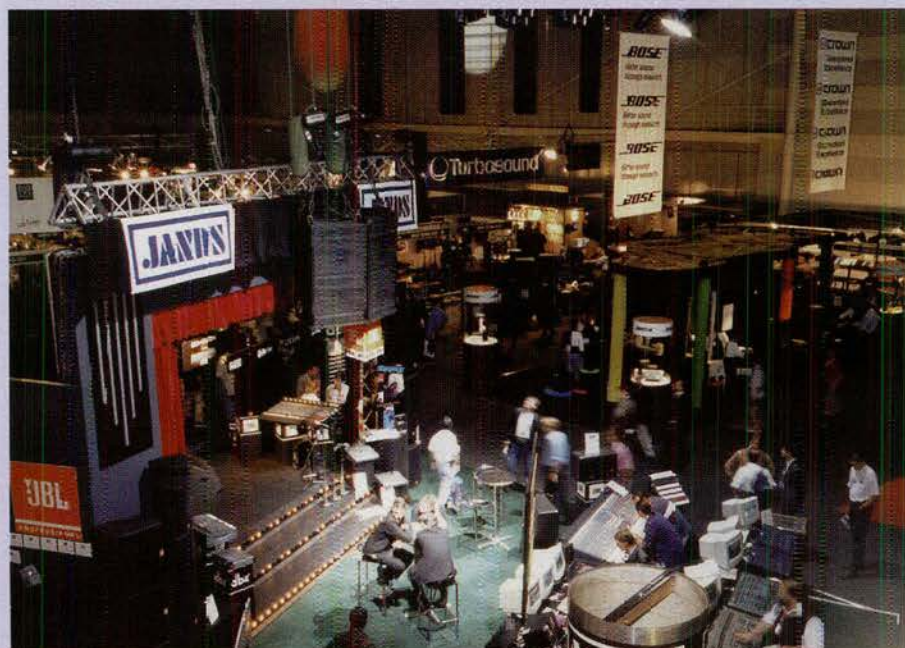
Trade visitors (cited) totalled 4,894. Exhibitor staff added an additional 1,216 people into the mix. For the first time there was no 'public day', and this was the first ENTECH to be held wholly within a normal trading week. Previous events ended on a holiday or weekend.

Commenting on the attendance, Director Caroline Grafton said that she was extremely happy with the outcome. "I spent the three days on the trade show

floor, except for the afternoon of the Awards when I was at rehearsals. Exhibitors were very happy with the quality and diversity of the trade visitors. This is the number one priority for an organiser - getting enough business through the exhibition".

Typical of visitor reaction are these comments from Vaughan Emery of Corporate Theatre Productions: "I spent three very full days at ENTECH and used the time to actively compare and then purchase new equipment for our operations in Perth. I found the detail and range within the displays exceptional".

Ken Janson, from Dragon Music in Suva was a fourth time visitor at ENTECH, leading a growing contingent of Asia Pacific visitors.



◆ Soapbox time

Press play Knock the Tall Poppy

It's easy to see the great Australian attitude called The Tall Poppy Syndrome at work in regards to ENTECH. While international publications responded to the scope of the event and did pre press, some Australian magazines did the ostrich.

Pro Sound News Asia (below) lead their April issue with an ENTECH cover, and



devoted several pages inside to the event.

International publications which have supported ENTECH include WDR and Technologica magazines, Total Production, Audio Media and Light & Sound International (all out of London), Lighting Dimensions (USA), SoundWorks (Singapore), ScundArt (Korea) and others.

Locally, BEN head the list of ENTECH ignorers, managing to run a half page advert for ENTECH (cost \$1,700- cugh!) alongside their trade show calendar in the March issue - without mentioning ENTECH in the calendar itself! Likewise, any magazine run by Philip Spencer in a given year (*there have been three!*) also manages to ignore ENTECH, the exception was ENTECH 1997 where we virtually dragged them screaming and kicking into a free booth. They still managed not to cover ENTECH afterwards.

Lighting Australia (March) also managed to ignore ENTECH, despite the full page advert. The editor seemed surprised ENTECH was on when we contacted him.

Still, there are plenty of broader thinkers out there. Encore, Stage Whispers, Drum Media and 3D world were all on side.

To be honest, those magazines which ignore ENTECH are perhaps not widely read - but they still have customers (advertisers) who are ENTECH exhibitors. You could see them ignoring ENTECH as a slight towards their own customers, who have every right to expect support.

- **Julius Grafton**

Fender Australia

Rather than another stand of black boxes, Fender Australia are promoting units that are totally unique to Fender. For close to \$2000 one can have the fender Passport PA.

Styled as a space age suitcase that a small person can carry, this unit splits into stereo speakers producing a generous 250 watts, and a console containing mixer and amp. All this and done in around five minutes. Pretty Impressive!

Other exhibits which have to be seen if only for their innovation, are the self contained powered mixing desk, which folds down quickly into itself, a remote controlled self powered wedge, and the Amp Can. The Amp Can is likely to become popular with buskers. Fender Australia are looking to the future of the music industry.

-SK

AWA DISTRIBUTION

AWA are well known and support some very prominent products in the market place. The staff manning this eye catching stand were constantly dealing with (potential) customers, lured in by some show stoppers.

Eye catcher no.1 would have to be HHB's CDR800 professional CD recorder. No doubt it is endorsed by prominent people such as Mike Hedges and John Jones, and the Canadian Broadcasting organisation, but the creamy bit is the RRP of \$3500 for a fully pro machine.

Numbers 2 is the new releases of the AKG SOLIDTUBE. The SOLIDTUBE Vacuum Tube Microphone delivers genuine tube mic sound at up to 145 dB SPL and comes in a case complete with accessories for \$1849.

Number three was the Denon DN-2000 MK3- it is a dual CD player with all the features one could desire. Its RRP is \$2195.

Minidisc and Portadat machines, and the various recording medium products, top end radio mic systems, and the new in ear monitoring systems, and the Genex magneto Optical recording system all added up to a totally "magnetic" display. -SK

Magna Systems and Engineering

A short interview with Peter Hotson from MAGNA revealed a thriving audio business. Two major lines of products were on display. The Inter M (previously Inkel) has a wide range of sound gear both in installation and professional contracting, including audio mixing desks, processing equipment, and amplifiers. The other line is D.A.S. speakers. For more than 30 years, D.A.S. have manufactured speakers in Valencia, Spain.

Whilst in the northern hemi-

sphere, D.A.S. are recognised competitors of J.B.L. and E.V., here the attraction is outstanding value for money, over a huge range of speaker models.

A local band or operator can buy a modern, quality, pair of subs and mid high boxes, for about \$4000.00, and this will do an average pub gig.

Value for money applies to the whole of Magna Systems marketing and service and the Aussie industry can be glad of their presence.

-SK

TECHNOLOGY AT ENTECH

LIGHTING: Year of the moving yoke

ENTECH 98 could well be remembered as the Year of the Moving Yoke in lighting circles.

The moving yoke is, of course, the all singing, all dancing moving light. Perish the thought, Connections once referred to a moving light as 'intelligent' - but call them what you will, since 1981 when Vari*Lite first appeared, the stage lighting industry has been turned on its head.

Until very recently, the moving light has either been like a Vari*Lite (or Icon) - or like a Golcen Scan (or Cyberlight, or...or...) Now they all are starting to look like a Vari*Lite, which means the whole head of the light moves up, down, and around.

Coverage of almost 360° is infinitely preferable, and so we have The Moving Yoke, for want of a better name.

It started with High Ends' Studio Color using a Philips MSR 575/2 lamp back in 1996, closely followed by Martins' MAC 600 which uses the same lamp. Now many more manufacturers have finally reached the finish line.

Not to be out done, Clay Paky showed for the first time in Australia at ENTECH 98 their Stage Color range of moving yoke luminaires. The six different fixtures use a range of lamps from HTI 300 discharge to a powerful HMI 1200.

Also in the race at ENTECH and receiving a lot of interest was the Coemar CF 1200 Spot, not a catchy name but a good little mover utilising a Philips Blue Pinch MSR 1200 SA lamp.

Not left behind was SGMs' Giotto wash projector which uses a MSR 1200 lamp.

Finally back to High End who displayed for the first time at ENTECH their new Studio Spot, a hard edged beam fixture which uses a MSD 575 lamp.

In the wings: the Martin Mac 250 - bringing fixture size and cost down.



Oracle Laser Systems

The Oracle stand featured some new laser technology with the launch of the Oracle Superscanner 360. Paul Mazlin explained, "It's a new system we've developed which takes laser from being a big box with a big power supply to a smaller unit that can be flown off truss or mounted." With a fully movable head, the Superscanner 360 has pan and tilt capabilities for full coverage of an area - versus standard lasers which have limited directionality.

"It has created a whole new degree of freedom in laser lights. And it's something that no-one else has ever seen before, so we've had pretty good responses to it."

Also featured was the larger scale full colour laser system, as well as their Aurora systems.

Exhibiting in conjunction with Oracle was Peter Sykes from Skyloc who incorporated his mosaic-mirror stars and shapes with the laser effects to create an incredible visual result. The Grand-daddy of the shapes being the Icosahedron - a huge mirrored globe formed by triangles with a three dimensional mirrored star suspended inside it. Add a laser to that and the result is amazing as the laser light bounces off the hundreds of mirror surfaces. -MJ

AON Risk Services

Ian Stack and Rebecca Jones from AON Risk Services used Entech as an opportunity to catch up with existing clients, and to remind people that insurance is an important part of the entertainment industry.

"Most of the exhibitors here are already clients of ours but we have had a steady flow of questions and genuine enquiries from new people," said Ian.

AON provide a wide range of insurance services for the entertainment industry from public liability, to event coverage, and that all important insurance for musical instruments and technical equipment.

"It is important that we are here anyway just to show that we are still a part of the industry," said Rebecca.

-MJ

Our ENTECH 1998 coverage by your Connections team: Jacqueline Molloy (JM); Andy Ciddor (AC); Howard Jones (HJ); Mandy Jones (MJ); Julius Grafton (JG); Cat Forcer (CF).

Show Technology Australia

An attraction on this stand had to be the water columns which were very soothing and therapeutic to watch as they shifted through their four colours. Apparently they were a very popular item and did attract a lot of legitimate interest.

This stand featured products from ADJ, Geni and Studio Due. A hot attraction was the Nimbus 2 scanner from Geni; designed for smaller venues it features 8 gobos, 9 colours (plus O/W) on separate wheels that gives 81 colour gobo combinations. The staff on the stand felt that they'd had three very successful days.

John Petts from JEM was showing three new smoke machines and a new hazer. The Techno-Fog, ZR12-AL and ZR22-DMX smoke machines

have been developed since JEM became part of Martin and take advantage of Martin's electronic expertise to incorporate micro-controllers into the smoke generation system, enabling tight temperature control and continuous smoke production.

All units can be remote operated via their detachable analogue control panel but the ZR22 is also capable of DMX512 control. The Techno-Haze is JEM's most advanced hazer which heats up in 4 minutes but will run continuously for up to eight hours at full output.

A lot of work has been put into the design of a fluid flow system which will operate for hours at reduced volumes without causing condensation or pump overheating whilst still producing a dry haze. -CF



"Mick - you f***ed up any of my tours lately?" was the greeting to Mick Zivitera, owner of Australian Concert Productions from veteran tour promoter Michael Chugg (left). The ENTECH floor provided the ultimate networking, just stay in one place long enough and half the world walks past! Chugg is Head of Frontier Tours, arguably the most successful and prolific promoter of music in Australia in the past 20 years.

▶ TECHNOLOGY AT ENTECH

PRO AUDIO: Digital Mixers proliferate

The Mackie Digital 8•Bus was there, albeit not quite in production mode yet. The new Spirit 328 impressed everyone (*below*), it passed audio, it ships this month.

Yamaha absolutely have a great share of this market, the venerable ProMix 01 has been discontinued, the new 01V (prototype number 9) was on hand, joining its 20 bit stablemates, 03V and 02R11 - which won Mixing Console Of The Year at the ENTECH awards.

The Ramsa DA-7 was a hit too, arriving in the nick of time and shipping this winter. Then there was the Soundtracs Virtua, at the Serious Post end of the biz. It was the show for digital mixing for the masses, and a Seminar on Friday detailed the state of play. One thing for sure, flying faders are everything - if they don't move, it isn't a digital mixer and it wasn't at ENTECH!



135 EXHIBITORS

Our team of six writers honestly couldn't get to every stand in three days. There is a strong argument (a debate) that ENTECH should run over four days in 2000. The Connections Journalist Alumni agree!

• Australasian Music Industry Directory were on hand, with 20 biannual editions since 1988

• Cadillac Cases released their new budget priced range of Coaster Cases.

• Musicians' Union of Australia were there for those who toil.

• WDR
WDR is published on a bimonthly basis and printed in two multilingual editions; Europe & Americas features English, French, German, Italian and Spanish editorial, the Asia & Pacific version features English, Chinese, Japanese and, as of 1998, Russian.

• Pro Sound News Asia is the new Miller Freeman title which currently is published each couple of months. They gave out large numbers of magazines at ENTECH. As did Connections, who had a big stand full of books!

• Stage Whispers is the performing arts monthly from Melbourne. Three eager staff were almost everywhere, almost at once. We honestly hope they sold heaps of subscriptions!

• The Australian Screen Sound Guild once again ran a stand to get their message across! Great!

• In the runup to the show, some exhibitors reshuffled or had to pull out. Abbey Sound were one, Infonics also seemed to metamorphose into SOS Communications who they work closely with anyway. Gilbert Lodge, the parent company of ElectroSonic cancelled due to a change in direction.

H&C Audio

Welcome to an audio display that could sneak into the next paint and wallpaper expo and look quite in place. Yessirree, this show is about being able to wallpaper right over your wall or ceiling speakers.

H&C Audio import the Sound Advance System of flat speakers for distributed sound systems. The driver and basket assemblies are mounted to patented polystyrene planar pistons which sit flush with a wall or ceiling. The speakers can be single or two way, and disperse their full frequency range evenly over a full hemisphere. The newer 70 volt line system is used and systems can develop respectable amounts of power.

To complement this, the SOUNDTUBE Omni-360 degree Speaker System suits clothes shops and decorative stores. These are claimed to have similar efficiencies to real acoustic instruments. H&C supply the IMP amps to drive these 70.7 volt systems, and the Wavecom 2.4 Gig transmitters to do the remote control of the systems. Add some dedicated DSP and applications for the Sound Advance Systems are totally versatile.

-SK

Penn Fabrication: thousands of useful parts

They may not have had 'bells and whistles', but the largest supplier of roadcase and speakerbox hardware in the country sure had a wide range of products on show.

Penn Fabrication featured their new modular stage boxes for building rack panels with custom punch outs.

Also on show was a new range of spring-loaded butterfly catches for road cases so that when you hit them they spring back, rather than gouging flesh out of your legs - the perfect gift for every roadie.

Other products included stage truss systems, par cans and trapezoidal speaker corners.

-MJ



TCP: contracting prowess on show

Some very tasteful curtaining and furniture, and several respectfully attired gentlemen, greeted the EnTech'er at S 30.

As Greg Plimmer explained, these were the staff of TCP, and they were presenting themselves. Their work, of course, is seen by many people every day, and is covered in the smart promo kit on offer.

The company, incorporating Total Concept Projects and Total Concept Productions, was established in '84 and has the motto "Good performance is not a matter of chance".

Its head office is in Sydney,

with offices in Queensland, Victoria and Malaysia. Continuing growth of TCP has resulted in two highly specialised departments; Contracting, and Production, and each is complementary.

The projects (Contracting) division's clients include Architects, Construction companies, Developers, Clubs, Theme parks, and Government. Production incorporates Audio visual, Conferencing, Staging, Intelligent lighting, and Laser systems, and the client groups include Event managers, Corporate organisations, Manufacturers, Government, and Nightclubs.

Projects include AV work at Crown Casino, Sydney Harbour Casino, and Bankstown Sports Club. Production events include laser and special effects for J.C. Superstar, and special effects, laser, and fog, for the "Illuminaza" spectacular at MovieWorld.

TCP strive to do the best, and provide the best, for their clients, and continue to follow up after the job, to ensure client satisfaction.

-SK

Image Design Technology

The IDT exhibit featured a range of videowall products from leading manufacturers. A 20 screen Pioneer cube wall run off an Imtech Ultra Processor provided a high quality show exhibit. Managing Director Gerry Wilkins was pleased to be able to have the new Pioneer Plasma Panel cube on display. The new thinner model has a huge 40 inch screen and is sure to be popular when it becomes available in Australia in June.

Also on display was the new LCD video cube from Clarity Systems which features a shallower screen depth and comes in 40 or 52 inch screen size.

"These cubes are being used as point of purchase displays because of their size and high resolution. Using the Digital Signage Network from Fred Systems they are great for information displays such as menus in fast food restaurants or tanks," explained Gerry.

The IDT exhibit also featured the Hantarex Monitors using time based correctors from Fera; and the Ulink rear projection cube from Toshiba.

-MJ

The Electric Canvas

Dark storm clouds over the exhibition centre may have become a feature of Entech 98, (it rained and rained, and rained...) but *inside* the exhibition halls? Fortunately, these storm clouds were being projected by the PIGI large format projector on The Electric Canvas exhibit.

Certainly one of the most interesting pieces of technology at Entech 98, the 7000 watt PIGI can project scrolling images up to 30 metres in size.

However the innovation that sets the PIGI apart from other projectors is the second film drive system in the same gate. The second drive allows images and effects to be created by using two different films at the same time, and through the advanced operation features of the

Full text of
the ENTECH
exhibitors
guide online
all year at:
www.conpub.com.au

control software, each film's speed and direction can be independently controlled so that they can scroll across each other or converge from different directions to form images.

The gutsy projector is well suited to any type of function, be it indoor or out, and the control software can run up to 20 PIGI's as well as interfacing with non-scrolling projectors such as Pani's.

The Electric Canvas produce the films in Sydney and can turn any image into a scrolling film.

"It's a way of breathing new life into the film technology of old."

The Electric Canvas are the only company in 'Oceania' with the PIGI's and since November they have already been featured in ten high-profile events including the opening of Star City Casino, Carols by Candlelight, and the Australian Monitoring Awards. **-MJ**

Showtech Rigging

First time Entech exhibitors Showtech Rigging had a lot to be happy about - not only did they do some good business over the three days of Entech, but also company Director 'Tiny' Good won an award for 'services to entertainment technology'!

Production Co-ordinator Robyn Hart explained the many services of Showtech Rigging including rigging and staging, scaffolding, and skilled personnel.

"Rigging is an essential part of any event, whether it's an outdoor cocktail party or the Olympics, and safety is always our utmost priority."

And it was an enjoyable Awards night for the Showtech team with Tiny Good picking up the Entech award for Services to Entertainment Technology.

"It's been a long time coming. It really is nice for Tiny to be recognised as the leader that he is in the industry." **-MJ**

Glantre Engineering

It wouldn't be Entech unless someone was sitting on top of the Spiralift at full extension.

As Mathew Tonks from Glantre admitted, "It is a bit of

an attention grabber!"

The Spiralift on display this year was Australia's first mobile Spiralift - a new addition to the range which is available for hire. The mobile Spiralift can lift 4 tonnes up to four metres and is perfect for concerts and car launches.

Glantre recently completed their first Spiralift installation in Australia - four Spiralift devices installed in the Showroom of Sydney's Star City Casino.

And while Spiralift buyers are a relatively small market, the team from Glantre said they were having a great time at Entech, and had lots of enquiries. It was their fourth time exhibiting at ENTECH. **-MJ**

Acoustic Technologies

Australian does not mean inferior. In fact, Acoustic Technologies has strived to beat the best of the rest. Based in Brisbane, some years ago, they bought the tools, and put in the hard hours of research. Result — 1997 Entech award for best new audio product, the FR01.

The new speaker products on show at Entech 98 utilise the Blue Tongue Technology, which is the outcome of proprietary software for horn design, developed by research engineer Richard Faint.

The amplifier range includes the proven M-500 and M-1000 and a preview of the new M-800 Quad and M-2000. The M-2000 puts out more than 1000 WRMS a side into 4 ohms. Many installers are now using AT. Richard says "we can and do beat the best of the rest". **-SK**

International Communications Industries Association (ICIA) debut down under

Representatives from ICIA were at Entech in a number of capacities. Firstly as exhibitors, providing information and raising awareness of ICIA's activities in Australia, and demonstrating their new educational CD ROM *Academy On-line*. Brett Bower from ICIA was also informing delegates about the upcoming Infocomm Asia trade show.

ICIA also hosted and chaired



Bytecrafft diversity on show

Bytecrafft had a number of new products on display this year including the new 6k projector from Pani which arrived the day before the show. Ideally suited for outside use it is an amazing projector with a lot of punch.

Shirley Jenson was pleased to be able to show me a range of shaft hoists from German company Schnackenberg - Technology for Public Events.

The shaft hoists are designed to go into venues without flying systems and can be used for lighting bars or hanging banners and scenery. The hoists can also be used for curtains and room dividers which make them a perfect accessory for multi-use venues such as conference centres or sports halls which require flexible space alternatives.

And through using specialised materials, the hoists can be used to create acoustic curtains so that spaces can be divided acoustically as well as visually. **-MJ**

"Fortunately they came in on a P&O ship and not Patrick's ship, otherwise they might still be sitting on the docks!"

A national docks strike affected a number of Entech exhibitors this year.

Other products of interest included the Wybron Watchdog designed to monitor the "health and well-being" of Wybron colour scrollers. Providing real-time feedback, the Watchdog is a fantastic innovation for multi-scroller rigs.

Three of the new Argonaut automation controllers from Bytecrafft were on the stand having previously only been shown at Plaza 97. These spunky stage machinery and motion control systems are extremely compact and very portable.

Bytecrafft also had a good night at the Entech Awards picking up the Archtainment Lighting Project Award for the execution of the Crown Casino Atrium. **-MJ**

Tomcat

Tomcat products on show included the Tomcat ground support and Truss systems.

John James from Tomcat USA was on hand to add grace and also to talk about their new range of ultra lightweight truss, in addition to the firm's standard range of product.

Tomcat's unique stacking truss has been seen at several previous Entech's, they also offer several different outdoor roof designs and ground support systems. **-JG**



Audio Sound Centre

Audio Sound Centre can be considered a supermarket, with a difference, for location sound recordists. (Nature, film, and video)

The difference is service. The customers can purchase products they choose. ASC will sort out problems and interface products, such as matching a Japanese mic (Sanken) to an English pistol grip and shock mount (Rycote), and then to an American power supply (Denecke) and an American recorder (Zaxcom Deva).

ASC's product range is as complete as can be for the location recordist, and as inter-

esting as it is diversified.

Because it is a highly specialised area and requires great portability, prices would stiffen the spine of the average punter, but the equipment is at the forefront of technical development.

The sound on location has to be captured, mixed, recorded and monitored, hence ACS will supply diverse brand of mics (shotgun, neck, boom, hand, radio), suspensions and wind-screens, booms cables, mixers, recorders, earphones, porta-bag type carryalls and trolley equipment, batteries, and road cases. Quite a list, but worth looking at. -SK

Altronic Distributors

Altronic Distributors are a progressive company based in Perth, (ph. 08 9328 2199), and have distribution offices in Sydney, (02 9648 5266), and Melbourne. (03 9574 0065) Their range of products is large, and entertainment industry personnel would do well to keep a current Altronics' catalogue.

This exhibition promoted the 100V line amp., and ceiling speaker range, for those in contracting. The cost effective and well received Mipro range of radio mics., suitable for bands and theatre, the portable Wireless Megaphone System, and the "Black Max" Portable Public Address System, were attracting interest. Altronic Distributors in

Perth, is closer to it's suppliers, and can quiet often get a product to a client on the east coast, before local suppliers can. -SK

Discoworld

The crew at Discoworld seemed to be doing good business at Entech with their stand being well placed near 'the DJ Zone'. Some of their featured products were the Dynamite range including par cans, pin spots, scanners, little lasers, strobes, audience blinders, smoke machines, and smoke fluids.

Also Lytequest and Mobolaser lighting effects, Ryger's new tiny scans, and switch controllers from the UK.

The staff managed quite a few sales and fielded many enquiries from people looking to set themselves up as dealers. -MJ



Selecon misses Pacific launch

It was a case of 'All dressed up with nowhere to go' for the Selecon team who had planned to launch their radical new generation of profiles, the Pacific, at Entech.

Due to a tooling delay, the revolutionary new cool light luminaires were not ready in time for their much awaited launch.

But the team recovered quickly and turned their hands-on product launch seminars into information sessions about the development of the new luminaire, thanks to a snazzy multimedia presentation.

There was also a hands on e-

lement to the sessions, as bits of a Pacific prototype were passed around each group.

Selecon's Director of Product Development, Andrew Nicholls explained, "The Pacific's were meant to be here, but unfortunately we had a few glitches with tooling which is always the way when you're manufacturing. But it is an exciting product and it's nearly with us!"

The Selecon Pacific is due to hit the market within the month.

Demo kits of ten Pacifics in a roadcase will be shared among distributors for customers to trial. -MJ

AR Audio changes to TAG

AR Audio Engineering used ENTECH to launch a new name, The Audio Group.

Would-be passers by could not resist stopping to have a cappuccino, a sit down, or a play with the beautifully smooth faders on the Allen & Heath desks at the AR Audio/TAG display.

Included on show were the Mix Wizard WZ14:4:2, and the full-on GL4000.

These desks boast fourway EQ with sweepable mids and discrete PCBs. Allen and Heath have also introduced a digital 12 in 8 out rack mounting desk aimed directly at the installation market.

Pride of place in amp land went to the new 9000 watt QSC PowerLight, next to a helix type stack of PowerLights. Many firsts are claimed for this amp,

and importantly, it's very efficient switch mode power supply will deliver full power from a source that is sagging because of overload from too many other demands.

Martin speaker cabinets made an impressive backdrop to the stand, providing a comprehensive range in the best of British live sound to drool over/choose from.

ATC powered main monitor SCM PRO series were on show. ATC utilise compressed ion dust speaker magnets to really nail down distortion. The SCV DigEQ, which is a Digital Equaliser/Dynamics Processor, was seen here for the first time. It was designed in response to a comprehensive survey of what engineers want in the live environment. -SK

Exhibitor contact list on page 30.

ARX turn 15

ARX is an Aussie success story. This is their 15th birthday and already 42 countries are exported into. ARX carry a couple of other lines, such as the brilliant Teatrart safety staging, which is light, solid, and assembles quickly, and an Italian range of speaker components, B&C Speakers, which they use.

The bulk of ARX's business is in the manufacture of their "home grown" — and proudly so — processing equipment, amplifiers, and speaker cabinets. The domestic market is small, and thrust in the installation direction, but products such as the ARX EQ60 equaliser, and AFW-1 equaliser and digital feedback exterminator, find acceptance by engineers all over the world.

Exciting new products include the 122SK dual horn moulded module, producing 400 watts of mid-high in 65-45 degree pattern, for installs, the 922 bin with a 1" horn, mid horn, and band pass low chamber, for PA operators or installs, and the Microdrive, Ambidrive, and Powerdrive series of amps. The Powerdrive (containing ARX processing) can power a 3 way system to near 2000 watts.

Equipment like this speaks for itself! Happy birthday ARX!

-SK

James Thomas Engineering

Thomas are possibly the most famous name for Par Cans - going back in history. These days there is more to light than 'cans'.

On display were the Superlite Truss System and the 500kg rated towers, and the only Folding box truss which folds completely flat. Also a full range of high quality Par Cans and the fully weatherproof outdoor par can, made from cast aluminium and rated RP65, perfect for permanent installations.

Clearlight Shows are now the Australian James Thomas Engineering distributors. -MJ

Rosco: colour kings

The Rosco stand featured all the usual goodies that Rosco are famous for - Supergel and Cinegel, Permacolor dichroic filters, and glass gobos for creating effects.

Herkes Pro Lighting

The Herkes stand read like a who's who of quality lighting product brands: the full range of Selecon luminaires for theatre and display, Jands control systems, Manfrotto stands and rigging, and many others. Also on display was a wide range of consumable products such as tapes, lamps and gels; also powerconnectors and cables, safety products like cable ramps, and brackets and hooks for all sorts of applications.

Wayne Kellett from Herkes described the exhibit, "We have tried to show the breadth of our service and products, but it's only really an inkling into what we're about because we're a warehouse style company". MJ

Rosco's Ian Baseby explained about the Horizon CD ROM. "It's free software that can be loaded onto a PC which gives you the facility to work on it as a lighting console. Then by buying additional bits and pieces you are able to take it up to an operational level."

Brand new to the Rosco stand was the Clear Colour range of effects paints.

"They're invisible UV paints that go on invisible but when they're hit by black light they come up as fluorescent paint."

Rosco Clear Colour comes in five colours as well as black. MJ

Miller Professional Products

The Miller exhibit could have been a shopping list for a Gaffer with an eye for quality. Some of the products on display included Avenger Manfrotto stands and grip accessories, the Lowel lighting range including the Rifa-lite and Fren-L, Balcar fluorescent lighting, Westcott scrims and collapsible flexi fills, daylight umbrellas, Kata lighting and equipment accessory bags, the K5600 daylight HMI light, Chemiras, Gamcolor gels swatches featuring 9 new colours, and the new Aurora round flexi fills.

Melissa Dennis said that Entech had been very successful for Miller.

"We've had some very good leads - we covered pretty much all the business we had expected in the first day!" MJ

AC Lighting return

Glyn O Donoghue from AC Lighting explained the main thrust of their exhibit was the new version of WYSIWYG premiered at LDI in November and which won the Entertainment Lighting Product of the Year award.

"It's been received very very well here, in fact we've had a lot of interest via the internet because Australians seem to be very internet wise. And because we have it up there on the internet we've had a lot more interest. A lot of people have been fans who have wanted to specifically come and see this particular product."

On display was Version 3 which is the Windows 95 version featuring rendered pictures with 2D and 3D drawings.

"You've basically got full control over your lights just on a computer screen which basically means you can pre-program your lighting system before any lights are hung. You can do it virtually."

Also featured on the exhibit was an advanced prototype of a 16 colour Source Four colour changer to suit the Source Four or Shakespeare.

"It's extremely light and injection moulded, and extremely cheap, only about \$500 Australian. Nobody makes a similar unit, but if they did it would be about three times the price." MJ

MGC Lamps

English company MGC Lamps have more than 25 years experience supplying specialist entertainment lighting lamps all around the world. A variety of lamps from all the major manufacturers were on display.

Random Comments about Entech 98 from visitors & exhibitors....

- Good that there wasn't a public day!
- Bad that there wasn't a public day!
- Some seminar presenters used sexist language- eg: AV guys, lighting guys, audio guys, etc.
- One Seminar (loudspeaker technology) fell flat because some international presenters couldn't make it, and others treated it like a product commercial.
- Lack of safety chains on display luminaires (Showsafe, Bytecrafft and ClayPaky used safety chains)
- According to Showsafe, some of the exhibits were erected using dangerous techniques.....
- The Awards Night - brilliant. Fantastic mix of entertainment, especially Dr Karl (legend), Flamenco troupe, and funky band
- A stress free load in, very well organised!
- Better looking show, floor more open! Pro Audio and dedicated lighting zones worked well.
- The registration process could be too slow, queues formed at times.
- Yet more signage may be needed, especially for daily events, maybe a videowall/AV display
- Perhaps a couple of networked computers could have been at the Connections shop demonstrating the Connections web page.
- Seminars were brilliant, especially Microphones and ShowSafe topics.



1998 ENTECH AWARDS

SYDNEY: The ENTECH 1998 Awards for Technical Brilliance were delivered at a packed industry dinner at the Sydney Metro on April 24th. The evening featured fine music from The Swingin' Sixties, Craig Calhoun's Brothers From Oz (featuring Mark Williams) and Angelo Garcia's flamenco troupe. The music represented the very best of Australian diversity.

Nightlife Music Video provided a video musical history, Dr. Karl Kruszelnicki (JKJ) amazed the audience with his 'G Lock' video (not to mention the falling cat), and Diva winner, Ashley Swift added glamour and

very big hair to the proceedings, hosted by Caroline Grafton. Afterwards, the Metro Bar was very packed until very late.

Meri Took provided exemplary services as Executive Producer of the awards, with leading lighting designer Gavin Swift providing razzle.

The dazzle came from Le Maitre Pyrotechnics, supplied by ULA. Audio was supplied and mixed by Tony Moffatt and the lighting rig was donated by Chameleon Touring. In keeping with the co-operative status of this premiere industry event, United Crewing supplied crew and Technical Direction Co arranged the vision.



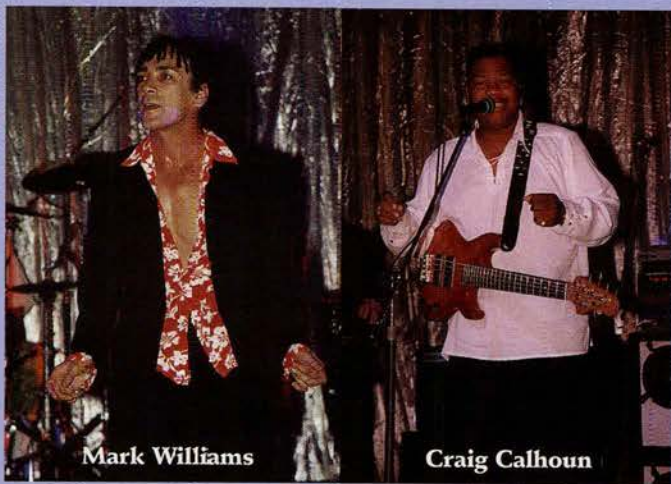
HOW THE ENTECH AWARDS WERE DETERMINED

The Awards process started with a call for nominations in September 1997. The organisers wrote to 300 manufacturer and distributors in Australia and New Zealand.

2,000 Connections Subscribers from the total base of around 6,000 were then chosen at random. They were all invited to Nominate products, people, and firms for the Awards.

In January the 12 page Voting Booklet was compiled. It listed every product nominated, in alphabetic order. The People and Institutions were pre sorted with the largest number of nominations for the three finalists in each category.

The 2,000 numbered voting books were sent to the voting college, and one book to each ENTECH exhibitor. The returning officer is Sydney entertainment accountant Bruce Rowland, of Partlett Chave & Rowland. They counted and audited the votes under tight security - a long and tedious process.



Mark Williams

Craig Calhoun

You can't have an ENTECH Awards without entertainment. This year the show started with The Swingin' Sixties (top), who proved that having Smithy as a bass player isn't a bad thing. Angelo Garcia moved his flamenco troupe from the Spanish Club (Liverpool street Sydney) to the Metro (below) for a mesmerising set.

The final musical act was an expanded Brothers From Oz lineup, ME'd by the extremely funky Craig Calhoun (left). Singer Mark Williams left no doubt who has the smoothest stage moves alive!



Meri Took, MD of Staging Rentals, and Awards Executive Producer. To say the night ran like a train on rails is an understatement, it was acclaimed as the BEST Awards Dinner yet - our fourth! Thanks to Meri!



THE WINNERS ARE...

The ENTECH 1998 Awards for Technical Brilliance winners are:



Tony Davies (Clareleon) is awarded, pictured with Dr Karl, Ashley Swift and Caroline Crafton.

PEOPLE AND INSTITUTIONS:

Lighting Designer of the year

Sean (Motley) Hackett

Lighting production company

Chameleon Touring Systems

Architainment Lighting project award

Eytecraft

Audio Designer of the year

Glenn Leembruggen, Eecoustics

Audio engineer, live

Wynn Milson, Jands Production Services

Audio engineer, studio

Steve Smart, Mastering Engineer, 301



Shirley Jensen collects for Eytecraft (left), and Michael Hassett for Technical Direction Co.

Studio of the year

Studios 301

Audio production company of the year

Jands Production Services

AV / Event company of the year

Technical Direction Co, Sydney

Services to entertainment technology award

Tiny Good, ShowTech Rigging, Melbourne



Glenn Leembruggen collects Audio Designer of the year award (left), and Tiny Good collects for Services to entertainment technology.

PRODUCTS:

Microphone of the year

Shure Beta 87, Distributed by Jands Electronics

Mixing console of the year

Yamaha 02R II, Distributed by Yamaha Music Australia

PA product of the year

QSC Power-Lite range, Distributed by TAG

Recording product of the year

DigiDesign Pro Tools 4, Distributed by DigiDesign Australia

AV / video product of the year

Sony ESK 200F DV Cam, Distributed by Sony Australia

Moving Light of the year

Martin Mac 600, Distributed by Martin Professional Lighting Australia

Luminaire of the year

Clay Paky MiniScan HPE, Distributed by Show Lighting Australia

Lighting Control product of the year

Jands Hog 250/600, Distributed by Jands Electronics

Innovation in lighting product design

Martin Mac 500, Distributed by Martin Professional Lighting Australia

PRODUCT criteria for next ENTECH awards in 2000

Products must be released AT or AFTER this ENTECH (1998) and BEFORE the next ENTECH (2000). Nominations open in September 1999. Watch our website for more information.



Paul Mulholland collects on behalf of Jands (above), Barry Ferrell from QSC (below, left), and Jens Helmer Larsen from Martin Professional Lighting (below, right).



Mark Amory from Yamaha, above. David Corazza from DigiDesign, below.



Renato Ferreri from Clay Paky (left) collects for Luminaire of the year, awarded to the Clay Paky MiniScan HPE. Moving lights are now luminaires... not effects!

Stage and Screen Travel

For the staff of Stage and Screen Travel, Entech was an opportunity to see the other side of their business. Having organised the travel and accommodation for exhibitors and visitors, Ken O'Brien and his team got to see what all these people travelled for.

"Most of our potential clients are other exhibitors rather than the visitors, but being here gives us an opportunity to network," said Ken.

And organisation for Entech delegates proved to be very successful.

"This year wasn't as busy as last year with more people having to travel to Melbourne, and also last year's Entech being in conjunction with the Venue Managers Association, but this year was still busier than expected. We're all very pleased with result." MJ

Birkart Concert Cargo

Birkart Concert Cargo provides full logistical services for people involved in the concert business, internationally and domestically, including trucking, storage, handling and customs.

"We moved about 30 of the exhibitors here participating in Entech. We did the forwarding for them, and we've got about 19 truck loads of equipment leaving after the show finishes. In terms of percentages we moved about 75% of all the equipment to and from Entech," said Phil Hocking.

Entech clients included Bytecraft, Glantre Engineering, Techscape lighting, Yamaha Music, Showtech Rigging, and many more.

"At the same time we're also doing the BMW Series 3 launch next door in the other hall, so we've been pretty busy."

Phil said that his team had received quite a few enquiries about their services, especially about the new trucking division.

"Our next concern is making sure the load out goes well."

-Mandy Jones



AUSTRALIAN AUDIO SUPPLIES

On the AAS stand, Dave Croxton was very buoyant "We have had good attendances. The good thing about Entech is that people are here for a reason - they're interested in the products."

Naturally, the Mackie digital 8 bus console took pride of place, drawing strong interest from existing broadcast clients. Featuring 48 inputs, it works with an external CPU and power supply, with an SVGA display moni-

tor as optional. It has 8 mono and 2 stereo aux sends, 2 EX processors and snapshot & dynamic automation.

Surprisingly perhaps, the Mackie SR40-8 live sound console also made a big splash with AAS selling 6 units at the show.

Turking at the back of the stand was a new addition to the CAD microphone range. The VX2 is a gorgeous (or gaudy) valve mic with optional digital interface - it had to happen! -HJ

Australian Monitor

Evergreen Entech exhibitor Stuart McLean carried the Ozzie Monitor product into battle as usual. He reported more people than expected with a mixed quality of enquiries. Stuart reckons that he really, really enjoyed the show, saying that the organisation was excellent and giving high marks to all exhibitors for quality and effort in their presentations. "I'd love the show to go on another couple of days" - crawl!

The AM3002 super grunty amp was featured on the stand and drew a fair amount of in-

terest. Although not a new product as such, McLean says that Australians take time to warm to a new product and that they have had to wait for people to focus on the specs and capabilities of the AM3002.

Also on the stand were the new PA series of amplifiers comprising the PA 300/600/800/1200/1500 models together with the KLa1 hearing aid loop amplifier.

The front of the AM stand showed off their double 18" band pass enclosure and contractor type smaller speakers.

Howard Jones

AUSTRALIS MUSIC GROUP

The AKAI DPS12 digital recorder/mixer drew serious attention on the Australis stand which also showcased the DD1500 digital recorder/ed to, DD8 digital film dubber and the existing range of AKAI samplers.

The EPS12 is a 12 track recorder with integral mixer. It doesn't use data compression,

offers waveform editing, optional stereo FX board and occupies a package which you could tuck under your arm. It will retail for \$3195. Australis' Iain Bush said "The best quality people came on the Friday when we had serious clients showing real interest. Wednesday we had lots of timewasters". -HJ

BEHRINGER & EVENT ELECTRONICS

The full range of products from Behringer, Korg & Event Electronics were to be found on the Music Link stand - and I do mean full.

Sid Shukla exhausted me with a guided tour around every device on display. These included from Behringer the PX2000 patch bay, Ultra Curve 24 bit, 31 band stereo programmable graphic with real time room analysis, Virtualiser 20 bit dual engine multi FX processor, Feedback destroyer 20 bit, 24 programmable parametric EQ and much more besides.

In the usual Behringer style, all products are very competitively priced. The stand also carried the range of Behringer consoles.

From Korg there were the AM8000R ambience multi-effect processor, DL8000R digital multi-tap delay, D8 hard disk based recorder/mixer package and 1212 PC card.

From Event were a line of 4 speaker systems in a choice of passive, powered and bi-amped configurations and the Darla, Gina and Layla plug-in PC audio cards.

Shukla said that the first day of the show had been good for them, but that the second day was slow. -HJ

Beaver Sales

First time Entech exhibitors Beaver Sales, featured a range of products used in a production situation such as chain motors from Coffing used for lifting and moving props, and a brand new range of black harnesses specially designed for riggers up in the lighting grid so that they can't be seen. Also black slings for lifting and locating loads, and also a chain block with overload clutches in it so that it can't lift more than its designed to lift.

"We got everything to do with lifting in the entertainment industry."

And for the Beaver crew, Entech was a real eye-opener to the extent of the technology involved in the entertainment industry. -MJ

SOUND ON STAGE/SOUND PERSPECTIVE

The SOS stand had a wide range of gear, including 2 Yamaha O2Rs synced together, BSS and AMEK processors, Quested monitors and the Philips solid state video player.

SOS are a "technology partner with Philips and are working with them to produce and refine their range of products". They also announced that they have now constructed a recording studio in their Surry Hills, Sydney headquarters where customers can demo products in a studio environment.

Ross Edwards of SOS said that it had been a good show with

the first day the best and the last day not as good as the Thursday. The quality of the contacts he rated as being OK. This Entech had more lighting than he expected, in fact too much lighting and fog. **HJ**

** Editors comment: How much is too much? In actual fact the floor plan had Lighting and Audio occupying equal space. The SOS stand was located close to the exclusive lighting zone, so it's probably a reasonable observation that there were plenty of lights and foggers nearby - but there was equal to a whole hall without. SOS came into the show late so choice of position was tough.*



dsp DIGITAL STUDIO PROCESSING

On the DSP stand, Robert Peacock was reasonably happy with attendances, pointing out that he had had a lot of tyre-kickers mixed in with good contacts. He thought Entech was an opportunity to make industry types more familiar with a product of which they were probably already aware.

The stand featured the flagship DSP workstation product Postation together with the entry level D series audio editor. These 2 were networked together in an impressive demonstration of the multi-user nature of the DSP operating system, which they see as an important and distinguishing feature.

All users on the network can access the same raid arrays, but only the master station can determine who has read/write capability on any one audio file. **HJ**

Mick James Electronics

Two exciting products were the focus of the Mick James Electronics stand.

From Motion Development Industries a range of underwater colour fixtures, never before seen in Australia.

A specially designed underwater housing containing a 16 gel colour changer perfect for changing water colour in architectural displays.

The unit is best suited to water fountains, large swimming pools, atriums in foyers, underwater dive applications for filming, or just about anything to do with water. A second model due out in July will have full CYM colour mixing.

Also on display was the Artifex ACS-CSI full colour floodlight. Fully weatherproof, this robust unit is ideally suited to the architectural market with its 1800w lamp able to flood buildings and structures with coloured light. **-MJ**



Mach march on

Mach are the Danish makers of professional PA speakers, represented here by Bruce & Kerry Fozard of Audiology Pty Ltd. They used ENTECH to launch some new models, including new affordable TX speakers - the TX12 and TX15. Also creating interest were the M-72 contractor speaker, with a 8" woofer and 1" horn, with the M-151 400w 15" sub. These were used on stand elsewhere by Martin Professional Lighting, also of Denmark.

New Look for LSC

A new-look LSC was launched at Entech 98 complete with a new logo and purple t-shirts.

Alan Graham explained that after considerable expansion over the last 18 months and an internal restructure, it was time to launch the new LSC and Entech was the place to do it.

"It's the first time anywhere that anyone has seen our new logo, we've taken a big step to produce a new fresh look for the new direction LSC Electronics has taken, of becoming a mother company looking after a number of divisions. The divisions on show at Entech is LSC Lighting Systems and its primary function is the manufacture and sale of lighting equipment for Australia and export around the world."

A change of direction in the structure of the company has seen Karin Bergin come on board as Marketing Manager, and the establishment of a Business Manager in NSW and similar plans for the other states, plus overseas Business Managers operating in other countries.

"We're getting more feet on the ground closer to where the customers and consultants are."

Products on show at Entech were the LSC lighting consoles and the world premiere of the

new LSC Dimmers

"Plus we've got the LSC 43 way touring rack which has created a lot of noise around town because we've just sold four to Chameleon Touring. It's quite a nice sale and it's going to lead onto more sales to other companies. In fact, advanced sales of our dimmers are now putting a huge strain on us because we've sold way beyond our expectation for demand. The market is hungry for good dimmers."

LSC held a party at Entech to launch the new logo and invited all their main customers and dealers and the media

"It was the best way to launch the new logo, new company image and new name we are operating under. And it's to give the Australian customer which is basically our backbone, first hand information of what we're doing."

Alan said they had received a lot of good leads and visitors had actively been seeking out the LSC stand.

"We treat this show as a PR exercise, it's an image building activity. We've been in business for 19 years so the majority of people do know who we are, naturally sales come from that."

-MJ

CMC Music

CMC Music distribute Phonic products, covering both the interests of musicians, and DJs. (I'm in no way suggesting that DJs are not musicians!)

Phonic is responsible for budget priced products that fill a niche, but have been strong in the field of DJ mixers. Their new DM series uphold this tradition.

The Mar 1Power Amp, and Verbiects Multi-effects unit are the affordable and essential type products that get the job done, and the name Phonic highly recognisable.

The SE Series Trapezoidal speaker boxes will also find acceptance with the same market.

Azden Radio Mics came on the scene like a fresh breeze. Many local performers have mics which become redundant with other radio units. Now Azden is even more serviceable with the 422 UDR UHF being frequency agile and capable of accepting two transmitters.

This product will find a ready market with acts such as duos, thanks to CMC Music Pty. Ltd.

-Sid Kidman

INTERNATIONAL AUDIO GROUP - WHARFEDALE

I went looking for Gary Orrell on the IAG stand and found him sitting forlornly by himself with no-one at all on the stand!

Needless to say, he thought that Entech had had poor throughput.

Still, he was out from the UK mainly in order to find an Australian distributor for the newly introduced range of Wharfedale pro audio products and left with a pocket full of contacts.

The pro range is distinguished by the use of a vibrant violet colour and includes graphics, crossovers, mixers, amplifiers and the LiX series of loudspeakers.

The IAG stand also debuted the Wharfedale NXT flat panel loudspeakers. These have a small transducer attached to a large flat panel - the panel becomes the speaker and the demo used a ceiling tile as a speaker. They see this as having wide commercial applications.

-HJ



Turbo Debut for Electric Factory

TurboSound made a welcome entrance at ENTECH, on the stand of brand new distributor, Electric Factory.

General Manager Ray Kimber told me that they are excited about the range, and that they expected to build sales initially with the Turbo Live series.

These cabinets would appeal to AV and rental operators looking for a general purpose but name brand system choice.

Turbo also have the Impact range of contracting / installation speakers. The famous Flashlight and Floodlight high 'Q' combination were on the stand, Ray said that the pricing policy

on these was yet to be established, as the agency had only been in place for a few weeks.

Also on the EFA stand was the Australian trade show debut of Ensoniq's Pars DAW system, attracting a lot of attention in V1.5 form.

New ADAT A-20 and ADAT 20 bit XT models were on display, along with audio from another new agency, Focusrite.

EFA also showed Celestion speaker systems, which sit neatly under Turbo in the marketplace scheme of things.

EFA staged an attractive, open exhibit - congratulations

-JG

MAJOR MUSIC WHOLESALE

The Major Music stand presented the Creamware group of audio editing systems and LA audio processors. Whilst generally busy, Greg Cato said that the Friday had been the quietest day and the Wednesday berserk. He had had very good quality of enquiry with very few timewasters. Most of the attention had centred on

the TripleDat digital audio editor and its larger AudioBahn cousin with Cato being kept busy giving continuous demonstrations of these systems. Also attracting interest was the new Groovemaker package. The stand also showed the full range of gear from LA audio, including the Classic series. HJ

JMC - AUDIO VISUAL DESIGNS

Audio Visual Designs are now known as JMC Sales which spells out their relationship with the JMC Audio Academy, a Sydney based audio training facility.

Their stand included a static display of products which they sell, including Groove Tubes microphones and Tascam and Sony MD multi-trackers.

Staff on the stand were kept busy with a continuous stream of enquiries about the audio school. They thought that the response was good.

-HJ

PRODUCTION AUDIO SERVICES

PAS offer a wide array of live, broadcast and recording sound equipment. Graeme Stevenson rated this year's Entech as excellent, "the best show so far. The vibe is laid back but business-like. The quality is high".

From a large number of products on display, Stevenson picked out the KF860 line array, ATM flying hardware and Comrex 'Hot Line' audio codec as attracting particular attention. This last device claims a



10kHz bandwidth down ordinary phone lines.

Also featured were the new Sony 800MHz 'Freedom' UHF systems targeted at working musos. These sell at around A\$1,000 retail, and given the current situation in Australia regarding VHF frequency availability, will sell a storm.

Also on show, the Crest X8

analogue console offers 32 mono & 4 stereo inputs into 8 groups, 4 band EQ and LCR panning. HJ





The Audio Supplement with more...

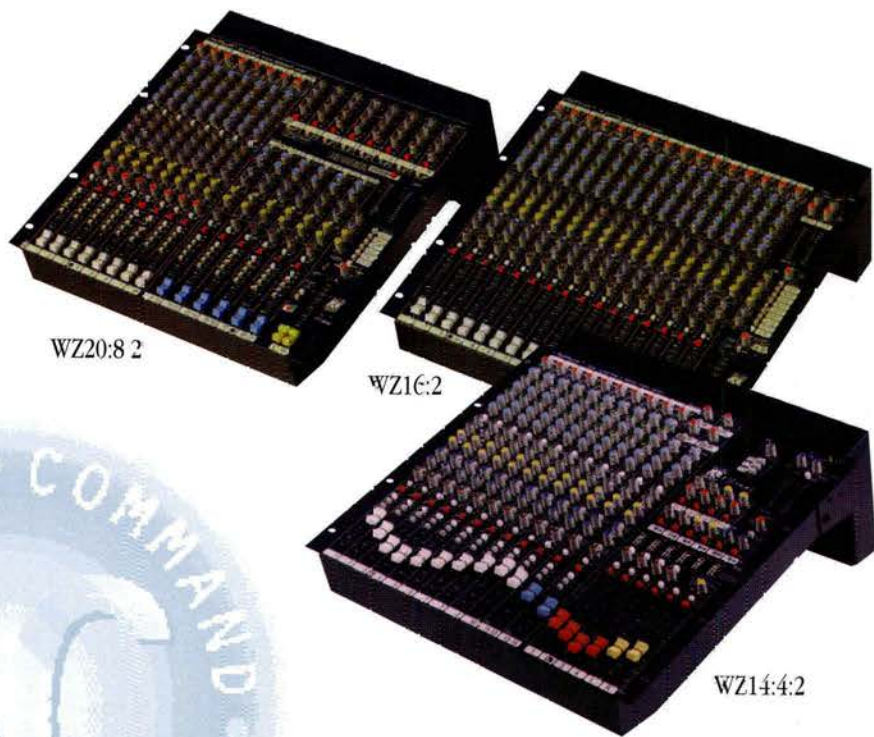


News, Information & Applications from:



marantz



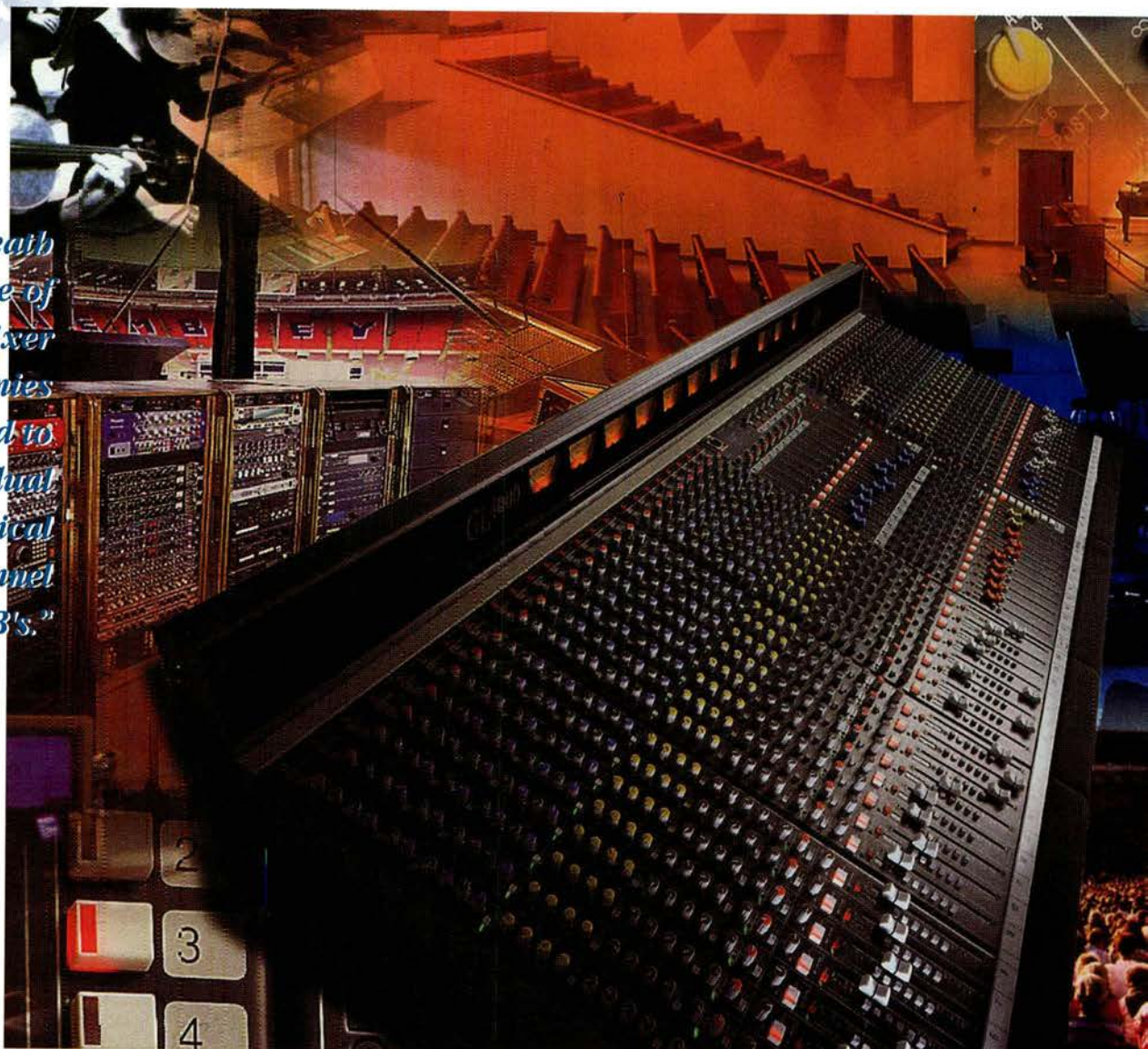


Didn't Dorothy, a tin man, a scarecrow and a lion get mixed up with a fake Wizard? Don't put yourself in Dorothy's shoes! These new MixWizards are no fakes, they're genuine performers - and each is a 'chip off the rugged, innovative, quality Allen & Heath block'.

Allen & Heath's product range extends from the large format GL4000 concert mixer down to digital mix engines and IRU conference mixers. Of course, the range also includes the new MixWizards, which bring big console features to compact mixers. Just like the GL4000s, the MixWizards offer four-band EQ with two sweepable mids, 100mm faders, heaps of auxiliary sends, and individual PCBs (printed circuit boards) for each channel - luxuries previously unheard of in a compact mixer!

A 'Chip off the Allen & Heath Block'

"Allen & Heath remain one of the only mixer companies committed to individual vertical channel PCB's."




MixWizards

With three MixWizards in the range, Allen & Heath have covered virtually every compact mixer application. The WZ16:2 is configured with 16 mono mic channels to left/right outputs, the WZ20:8:2 has eight mono and six stereo inputs with eight recording buss outs plus left and right, and the WZ14:4:2 offers 10 mono and two stereo inputs, with a total of 28 inputs to the mix, plus four subgroups, left/right outputs and mode switches for six send foldback operation.

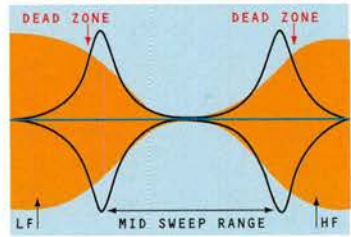
All MixWizards feature Allen & Heath's QCC (Quick Change Connector) system, which rotates the input module to allow use in either rack mount or desktop situations. Fully featured mono channels include a 20dB pad, wide ranging input gain, a 100Hz High Pass Filter (except WZ20:8:2), a four-band EQ stage (with two sweepable mids), six auxiliaries, mute, PFL, peak light, and long throw 100mm ALPS faders.

Allen & Heath remain one of the only mixer companies committed to individual vertical channel PCBs, even though it's a more expensive manufacturing process. Most small mixers have a single horizontal PCB for all the input channels. Allen & Heath, however, follow the road-proven vertical PCB construction, with each knob secured to the top plate by threaded nuts. It is inevitably stronger and more accessible for long term servicing, especially when a Heineken refreshes the components that other beers cannot reach!

The rugged reliability of Allen & Heath consoles, along with their quality design philosophy and innovative features, are some of the reasons why Live Sound International magazine's mixing console review (March/April '96 issue) revealed that the GL4 - Allen & Heath's top mixer at the time - had a typical resale value of 70%, well above virtually all other major consoles! 

Some equalisers are more equal than others...

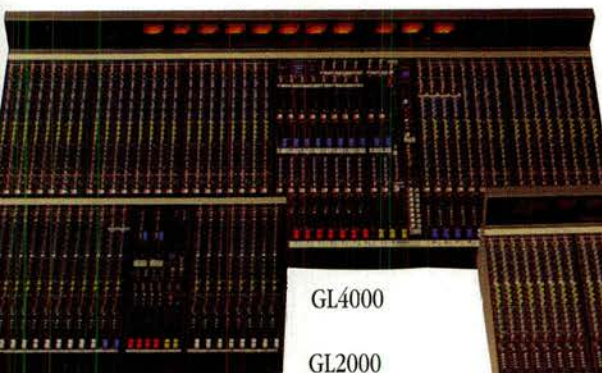
Allen & Heath refuse to compromise on EQ. Regardless of the size of the mixer, Allen & Heath believe it needs the flexibility to deliver a fully professional result - and that requires four-band EQ. Even on the smallest MixWizard, the EQ is a full four-band design with two sweepable midranges, so you can access the entire frequency spectrum from 10Hz to 20kHz. And because each EQ band overlaps the adjacent bands, it becomes even more versatile! The permutations are endless, and you're guaranteed to get the best results from your mix.



Typical three-band EQ showing dead zones

Some manufacturers offer three-band EQ with a single sweepable midrange, and claim to cover the entire frequency spectrum. But take a closer look and you'll see 'dead zones', entire gaps between bands that you can't access. These dead zones can be as large as half an octave! The biggest problem with three-band equalisers is the dead zone that often exists between the upper frequency limit of the sweepable midrange and the fixed high frequency shelving band. This area often needs attention due to unwanted noise, high frequency feedback, or the need to add that extra 'sparkle' without using the high frequency shelving band (which boosts all upper frequencies and increases the risk of feedback in live situations). Some manufacturers try to obscure this shortcoming by lowering the 'Q' of their sweepable midrange (i.e. increasing the 'spread' so it extends into more of the upper and lower frequencies). But this makes the control less selective, so only crude 'broad brush' EQ techniques can be applied.

You won't get any of these problems with Allen & Heath's four-band EQ. The two sweepable midrange controls offer great selectivity, while the overlapping frequency bands totally eliminate dead zones. Four bands with two mid sweeps, it's really the minimum requirement for professional mixing. Allen & Heath wouldn't have you using anything less!



GL4000

GL2000

GL4000: Multi-Role, 10 auxiliary sends on faders, 8 subgroups, 8 instant access mute groups with 128 programmable mute scenes, 4-band full sweep EQ with 'Q' control plus variable HP filter, 4 stereo channels with 'Width' control, 8 track recording facility, 10 x 4 matrix on faders, level controllable direct outs on each channel, 'VU' style meter bridge.

GL2000: Multi-role, 6 auxiliary sends, 4 subgroups, 4-band EQ with 2 mid sweeps, two stereo channels, 2 stereo returns on faders, 100mm faders.

GL3300: Multi-Role, 8 auxiliary sends, 4 instant access mute groups, 8 subgroups, 4-band EQ with 2 mid sweeps, stereo channel options, 11 x 2 matrix on faders, 2 stereo returns on faders, direct channel outs, 'VU' style meter bridge.

GL3300



ALLEN & HEATH on-side with Rugby league

When you're the man in the middle with 26 pumped-up muscle machines chasing a pig-skin around a paddock, you need all the help you can get!

In Super League, you get two lines men, two in-goal touch judges, a two-way wireless communication system, video replay and an Allen & Heath GL2000. The GL2000 is the

centre of the Super League communications system, taking the wireless inputs from the referee, the two linesmen and the video replay judge, and routing them back to all six destinations - referee, linesmen & video judge. Consequently, everyone can talk and listen to everyone else.

The flightcased GL2000s were chosen firstly for their facilities - particularly the six auxes and outputs on faders - and secondly for their build quality and longevity. The GL2000s can't guarantee the safety of the referee, but they can at least ensure there's a human voice on the other end of the line!



TROL COMM

9000 Watt Monster Amplifier



Not content with the PowerLight 4.0 - the 4000 watt 'lean mean: power machine' featured in the last issue of 3C - QSC have driven their PowerWave™ technology to a new level with a 9000 watt 2kg version. More than twice the power in the same rack space!

The PowerLight 9.0 PFC is only three rack units high and 45cm deep, yet delivers 9000w bridged mono into 4Ω, 5000w/ch into 2Ω, or 3200w/ch into 4Ω. However you look at it, this represents the highest density of power ever achieved by a professional amplifier.

QSC engineered this massive power output capacity and compact size through several breakthroughs in power supply technology and output circuit design. Foremost among these is the first incorporation of power factor correction (PFC) in an audio amplifier power supply. PFC lowers peak AC current requirements by as much as 40%, reducing the strain on AC distribution. This is a critical issue for mega-watt amplifiers whose extreme power requirements can exceed available supplies, taxing the AC system or limiting the amplifier's output.

The PL9.0 PFC also features line and load regulation, making its peak power capacity insensitive to drops in incoming AC voltage. Other power supply features include true soft start, automatic AC overvoltage protection, and a frequency-invariant design that operates on any incoming AC frequency.

The output circuit is equally innovative. State-of-the-art high speed components and large-die, N-channel MOSFETs are combined with a four-tiered DC supply to yield efficiency comparable to class D designs, while operating in the linear mode for lowest distortion and noise. The extreme capability of modern MOSFETs allows a 7-to-1 improvement over normal bipolar audio transistors. To further reduce space requirements, surface mount components are used extensively throughout.

The PL9.0 PFC also features all the advantages of the PowerLight Series: data port for amplifier monitoring, flow-through cooling with fully variable-speed fans, Neutrix Combo inputs and standby mode. The outputs feature special shrouded speaker terminals to handle the unprecedented power.

Firsts

- First audio power amplifier with PFC
- Lowest line current drawn per watt of output
- First zero-inrush start-up
- First line and load regulation
- First quasi-complementary full grounded-bridge output circuit with ultra-high power N-channel MOSFETs
- First four-step Class H output
- Highest density of power
- Highest power-to-weight ratio: 340 watts/kg
- Highest watts delivered vs. AC current draw
- Highest continuous output capacity of any audio amplifier
- Highest output voltage of any audio amplifier.

What is PowerWave?

PowerLight amplifiers might look like many other amps on the market, but inside is one of the leading developments in audio amplifier technology: the PowerWave high frequency switching power supply.

Switching power supplies are nothing new. Your computer probably has one, as does your TV. Even a rechargeable electric razor might have one. They're lightweight and have been used in many power amplifier designs over the years, with varying degrees of success and disappointment.

But as they say, there are switching power supplies and there are switching power supplies. A design for a

personal computer, where the current demands do not vary widely or rapidly, would not be suitable for an amplifier. Audio amplifiers are notoriously difficult with power supplies. Music, voice and other audio signals have wide dynamics - one moment the amplifier is delivering no power at all, the next moment it's delivering a huge amount. As a result, the demands on the power supply vary greatly and suddenly.

There are a number of amplifier performance aspects that are affected by the power supply: low frequency response, long term power capability, reliability, RF and EMI emissions, and thermal performance. Unlike conventional power supplies and earlier switching supplies, the PowerWave's gutsy and robust design addresses all these concerns.


A conventional power supply brings the AC mains into a transformer, then rectifies the current and stores it in two capacitor reservoirs, one supplying the positive supply rail and the other supplying the negative. High power low frequency audio signals draw heavily off one capacitor reservoir, then the other, as the signal polarity changes. This causes the supply rails to sag, resulting in a loss of power and an increase in AC ripple. During clipping, this AC ripple will modulate the audio and introduce distortion.

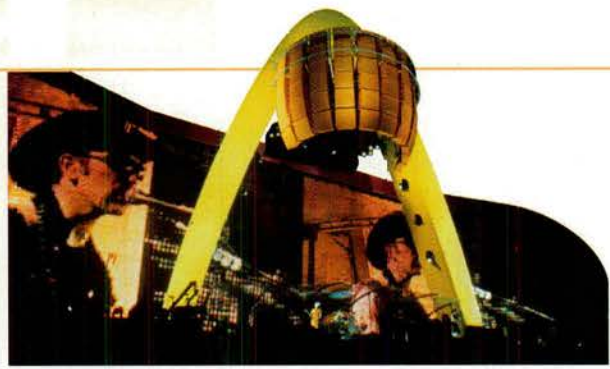
With QSC's PowerWave switching supply, the AC mains is rectified directly and fed into a high voltage capacitor reservoir, from which IGBTs (Insulated Gate Bipolar Transistors) chop it into the primary winding of a transformer at a crystal-controlled frequency of 115kHz. (The IGBT circuit is a resonant design which ensures switching at the zero crossing points, reduces thermal stress and wasted power, and has other benefits which will be discussed later.) From the transformer's secondary winding, the current is rectified, filtered then stored in positive and negative capacitor reservoirs to feed the supply rails.

These supply rails are very stiff: under a heavy load, such as a high power low frequency audio signal, they sag less than half that of a very good conventional power supply. This is largely due to the minimal DC resistance of the switching supply's transformer - typically one sixth the resistance of the transformers found in conventional supplies - which allows greater current transfer through the supply, from the high voltage reservoir to the supply rail reservoirs. In addition, the supply rail reservoirs are being recharged 230,000 times per second, as opposed to a conventional supply's 100 times per second (assuming an AC mains frequency of 50Hz). The benefits show up especially well in the PowerLight's exceptional low frequency response.

With considerably lower transformer resistance, less power is lost as wasted heat. As a result, the PowerWave supply is about 90% efficient! PowerLight amplifiers tend to run cool even under heavy loads.

RF interference is not a problem either because the resonant nature of the switching circuit, with its zero crossing points, minimises harmonics of the 115kHz switching frequency. In fact, some concert tour racks have wireless mic receivers located right on top of the amplifiers, with no ill effects to the RF reception! Internally, the 115kHz wave is easy to separate from the audio and filter out. And because the power supply oscillators are crystal controlled, there's very little 'beat' generated among multiple amplifiers.

Considering all these benefits, the engineers at QSC have proven that lightweight switching amplifiers need not be compromised, but can be superior in their own right. 



U2/Clair Bros/PopMart

When it comes to big productions nobody does it quite like U2. For Clair Bros U2 use Clair Bros and for amplifiers Clair Bros use PowerLights!

Naturally there's a large inventory of conventional amplifiers at Clair Bros but PowerLights have become the amplifier of choice with PL2.0HV's powering the vast foldback rig for the 1997/8 PopMart tour.

For a massive production like PopMart there's a trend towards shipping the entire tour hardware (lights, sound, rigging etc) wherever the tour goes. The thinking is to eliminate any nasty surprises with integrating and controlling a locally hired PA system in an alien country. So if the complete show inventory travels, by road, sea and often air there are obvious advantages in light, compact equipment.

In addition to their excellent sound quality an amplifier producing 1000w @ 4Ω/ch in 2RU and weighting just 8.2Kgs means a lot to Clair Bros.



BRYAN ADAMS tours Europe with POWERLIGHT

Bryan Adams' European tour was notable for its colourful set design, three hour high energy sets and extensive use of lightweight amplification technology!

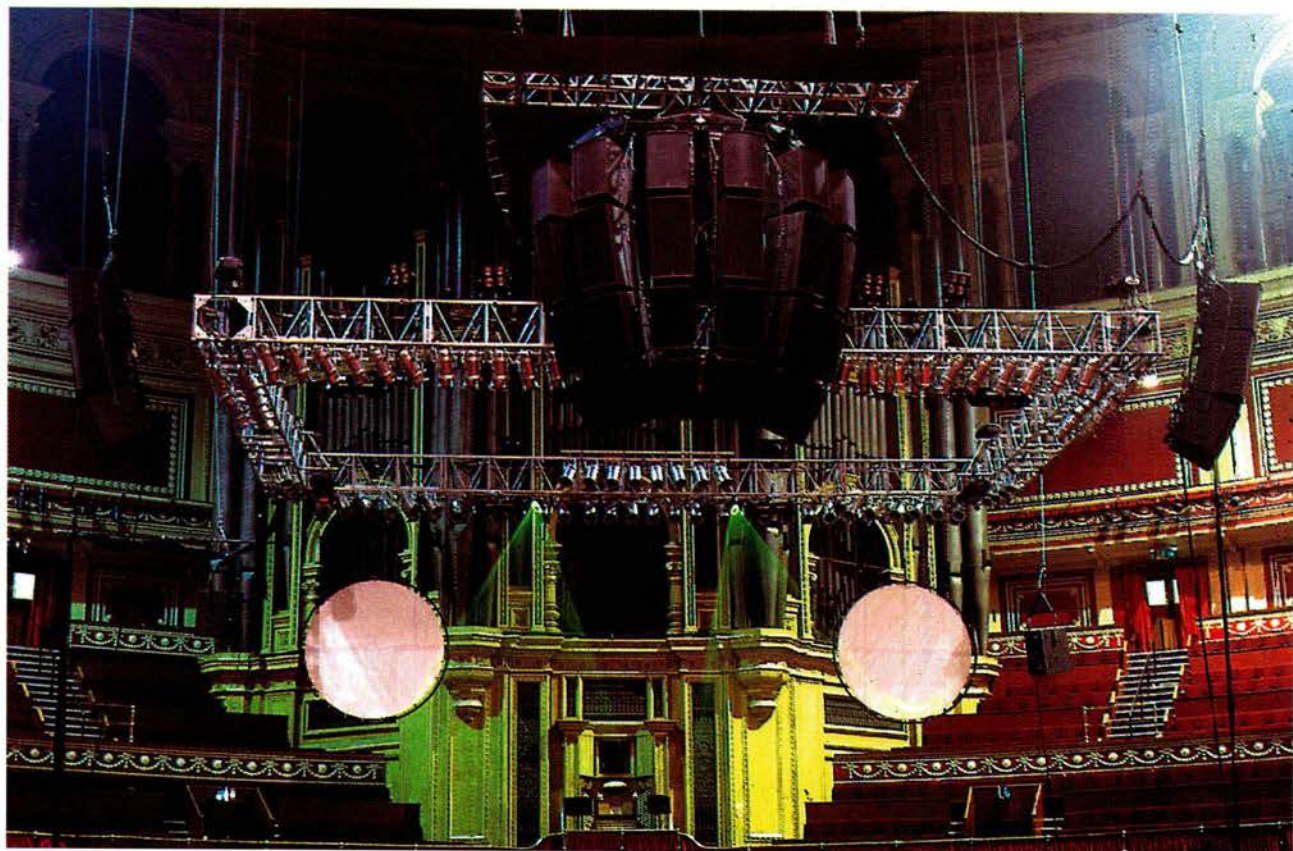
The entire world tour was handled by Jason Sound Industries (JSI), including the Australian leg. For the 80,000 seat Wembley Stadium (UK) they used 120 J60 proprietary JSI full-range boxes, 84 flown and 36 ground stacked. Driving the whole rig was a massive pile of QSC PowerLight amplifiers, consisting of 109 PL1.8s and 42 PL4.0s!

JSI and QSC started talking 18 months ago, after JSI had spent the previous 10 years exclusively with Carver amplification. According to JSI chief Jeff Lilly, "Although the PowerLight technology is QSC's all the way, it could be argued that this was the next generation of lightweight technology we had been looking for, and there was some continuity in the engineering that we appreciated."

JSI finally made the unreserved switch to PowerLights at the beginning of 1995, and haven't looked back.



TROL COMM



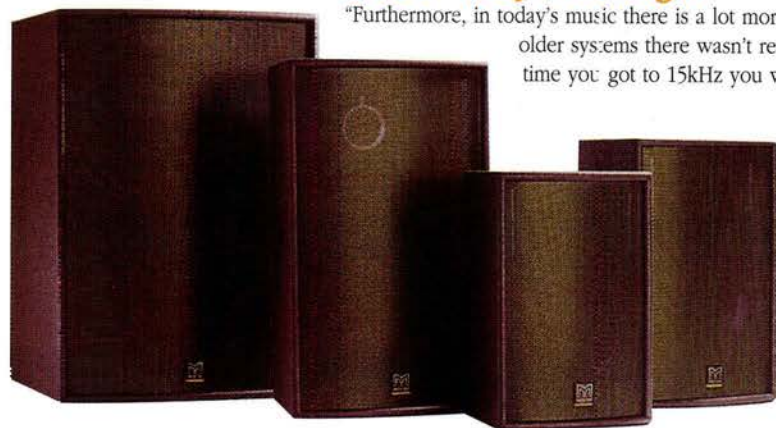
Extra Sensory Perfection

When chief designer Bill Webb and his team at Martin Audio first started development of the Wavefront 8 concept, they were confident it was very special. Since then it's won Live! magazines best new audio product award and has been used in such a wide range of applications - from nightclubs to outdoor concerts - that it's amazed the Martin team. According to Bill Webb, "We knew we had something pretty special from an early stage in the W8's development. The further we progressed and the harder we pushed the concept, the more we realised just how powerful and how flexible it was - and it's continued to surprise us!"

But where did the W8 concept come from? Bill picks up the story... "The character of the sound we've been working on over the last few years is different to the previous typical Martin Audio 'sound.' It's a warmer sound, it's more musical and it has greater clarity. We've been moving away from the sort of systems that leave your ears ringing. Systems like our Philishave were basically centred on getting the mid range across, and they did that very effectively. However, a large format compression driver can tear your head off - particularly if you put it together with a band which has a lot of vocal screaming! A cone unit can't do that, you can listen to it at astonishingly high levels, but it won't hurt and that's the key thing. The character of music has changed in recent years and although people want to hear music loud, they don't want that ear tearing experience."

Five Way Design

"Furthermore, in today's music there is a lot more emphasis on extreme low and high frequencies. In the older systems there wasn't really anything on top of the compression driver, so by the time you got to 15kHz you were out of its effective range, and what little you did get didn't sound very nice at all. So the Wavefront 8 concept looks at doing things in a different way. It's effectively a five-way system in two boxes. The drivers are an 18 inch, a 15 inch, a 12 inch, and a 6.5 inch, along with a one inch compression driver, so it's quite a comprehensive system in a small package. Both the 18 and the 15 are in the W8S sub. The 18 is front facing and reflex loaded, which is a traditional relatively low efficiency device with the deep 'weight' characteristic of a sub. We've combined that




with the 15 inch driver on a folded horn, which is more efficient - about 106dB - and this has the attack and the speed. So you get the best of both worlds: the weight of the 18 and the attack and speed of the 15.

"The 12, 6.5 and one inch drivers are in the W8/W8C cabinets. The 'C' stands for 'compact', and the difference between them is that the W8C has one 12 inch driver, while the W8 has two. They're horn loaded and cover the range from 120Hz up to 750Hz. Then we cross over to the 6.5 inch high mid - it's the most important element in getting a constant directivity from the system. At Martin, we're very familiar with phase plugs and what they do. Going right back to the Philishave system, we've had phase plugs in front of cone drivers. We did a lot of research into what was actually going on there and how it can be used to achieve a constant directivity characteristic. If you have a cone mid driver which has a 'nose' [phase plug] in front of it, as you go off axis the nose shadows the cone, and instead of dropping off equally across the frequency range, it tilts and so your HF is beamed. And that's really where a lot of our effort went, maintaining the constant directivity characteristic and not losing the top end.

"The one inch compression driver goes right up to almost 22kHz, but the key to its performance is that it exactly matches the dispersion characteristics of the 6.5 inch high mid driver. They must track each other as they go off axis, but this was incredibly difficult and frustrating to get right. Our aim was to produce a constant directivity device for high mids and highs, which was very easy to listen to and very musical, but which was also technically advantageous. I'm happy to say we finally achieved it!"

Monster Sub

"The W8 and W8S were released first but we've found that, other than stand alone use, the new W8C (with one 12 inch driver instead of two) can handle virtually any application the W8 can. We've also had fantastic success re-discovering the horn loading techniques of previous Martin Audio subs, and have now introduced the WSX 'Monster Sub', a single 18 inch driver on a seven foot folded horn. This is a somewhat unusual development in this era of small front loaded subs, but there is no doubt that it is incredibly efficient and enormously powerful. Ideally it's designed to be used in blocks of four, which provides a natural coupling of the horn mouths. Quite frankly, it's staggering. For contemporary dance music in club environments, where high levels of concentrated bass energy is required, you just can't beat it!"

The combination of the W8C linked to the WSX 'Monster Sub' is currently making waves for Martin Audio. W8Cs can be stacked or arrayed to achieve both short and long throw audio for any size venue. When flown in an array, their inversion capability together with the constructive coupling of adjacent array elements, enables them to throw further than conventional dedicated long throw systems. It's this W8C/WSX configuration that's been touring with the likes of Gary Glitter, Ocean Colour Scene, Vanessa Mae, etc. It's handled all the major UK venues, including Wembley arena and the notoriously difficult Royal Albert Hall, as well as the outdoor Wiltshire and Canons Marsh Festivals. 

LIVE! magazine votes W8C system 'Best New Audio Product'



Martin Audio's W8C (Wavefront 8 Compact) sound reinforcement system has been voted 'Best New Audio Product' by the readers of LIVE! magazine. At the awards presentation dinner - held at the Kilburn National Ballroom where Martin Audio have a system installed - Martin's director of engineering, Bill Webb, collected the

award from MC Jools Holland. Bill was quick to pay credit to audio rental company Capital Sound Hire, who were the first major production company to pledge their faith in the system.

It was Capital who first took the W8C system into a rock 'n' roll arena initially with Worlds Apart and now with Ocean Colour Scene. For his part, Capital MD Keith Davis said: "It's great that Martin Audio have won this award, but quite honestly, I'm not surprised. They're the best cabinets out in the field."

The versatile W8C incorporates innovative horn and driver configurations, features that were recognised by LIVE! magazine. Commented Bill Webb:

"Sonically, the W8C is the most accurate and musical system we have produced. The ultra-low levels of distortion, I think, have moved the argument for the toroidal 6.5 inch high-mid horn assembly and one inch compression driver combination forward a good deal. It means that the W8C can be driven to ridiculously high volumes yet still remain clean. We feel very proud to have won this award."

This was the second major trade magazine award that Martin Audio have won in four months. Back in September '97, the W8C was also voted 'Best Club Loudspeaker' by readers of Disco International magazine.

So who's using the new Wavefront and what do they think about it?

Ocean Colour Scene

(Royal Albert Hall, London/Capital Sound Hire. Photograph previous page)

Keith Davis (MD, Capital Sound Hire): "Clients are starting to request this system, so it was great to use it with a band the calibre of Ocean Colour Scene. Having had the system out successfully with Worlds Apart and the Gary Glitter Show, we decided it was time to enter the unforgiving environment of the Royal Albert Hall. With the benefits of some top engineering, a couple of BSS OmniDrives and a set of new amplifiers, it sounded brilliant. By the end of the evening the band's management were ecstatic!"

Ministry Of Sound

(The UK's Premium Club)

Santi Arribas (House Sound Engineer): "The new Martin boxes have the cleanest definition I have ever heard, with not even a hiss at over 140dB! The best way to define them is that they are the perfect upgrade for the best sound system in the world."

Nodd McDoragh (General Manager): "Having just won the 'DJ Best Club Sound Award' again, it was important that we stayed ahead of the field. It's been worth every penny because on both opening nights the crowd demanded that the DJ play for an extra hour. A major factor in this was the Martin top end - I'm amazed at their quality and depth."



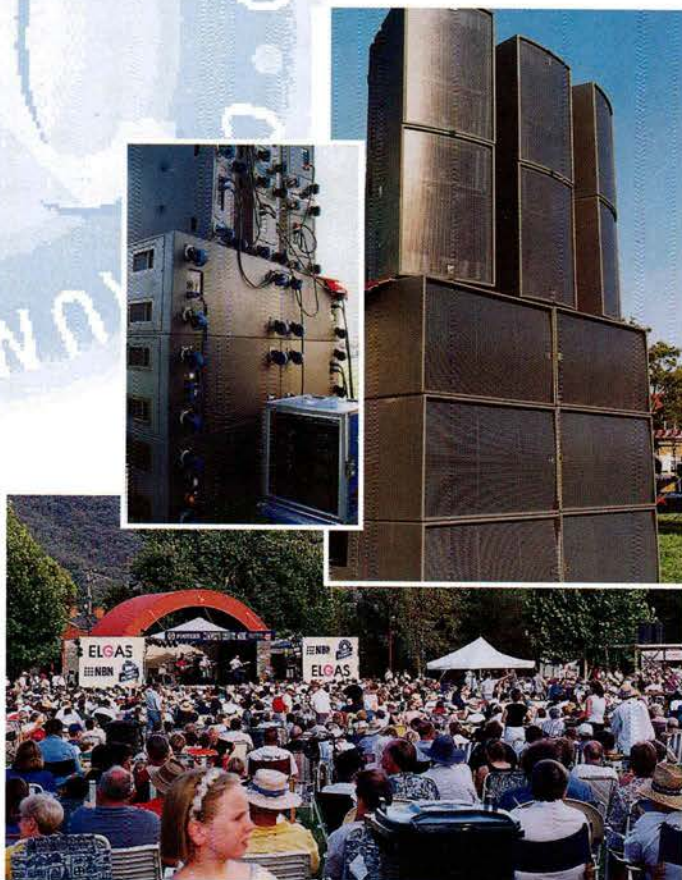
So who's using the new Wavefront and what do they

MusCaPro (Tamworth)

Bill O'Neil (GM): "We needed a system that could perform with any music genre, from classical to hard rock, in any venue, including outdoor festivals. And because many of the acts we work for are country artists, we needed extremely good definition, particularly in the vocal range.

"We've been using the system for a couple of months now. It sounded great on the first night, and it's continued to impress us. It's the sort of platform that can give you any sound you ask of it. It has easily handled short, mid and even long throw outdoor applications. I'm particularly impressed with the smoothness of the cabinets and the lack of system distortion. This is proving very important for us as we regularly ground stack the entire system and, even though we're delivering loud SPLs at the back of the venue, patrons at the front appear quite comfortable; even right in front of the stacks which, believe me, is incredibly loud! It's the lack of distortion which enables people to do that - to walk in front of a stack and stay there.

"Before purchasing the Martin Audio system, I considered alternatives from all the major manufacturers. I chose the W8C/WSX system because, quite frankly, these boxes sounded the most natural and accurate, and because they can handle every application. The WSX Monster Subs are particularly interesting. Ground stacked in a block of four or six with the 'M' badges together couples the horn mouths, giving a substantial increase in efficiency, and amazing impact!"



think about it?

Grace Tabernacle

(Sydney)

Carmelo Tripolone (Technical Manager): "In the gospel environment intelligibility is the major concern. Smooth pattern control is required and the Martin W3s are the answer to my prayers, with heavenly tops, divine midrange and a supernatural bottom end!"

Top End Sounds

(Darwin)

Colin West (MD): "The pressure was on me to buy one or other of the USA manufactured systems but, quite frankly, once we'd heard the Wavefront 8 it was our choice. It simply sounds better. It can do a greater cross-section of music types, and is very easy to handle and stack. Everyone here loves it."

Summer Olympics

(Georgia Performance Stage/Roswell)

Cooper Cannady (Raleigh Music Brokerage/Audio Hire Company): "There is no better time to demonstrate Martin Audio products than in the environment of the world's focus. The stage featured Ray Charles, Waylon Jennings, Chubby Checker, Three Dog Night and many more."

◀ Eternal

(UK Tour/Capital Sound Hire)

Chris Vaughan: "I'm very happy with the W3 system. Mad as it may seem, as a production manager my point of view on sound is different to that of a sound engineer. I expect every system I take on tour to sound good, and I expect the sound engineers we're employing to make it sound good. I only have objections with sound systems when they take forever to go up, when I hear far too much about them, and when they don't pack into trucks neatly."

"In those respects, the Wavefront fulfils all the criteria that I have for a sound system - although sound companies and sound engineers would bombard me for saying this! I like the fact that it takes up very little truck space, it flies very easily on three points, it looks nice in the air and it points at all the right places. The end result is that it's a good, nice sounding system. It gets my vote."

Paul Timmins (FOH): "The system is sounding better and better as I become more familiar with it. Sonically, compared to the F2 there is very little difference, but it's not as honky in the high mids and it's a much smoother cabinet. It can run loud - but you don't realise how loud it is."

Terminal Studios

(Top London Rehearsal Complex)

Charlie Barrett (Terminal owner): "We've tried several systems over the last six months but have found that while most systems sound good with a CD through them, they lack power and clarity when used with a live band. The Martin system's ability to stay coherent and 'sweet' at high levels is amazing. The combination of 6.5 inch and 12 inch drivers seems especially good at handling vocals, which really punch through without going thin."

Among Terminal's first artists to use the system were Belinda Carlisle and her extremely noisy band, who reportedly had to turn the vocals 'down' at one point! The Chemical Brothers, at the other end of the spectrum, use all sampled and synthesised sounds with phenomenal bottom end. According to Charlie, despite trying their hardest, the Brothers were unable to fluster the Martin subs.



C115: Mini Martin Muscle

Having manufactured some of history's biggest concert speakers, Martin Audio now introduce their smallest! Known as the C115, it's a single five inch ICT (Inductively Coupled Transducer) driver mounted in a polypropylene enclosure measuring just 163 x 232 x 143mm (W/H/D).

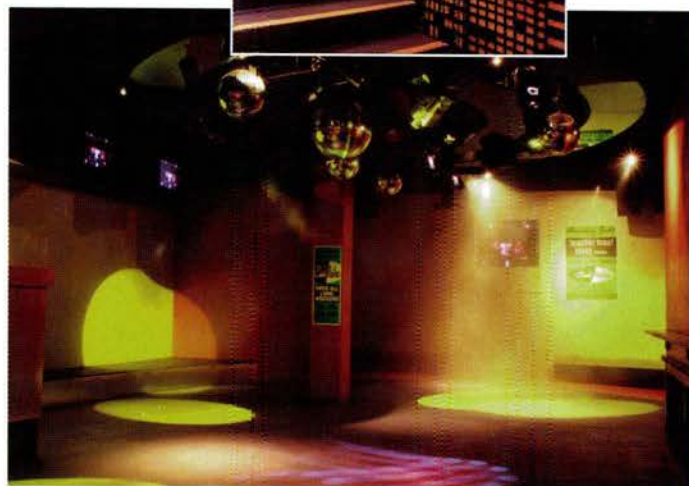
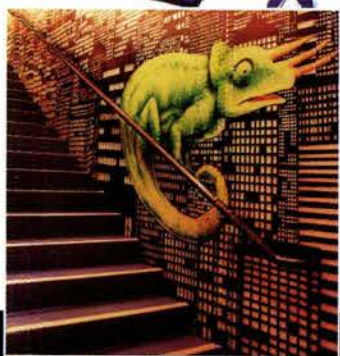
Designed to impress architects, interior designers and other 'arty' types, this box looks the business and sounds it, too! It's right at home in a million places, from background music in restaurants, shops, and hotels, to fill in theatres, clubs and pubs, and foreground in monitoring, hi-fi and offices. Whatever the task, the C115 will provide high definition, full range audio and, because it's weatherproof, can do it outdoors, too. But beware, the C115 uses the same technology as Martin's 'dangerous' EM15. Consequently, it's a powerful device achieving peak SPLs of 112dB, making it an adequate partner for larger Martin Audio sound reinforcement systems, as fill or delay.

WMO.5: Stage Monitor

And while we're talking small, how about a wedge stage monitor measuring just 280 x 390 x 265mm with an eight inch mid/bass driver and a one inch compression driver?

Martin Audio's WMO.5 is ideal for spot monitoring or foldback applications for jazz, classical, vocal, etc., or wherever you don't need heaps of low bass. The advantages of a compact wedge monitor - light weight, minimised sight-line interference, and portability - form a powerful argument, and have already compelled the Sydney Opera House and Entech Award-winning Austage Productions to equip with WMO.5s.





Moving into giant new premises gave retro club Chameleon Jacks the opportunity to upgrade their sound and lighting systems. It's now one of the most popular and highly specified clubs in Australia. Situated just off Martin Place in downtown Sydney CBD, Chameleon Jacks features '70s and '80s music formats, each in its own separate area. In effect, club patrons can transcend time by walking between the two massive dance floors. But there's more to running a successful retro club than choosing the right music. "Because we're dealing with quality oriented clients, it's necessary to consider all aspects of a night out for them", says club boss Nikki. "We have to make the night as easy and enjoyable as possible for our patrons, within a friendly, safe and professional atmosphere. That's our religion! And it extends to every part of our operation, from the security, to the food and drinks we serve, to our attitude, to the lighting, to the music we play and the systems we play it through, and the whole entertainment concept."

"Our retro music formats attract a very wide range of clients, from teenagers to thirty-somethings, and that places very different demands on our audio systems. You have to understand that people in their thirties have been listening to CD quality audio on their home hi-fi systems for 10 years, and often their hi-fi systems are very, very good! This leads them to expect similar or better quality from a nightclub. They don't equate 'loud' with quality, 'pretty good' isn't good enough, and they flee from that ear piercing audio that leaves your head ringing! We found that the theatre quality Martin Wavefront system gave us just what we needed. The Wavefront design features superb midrange with heaps of bottom end, which is perfect for our type of music. It runs extremely loud but, because the distortion level is so low, you'd never know it! It's proved to be exactly the right choice and has set a new standard for our type of venue."

Chameleon Jacks: Martin Audio in Martin Place



"People in their thirties have been listening to CD quality audio on their home hi-fi systems for 10 years... This leads them to expect similar or better quality from a nightclub."

Martin Audio Wavefront

The complete installation - sound, lights and video - was installed by Sydney's main Martin Audio contractors, AVsound. MD Matthew Kline, a big fan of the Wavefront concept, describes the audio system: "Both dance floors have four Wavefront W3s, one in each corner, and two flush mounted WSX monster subwoofers generating massive quantities of clean tight bass. This makes the system a four-way design - the WSX subwoofer is a single long excursion 18 inch driver mounted at the end of a seven foot folded horn, while the Wavefront 3 is a three-way active design with a front-loaded 15 inch driver, a horn-loaded 6.5 inch driver and a one inch compression driver/horn. Because the W3s are crossed over at 120Hz, they make a seamless transition to the floor mounted subs. The Wavefront systems are powered by QSC MX Series amplifiers, with a total of six MX1500s and MX3000s all with their own built-in compressor limiter system protection cards."

Nikki's only problem now is the length of the queue outside. "Chameleon Jacks has been packed solid since we reopened!" @96



Flash RAM



A portable recorder without tape! That's the future according to Marantz Professional, who displayed a prototype of their PMD680 at AES New York. Looking similar to the industry standard Marantz portable cassette recorders, these new digital machines utilise a Flash RAM or Hard Disk card which stores the audio information in a solid state digital format, rather than on tape.

The credit card size Flash cards can be interchanged just like an audio cassette, however, because all the information is digital and has instant access, recordings saved on a Flash card can be edited, cut, pasted, added to, sped up or slowed down, then saved onto the same card. For a journalist this means they can make a live location recording, add their own commentary, and transmit the finished report back home on a mobile phone!

Any Flash RAM or a Hard Disk type card can be used provided it has a PCMCIA III ATA interface. Files are written in the standard Broadcast Wave Format and can be read and edited by most PCs. The audio data is stored in MPEG-1 layer 2 or in Linear PCM format using a 48kHz sampling frequency. Three different bit rates offer the optimum balance between storage efficiency and sound quality.

The PMD680 has more ins and outs than an ant hill! Digital/analogue, mic/line, mono/stereo, internal/external speaker, fibre/RCA/phone sockets, parallel port, you name it! Expect to see the PMD680 in Australia in mid '98.



The Marantz family including (from top to bottom): CDR520 CD Recorder, PMD510 Double Cassette Recorder, PMD502 Single Cassette Recorder, PMD320 Single CD Player, PMD321 Balanced Single CD Player, PMD101, PMD222 Mono Portable Cassette Recorders, CP450 Stereo Portable Cassette Recorder



Combination CD/Cassette

Shoe-horning a PMD502 cassette player and a PMD320 CD into a single 3RU machine proved to be a tricky but worthwhile exercise for Marantz Professional. From this union has emerged the PMD350, a rack mount machine with fully independent CD and cassette sections, each with separate controls, outputs and monitoring. The unit has a thousand applications, here's just three providing music to two separate zones in a hotel, track compiator from CD to cassette, and (in an emergency) providing a simple disco facility complete with pitch control!

marantz

PowerLights & Heavyweights

The worldwide introduction of QSC's PowerLight amplifiers has been remarkably successful, with hundreds operating in Australia alone. These Entech Award-winning amplifiers are certainly 'road proven' and endorsed by local touring luminaries including ACP, Troy Balance, Top End Sounds, AAA Productions, Brisbane Concert Sound and Norwest. Internationally, you'll see them in systems belonging to Jason Sound Industries, Sound & Image, and the world's biggest touring company, Clair Bros in the USA.

The PowerLight range now includes eleven models, from the PL1.0 (400w/ch) to the PL8.0 (3200w/ch). In between, there's the PL1.4 (550w/ch), PL1.8 (700w/ch), PL3.2

(1200w/ch), and PL4.0 (1400w/ch) which are all conventional stereo amplifiers.

The rest of the PowerLight range are designed for specialist applications. The PL1.0HV (500w/ch) and PL2.0HV (1000w/ch) are optimised for four and eight ohm loads, making them ideal for driving large passive cabinets. The PL1.5X and PL1.6HVX are both 'B-Amp' type power amplifiers designed for active cabinets or floor monitors where one channel needs to drive a larger load than the other. The PL1.5X contains one channel of the PL1.0 (400w) and one of the PL1.8 (700w), while the PL1.6HVX contains one channel of the PL1.0HV (500w) and one of the PL2.0HV (1000w). The PL2.4MB is a MonoBlock featuring one channel of the PL4.0 (1400w) in a PL1.8 chassis.

Despite the PowerLight's remarkable success, QSC haven't been 'blinded the light'. They still manufacture the world's top selling 'USA Series' conventional professional power amplifiers, and the tough-as-guts 'MX Series'. So even if you don't want to put all your eggs in one light basket, QSC still have the right amplifiers for you.



QSC
AUDIO



The Equaliser

The birth of SCV Digital occurred in February with the introduction of the DigEQ. It's a fully programmable Digital Equaliser/Dynamics Processor and is a result of SCV's comprehensive review of what engineers actually want in the concert sound environment. It represents a new approach to digital equalisers and how they function. The key issue is INSTANT ACCESS, or getting as close as possible to the accessibility of a conventional analogue EQ.

Unlike other digital EQs the DigEQ gets you into the main edit pages of the Graphic, Parametric, Hi-Lo Filters, Shelving EQ and Dynamics with just one key press. In Graphic mode, each frequency is instantly accessed by a dedicated frequency key, while in Parametric mode, selected keys double as frequency, bandwidth and gain keys. Two additional keys access Hi and Lo pass filter points. Other modes include a Shelving EQ with three different



standard responses, and a Dynamics section which contains a fully variable compressor/limiter and expander/gate.

Two additional function keys can be user programmed to instantly access any frequently used page, and the system memory can store 99 individual set-ups for instant recall. Each DigEQ master unit can control up to 15 dual channel IRU slave units, and the whole system can be externally controlled via its built-in PC, Mac and Midi ports.

The combination of presets, user memory for storing/recalling previous EQ curves, and the extra EQ power (e.g. ▶

Digital Revolution Meets Audio Installation

The DR66 and DR128 are the first fruits of Allen & Heath's extensive investment in digital audio technology. They're designed for audio installations where multiple rooms, zones or areas need to be rapidly re-configured for different types of events, usually by technology shy personnel. The DR units are perfect examples of how digital processing can make a complicated task extremely easy. The powerful processors can be up by a systems engineer, using palette menu selections of:

- 12 input/8 output Cross-Point Matrix
- EQs (31/15/7-band Graphic or 8, 6, 4 and 2-band Parametric)
- Compressor/Limiters
- Gates
- Cross-Overs
- Duckers
- Gain and Level Controls
- Architectural Delays

That's the complicated part, the simple part is operating the unit. Twelve assignable buttons on the front panel access 12 individual system set-ups. So something as complex as a complete system re-configuration or as simple as a volume change can be programmed in and accessed with the push of a button!

For example, the following set-ups could be programmed into the unit for a church situation: Button #1 selects a set of mics, volumes, speakers and EQ for the morning service; Button #2



selects a different set-up for the evening service; Button #3 for marriage services; Button #4 for baptisms; Button #5 for funeral services; Button #6 for prayer group; Button #7 for lectures; and so on. And if even that is too complicated for the end-user, these units can be triggered remotely or by their internal clock!

In addition to the obvious applications in hotels, bars, restaurants, schools and churches, numerous other applications are appearing for these units, such as an on-air mic preamp/EQ system for broadcast with customised set-ups for each presenter's voice, six 31-band Graphic EQs for on-stage monitor mixes, multi-channel surround panner for film and video applications, and so on. ☺



The Equaliser (cont...)

parametric, filters, etc.) makes a compelling argument for digital EQs. But it is SCV's pursuit of instant access which is critical and sets the DigEQ apart, because it enables engineers to make adjustments on the fly rather than scrolling through several menu pages - one of the major gripes of other digital EQs. The other gripe is with sound quality: do digital EQs sound as good as analogue? SCV think so, and as



manufacturers of the EQ231 (possibly the best sounding analogue graphic EQ in the business) they should know!

The World's Favourite DI

From the ABC to the downtown recording studio to the garage PA in the suburbs, wherever you open an accessories drawer you'll find a dark blue box from SCV. Selected primarily for its audio quality, SCV's DI Mk1 has earned a reputation for indestructibility. Anyone who's ever bought one probably still owns it! The Mk1 was SCV's model for the '80s, and is easily identified by its dark blue colouring. Light grey is SCV's colour for the '90s and characterises their DI Mk2, which, like its predecessor, can be found right throughout the industry!

1998 sees the introduction of SCV's DI Mk3, with its new hexagonal shape. So if you want the world's favourite DI - the most reliable, roughest, toughest, and best sounding in the business - look for the light grey hexagonal box.

SCV
ELECTRONICS

soon to be...

LA
AUDIO
Pro-Series

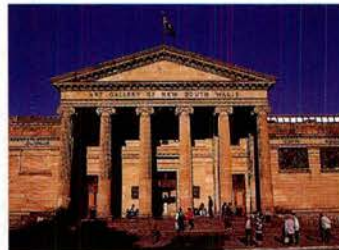
Beam Control Array

Architects love to design buildings for large gatherings (churches, stadiums, galleries, transportation terminals, etc.), with acres of highly reflective surfaces like marble, granite and glass. While beautiful to behold, these surfaces make it very difficult to get clear sound to the patrons. Sound energy bounces off the walls, ceilings and floors and combines with the original sound, making it muddy and unintelligible.

One effective solution is to use a speaker with a tightly controlled dispersion pattern, which can direct sound accurately at the audience but not at the reflective surfaces - particularly the ceilings and floors. The SST BCA500 does just that. While its horizontal dispersion is a very wide 95 degrees, the vertical dispersion is a narrow and tightly controlled 40 degrees.

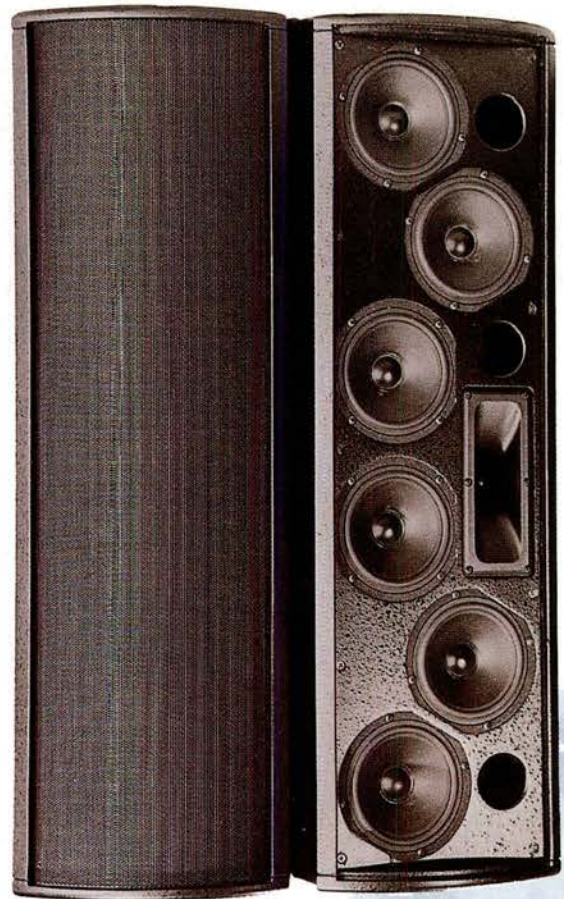
This dispersion pattern is achieved by using a tapered line array design, with six identical mid/bass drivers positioned vertically and controlled by a complex five-way passive crossover. The benefits are most noticeable in the lower midrange band, between 300Hz and 500Hz - an area where system designers are often troubled by excessively long reverberation times. With the BCA500's controlled dispersion pattern, speech and music clarity are greatly improved. It really makes a difference!

With 300w power handling, six mid/bass drivers and one HF compression driver, the BCA500 comfortably handles the frequency range from 16kHz right down to 70Hz, making it fully music compatible for both live and programme music. You can hear them at The Art Gallery of NSW, and the North Sydney oval.



North Sydney Oval and The Art Gallery of NSW enjoying clear, intelligible sound.

"With the BCA500's controlled dispersion pattern, speech and music clarity are greatly improved. It really makes a difference!"



ATC revolutionise nearfield

When you first hear ATC monitors, you quickly realise they are like no others. They critically dissect your mix, laying bare each instrument, each dub, each tonality. Everything is exposed. When your mix is bad, they'll crucify you. But when you've recorded something special, they'll send shivers down your spine like no other monitors can. The question is: are you good enough for ATCs? Can you handle the truth?

Very few companies share ATC's obsession with quality, performance and the pursuit of engineering perfection. ATC's products have always combined premium quality with leading edge technology. With their new PRO Series, they've just raised the standard! The PRO Series is a natural development of their award-winning SCM range, but with upgraded amplifiers and drivers, and incorporating Super Linear transducer technology.

The Ultimate Transportable Monitor System!

The most dazzling and revolutionary member of the new PRO Series is the SCM20A PRO, an active powered version of the well established SCM20. It employs a one inch soft dome HF driver and ATC's new seven inch Super Linear Mid/Bass driver, both housed in an aircraft alloy enclosure.

The alloy construction allows the cabinet to be braced more rigorously than cabinets manufactured with conventional materials. It also provides a heat exchanger for the in-built amplifiers, Omnimount wall bracket inserts, and a carrying handle.

An electronic crossover provides signals to a 250w amplifier for the Mid/Bass driver and a 50w amplifier for the HF driver. A LF contour control provides bass boost options for room equalisation, as well as a flat reference setting. A switchable integral power supply can accommodate 230, 110, or 100v AC giving the SCM20A PRO true plug-and-play operation anywhere in the world!

The Ultimate Main Monitors

The new PRO range, distinguished by their studio grey finish, all make extensive use of ATC's trademark soft dome technology and incorporate their revolutionary new Super Linear drivers.

The SCM50A PRO, 100A PRO and 150A PRO are three-way systems featuring either a nine inch, 12 inch or 15 inch LF driver, along with the three inch soft dome midrange driver, a one inch HF driver, and a built-in 200w Bass/100w Mid/50w HF amplifier pack. By interchanging the HF driver and monitor panel, these cabinets can be mounted vertically for main or mid-field usage, or horizontally for near field applications. As with the SCM20A PRO, a LF contour control provides bass boost options for room equalisation as well as a flat reference setting.

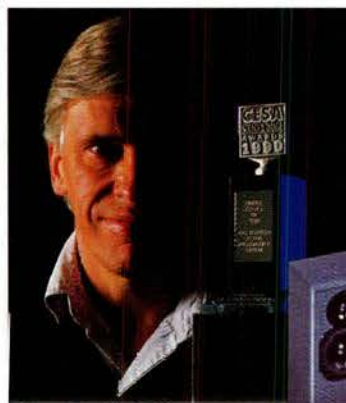
Super Linear Magnetic Material, eddy currents, and an obsession with audio

As you'd expect, ATC still make drive units the way all high quality drive units used to be made (or, as some would say, *should* be made).

They use a short voice coil in a long magnetic gap, so the voice coil is always fully immersed in the magnetic field. They also use a massive magnet assembly to ensure a symmetrical and linear



monitoring



Above: The full ATC professional line up, featuring iron dust but no Eddy Current distortions. Left: Bill Woodman, award winning duce.

magnetic field within the gap the voice coil travels through. The end result is much more expensive but, because the magnetic field controls the movement of the cone throughout the entire movement of its travel, distortion is minimised.

ATC's obsession with minimising distortion has led them to a breakthrough with the infamous 'Eddy Current' distortion: a dynamic form of magnetic distortion that occurs in all moving coil speaker systems. First discussed in technical papers from Bell Telephone Laboratories back in the '30s, Eddy Current distortion is difficult to measure and even more difficult to evaluate mathematically, although its effects on an otherwise low distortion speaker system are obvious. Numerous efforts have attempted to resolve this elusive distortion, but none successfully.

Going back to basics, a moving coil speaker functions when an amplifier feeds a current to the voice coil, creating a small magnetic field around it. This reacts to the strong magnetic field of the speaker's permanent magnet, causing the voice coil to move. Because the speaker cone is connected to the voice coil, it moves in proportion to the current supplied to the voice coil. If the current represents a music signal, the voice coil moves in accordance with that music signal, and the corresponding cone movement recreates the sound of that music signal.

The voice coil is located in a narrow gap in the speaker's permanent magnet, known as the 'magnet gap'. It's formed by two large sections of metal called the 'pole piece' and 'front plate', which are clamped to the speaker's permanent magnet. Because the magnet gap is so narrow (for maximum intensity of the permanent magnetic field), the pole piece and front plate are physically very close to the voice coil. Music signals create rapid magnetic field variations around the voice coil, and these field variations permeate through the pole piece and front plate, setting up small eddy currents which, in turn, modulate the magnetic field around the voice coil. The result is Eddy Current distortion, which is principally third harmonic.

In most moving coil speaker designs, Eddy Current distortion is swamped by other more significant and objectionable distortions, so it is conveniently ignored. But because ATC's drivers are low distortion devices with none of the more objectionable distortions found in other drivers, there was little to hide the effects of Eddy Current distortion.

Iron Dust

In order to transfer the magnetic field from the permanent magnet efficiently, the pole piece and front plate are iron-based, and it is their electrical conductivity which allows the eddy currents to flow with such damaging effect. Billy Woodman of ATC reasoned that if the material around the gap could be made from an electrical insulator, rather than a conductor, there would be no extraneous current flow. He needed a material that was magnetically analogous to the high permeability Swedish iron used in ATC pole pieces, yet was also electrically insulating, a good heat conductor (the metal around the gap is also responsible for cooling the voice coil) and machinable to the precision necessary for narrow gap dimensions.

Iron dust was the surprising answer to a long search for the right material. Particles of iron naturally form a layer of iron oxide (FeO₂) around themselves, and this in itself is a good insulator. Iron dust has been used in EF inductor cores for many decades, but in this form it is unable to sustain the maximum DC flux needed for speaker drive units.

Research showed that squeezing iron dust under ultra-high pressure and temperature conditions forces it into a high density mass without breaking the oxide layers. This is the basis of ATC's Super Linear Magnetic Material (SLMM), which supports almost the same flux density as mild steel while being a good electrical insulator. The material is very brittle and cannot be machined, but it can be cast into the required shape. Accordingly, ATC evolved a new pole tip geometry, utilising a sleeve of SLMM, while the front plate is fitted with an annulus of the new material.

The voice coil is now surrounded by two rings of SLMM, with the depth of the material being around one third the gap length. The combination of new geometry and SLMM gives a measured reduction in third harmonic distortion of 10 to 15dB, with the greatest performance gains occurring in the important midrange region.

ATC have now replaced all their drivers, from the SCM2C up, with the new SLMM versions (designated SL or Super Linear). So when you use the new PRO range ATCs, you'll be hearing even more of the truth.





Retail Pricing

ALLEN & HEATH: 'THE RIGHT MIX'

MIXWIZARD SERIES CONSOLES:

| | | |
|----------|--------------------------------|------------|
| WZ16:2 | 20 INPUT MIXING CONSOLE | \$2,995.00 |
| WZ20:8:2 | 8-BUSS RECORDING CONSOLE | \$3,295.00 |
| WZ14:4:2 | 14 INPUT DUAL FUNCTION CONSOLE | \$3,295.00 |

INSTALLATION MIXERS:

| | | |
|-------|----------------------------------|------------|
| GR05 | 4 ZONE/5 INPUT 1RU MIXER | \$1,295.00 |
| GR1 | 3 ZONE/11 INPUT 1RU MIXER | \$2,195.00 |
| DR66 | 6x6 DIGITAL AUDIO MIX PROCESSOR | \$3,695.00 |
| DR128 | 12x8 DIGITAL AUDIO MIX PROCESSOR | \$6,495.00 |

GL2000: FOUR GROUP FOH/MONITOR/DUAL FUNCTION CONSOLE:

| | | |
|-----------|-----------------------------|------------|
| GL2000/12 | 12 CHANNEL/20 INPUT CONSOLE | \$3,995.00 |
| GL2000/16 | 16 CHANNEL/24 INPUT CONSOLE | \$4,995.00 |
| GL2000/24 | 24 CHANNEL/32 INPUT CONSOLE | \$6,595.00 |
| GL2000/32 | 32 CHANNEL/40 INPUT CONSOLE | \$8,195.00 |

GL3300: EIGHT GROUP FOH/MONITOR/DUAL FUNCTION CONSOLE:

| | | |
|------------|---------------------------|-------------|
| GL3300/16A | 16 CH. 8 GP/8 AUX CONSOLE | \$7,995.00 |
| GL3300/24C | 24 CH. 8 GP/8 AUX CONSOLE | \$10,995.00 |
| GL3300/32C | 32 CH. 8 GP/8 AUX CONSOLE | \$13,995.00 |
| GL3300/40C | 40 CH. 8 GP/8 AUX CONSOLE | \$16,995.00 |

GL4000: EIGHT GROUP FOH/MONITOR/DUAL USE TOURING CONSOLE:

| | | |
|-----------|---------------------------|-------------|
| GL4000-24 | 24 CHANNEL MIXING CONSOLE | \$19,995.00 |
| GL4000-32 | 32 CHANNEL MIXING CONSOLE | \$24,995.00 |
| GL4000-40 | 40 CHANNEL MIXING CONSOLE | \$29,995.00 |
| GL4000-48 | 48 CHANNEL MIXING CONSOLE | \$34,995.00 |

ATC: 'CAN YOU HANDLE THE TRUTH?'

| | | |
|---------|--|-------------|
| SCM10 | NEARFIELD 5" PASSIVE 2-WAY CONSOLE-TOP MONITOR | \$3,895.00 |
| SCM20SL | NEARFIELD 6.5" PASSIVE 2-WAY CONSOLE-TOP MONITOR | \$5,995.00 |
| SCM20A | ULTIMATE PORTABLE ACTIVE MONITOR | \$10,995.00 |
| SCM50A | ACTIVE 9" 3-WAY MONITOR | \$19,995.00 |
| SCM100A | ACTIVE 12" 3-WAY MONITOR | \$23,995.00 |
| SCM150A | ACTIVE 15" 3-WAY MONITOR | \$27,995.00 |
| SCM200A | ACTIVE DOUBLE 12" 3-WAY MAIN MONITOR SYSTEM | \$49,995.00 |
| SCM300A | ACTIVE DOUBLE 15" 3-WAY MAIN MONITOR SYSTEM | \$59,995.00 |

MARANTZ PROFESSIONAL: 'MEDIA MACHINES'

| | | |
|---------|--|------------|
| PMD350 | COMBINED CD/CASSETTE | \$1,495.00 |
| PMD320 | SINGLE CD PLAYER | \$795.00 |
| PMD321 | BROADCAST TYPE SINGLE CD PLAYER (BALANCED) | \$995.00 |
| PMD502 | SINGLE CASSETTE PLAYER | \$995.00 |
| PMD502B | BALANCED SINGLE CASSETTE PLAYER | \$1,195.00 |
| PMD510 | DUAL TRANSPORT HEAVY DUTY CASSETTE DECK | \$1,795.00 |
| PMD510B | BALANCED DUAL TRANSPORT CASSETTE PLAYER | \$1,995.00 |
| CDR620 | STAND ALONE CD RECORDER | \$9,250.00 |
| CDR615 | STAND ALONE CD RECORDER | TBA |
| PMD680 | MONO FLASH RAM PORTABLE RECORDER | TBA |
| PMD690 | STEREO FLASH RAM PORTABLE RECORDER | TBA |
| PMD101 | MONO 2-HEAD PORTABLE CASSETTE | \$695.00 |
| PMD222 | MONO 3-HEAD PORTABLE CASSETTE | \$1,195.00 |
| CP430 | STEREO 3-HEAD PORTABLE CASSETTE | \$1,695.00 |

MARTIN AUDIO: 'A HARD ACT TO FOLLOW'

| | | |
|--------|---------------------------------------|------------|
| C115B | SURFACE MOUNT INSTALLATION SPEAKER | \$295.00 |
| ICT10B | SINGLE 5" INSTALLATION SPEAKER | \$295.00 |
| EM15B | 'DANGEROUS' DOUBLE 5" INSTALL SPEAKER | \$447.50 |
| EM26 | 8" 2-WAY PASSIVE TRAPEZOIDAL CABINET | \$1,395.00 |
| EM150 | DOUBLE 10" BAND-PASS SUB-WOOFER | \$1,895.00 |

WAVEFRONT SERIES:

| | | |
|-------|--------------------------------------|------------|
| W0.5 | 8" 2-WAY PASSIVE TRAPEZOIDAL CABINET | \$1,395.00 |
| WMO.5 | MINIATURE STAGE WEDGE MONITOR | \$1,395.00 |
| W3 | 15" 3-WAY ACTIVE TRAPEZOIDAL CABINET | \$5,495.00 |
| WS2 | DOUBLE 15" SUB-WOOFER | \$4,195.00 |
| WX3A | STEREO 2-WAY SYSTEM CONTROLLER | \$2,495.00 |
| WXA3S | MONO 3-WAY SYSTEM CONTROLLER | \$2,395.00 |
| W8 | MID/HIGH TRAPEZOIDAL CABINET | \$9,995.00 |
| W8S | HYBRID SUB BASS TRAPEZOIDAL CABINET | \$8,495.00 |
| W8C | MID/HIGH TRAPEZOIDAL CABINET | \$7,995.00 |
| W8CS | SUB BASS TRAPEZOIDAL CABINET | \$6,295.00 |
| WSX | MONSTER SUB-WOOFER | \$6,495.00 |
| MX5 | W8 SYSTEM MONO CONTROLLER | \$3,295.00 |

QSC: 'HEAR THE POWER OF TECHNOLOGY'

POWERLIGHT: THE NEW TOURING BENCHMARK

| | | |
|-----------|--------------------------------------|-------------|
| PL 1.0 | LIGHTWEIGHT 400W/CH POWER AMPLIFIER | \$2,695.00 |
| PL 1.0HV | LIGHTWEIGHT 500W/CH POWER AMPLIFIER | \$2,995.00 |
| PL 1.4 | LIGHTWEIGHT 550W/CH POWER AMPLIFIER | \$3,295.00 |
| PL 1.5X | LIGHTWEIGHT BI-AMP POWER AMPLIFIER | \$3,295.00 |
| PL 1.6HVX | LIGHTWEIGHT BI-AMP POWER AMPLIFIER | \$3,595.00 |
| PL 1.8 | LIGHTWEIGHT 700W/CH POWER AMPLIFIER | \$3,795.00 |
| PL 2.0HV | LIGHTWEIGHT 1000W/CH POWER AMPLIFIER | \$4,195.00 |
| PL 2.4MB | LIGHTWEIGHT 1400W POWER AMPLIFIER | \$3,995.00 |
| PL 3.4 | LIGHTWEIGHT 1200W/CH POWER AMPLIFIER | \$5,495.00 |
| PL 4.0 | LIGHTWEIGHT 1400W/CH POWER AMPLIFIER | \$6,495.00 |
| PL 9.0PFC | LIGHTWEIGHT 3200W/CH POWER AMPLIFIER | \$12,995.00 |

USA SERIES: THE POWER FOR DOLLAR BENCHMARK

| | | |
|---------|-------------------------|------------|
| USA 400 | POWER AMPLIFIER/200W/CH | \$1,195.00 |
| USA 900 | POWER AMPLIFIER/450W/CH | \$1,495.00 |

MX SERIES: QSC'S NO QUESTIONS ASKED MUSCLE

| | | |
|----------|--------------------------|------------|
| MX 700 | POWER AMPLIFIER 270W/CH | \$1,395.00 |
| MX 1000a | POWER AMPLIFIER 400W/CH | \$2,295.00 |
| MX 1500a | POWER AMPLIFIER 600W/CH | \$2,495.00 |
| MX 2000a | POWER AMPLIFIER 725W/CH | \$3,195.00 |
| MX 3000a | POWER AMPLIFIER 1300W/CH | \$4,495.00 |

SCV/LA PRO: 'POWER TOOLS'

| | | |
|-----------|--|------------|
| DI2 Mk3 | DI BOX ACTIVE TRANSFORMERLESS | \$295.00 |
| MD8 | DI BOX 8 CHANNEL RACK MOUNT | \$1,595.00 |
| DIP Mk3 | PASSIVE DI BOX | \$295.00 |
| DBT Mk3 | PASSIVE TRANSFORMER BALANCING BCX | \$375.00 |
| PHP | PHANTOM POWER SUPPLY UNIT | \$595.00 |
| PC80 MkII | PHASE TESTER | \$795.00 |
| TBOX | CABLE TESTER | \$195.00 |
| DA82 | LINE LEVEL DISTRIBUTION AMPLIFIER | \$1,195.00 |
| BCL2 | COMPRESSOR LIMITER | \$2,295.00 |
| MX41 | INSTALLATION MIXER/SIX INPUT MONO | \$1,195.00 |
| MX61 | CONFERENCE MIXER/SIX INPUT MONO | \$1,195.00 |
| MX32B | INSTALLATION MIXER/SIX INPUT STEREO | \$1,495.00 |
| DIGI-EQ | PROGRAMMABLE DIGITAL EQ/DYNAMICS PROCESSOR | \$5,995.00 |
| DIGI-EQS | DIGI-EQ SLAVE | \$3,995.00 |
| EQ231S | GRAPHIC EQUALISER/DUAL CHANNEL 31-BAND | \$2,495.00 |
| EQ231 | GRAPHIC EQUALISER/DUAL CHANNEL 31-BAND | \$3,695.00 |
| EQ231SPR | GRAPHIC 31-BAND EQ PLUS 'WORKSTATION' | \$4,495.00 |
| PFL52 | PARAMETRIC EQUALISER/SINGLE CHANNEL 5-BAND | \$1,895.00 |
| PFL104 | PARAMETRIC EQUALISER/DUAL CHANNEL 5-BAND | \$3,395.00 |

SST: SPECIALIST AUDIO PRODUCTS

| | | |
|--------|-----------------------------------|------------|
| BCA500 | BEAM CONTROL ARRAY COLUMN SPEAKER | \$1,795.00 |
|--------|-----------------------------------|------------|

Allen & Heath, ATC, Marantz Professional, Martin Audio, QSC, SCV and SST are available in your local area through:

And distributed nationally by:

T.A.G
558 Darling Street, BALMAIN NSW 2041
Phone: (02) 9810 5300
Fax: (02) 9810 5355
Email: araudio@ozemail.com.au

NOTE: Prices are current as of February 1998

RAMSAUDIO

John Paillas on the Ramsaudio stand said that attendances had been fairly good. He was particularly pleased with the reception for the new Ramsa WR-DA7 digital mixing console which will retail for around \$12,500.

It features 32 channels, 6 aux sends and 8 busses with motorised faders, in-built dynamics and snapshot automation.

Also drawing strong interest was the WS-AT300 15" stand mounted PA speaker which can be converted to a wedge for foldback use. Priced at \$1348 each for the 2 way enclosure, there is also a sub available for \$1060.

Paillas pointed out that the Ramsa gear is now badged Panasonic/Ramsa and that this will be a continuing trend as new gear is introduced. **HJ**

Coemar De Sisti Australia

The Coemar De Sisti stand was brimming with new products at Entech.

Of special interest was the sexy new CF 1200 from Coemar - a 21kg, carbon fibre, moving yoke, colour wash unit. And from TAS, Coemar's sister company, two new products the 575 colour wash fresnel, and a 1200 watt spot version. All the new units use the new Blue-pinch short-arc lamp from Philips.

Other interesting products included the 4k NAT with total movement head, for outdoor projection work, as well as the new Futurelight colour changers, and the smaller moving mirror unit which has



extensive functions.

But the spunkiest product for my money was The Fan from Apollo Spectrum. A simple idea but what an effect. Basically a revolving fan at the front of the unit simulates the "flickering shadow of a cooling fan". Instant atmosphere!

And with all the Coemar products at "super-low-cheap - 'you beaut' prices, there were many bargains to be snapped up.

Also on the Coemar stand, Rowland Hughes from ShowCAD Control systems was demonstrating the latest software release of ShowCAD. **-MJ**

Elsta audio

American DJ Supply, and Elsta share the same stand at Entech 98, They are two completely different companies, working in tandem. Between them, (quite a number of products overlap) they offer every thing but the kitchen sink, so long as it is required in disco land.

Rick Chisholm, M.D. of ADJ says this has been an excellent show and expects good follow up sales. The two companies have launched more than twenty new products this time, including quite a few that both professional and mobile DJs could not previously afford, utilising mass marketing techniques.

New products from ADJ include the affordable XEQ-152 and XEQ-312. The dB-Display is

a one rack unit of leds indicating the instantaneous power, and will look great in any DJ's rack. From Elsta come the new ESP Power 1000 and Power 500 amps, Australian made and with a five year guarantee.

There are also new desks and dual CD players. Indeed a trip to the Elsta and ADJ stand enlightened visitors on just how sophisticated modern DJ equipment is.

Audio Telex

Audio Telex proudly presented their range of quality imported audio equipment, which, importantly, included the release of the Peavey Media Matrix X Frame.

This is a scaled down version of the Media Matrix main frame, a DSP signal processing tool reviewed in Connections, and is available for (RRP) \$7500.

The X Frame offers a 2 in 4 out starter, expandable to 10 in 12 out. Up to eight pre-programmed settings can be selected, controlling the audio to various areas of a venue, and can be changed by staff with relatively little training, to suit moods such as morning or evening, or function changes.

The RFX radio equipment was displayed, proving to be a viable choice in that field. New releases in Peavey concert gear included the beautifully neat but punchy Impulse 200P, (self powered and actively crossed), moulded stand mounted speakers.

Brand new also were the XR 560 (150 watts @ 4 ohms) and XR 684 (2 x 200 watts @ 4

UV

Technologies

Providing an insight into UV lighting systems, the UV Technologies stand featured a number of products utilising black light techniques.

On show were long range UV spotlights and floodlights, glow effects, UV reactive PVC and acrylic plastic tubing which simulates neon under UV light.

Jeremy Oaten explained UV Technologies provide a conceptualisation service to develop UV themes for interiors such as bowling alleys and entertainment centres, and are sub-distributors for Rosco special effects fluorescent paints both visible and the new invisible Clear Colour paints

"Entech is fantastic. It's the first time I've ever been to it or exhibited. Our core business has been in non-destructive testing and mining industries but we realised the extent to which our products are suited to the entertainment industry so we decided to exhibit this year. It's a great opportunity to network." **-MJ**

ohms) powered mixers. For a duo or small self mixed band, these have the lot, in the standard convenient rectangular box.

The Peavey mics, rack amps, concert series desks, and Peavey and digital processors were on display, all to pleasure the Entech audience. **-SK**



Techscape expanding

Noel Bourne from Techscape was busy running between the two stands that made up the Techscape exhibit.

On display were the new Studio Spots for the first time in Australia, the full Technobeam range, together with the EC-1 architectural wash fixture and optical accessories.

The Mad Lighting range featured the new Q-scan, as well as the Opticolor fibre optic light source from Mad. Other



products on display included Lite-Dim shutters, the legendary Caterpillar from Lighting Technology and the Par-fume mini smoke machines

UV products from Wildfire Effects Master Series included black light fixtures and accessories.

Noel said they had lots of quality enquiries, and due to the positioning near the seminar rooms they picked up extra traffic...something to remember for future Entechs!

-MJ



Hartland Cables

Many types of cables were attractively displayed at the Hartland Cables' Stand.

The types include audio, data, coax., digital video and digital audio. Hartland is an Australian manufacturer based in Sydney and the price and quality are right.

Even better, Hartland will do custom runs of composite cable or other unique requests, and of as little as 500 meters.

The copper used is of high purity, and can be tinned if requested, and an attractive range of colours is available. If you are looking at doing cable runs, this is a good chance to get in and support Australian industry.

System Sales

System Sales handle a diverse range of product, but prominently displayed in the centre front of their stand were the CyberLogic power systems' NC 400 and 800 series.

These are multi channel high quality power amp systems. The 800 has a 10 kVA power supply - enough to generously supply 8 x 1600 watt amps.

It is a bit of a mother to lift, topping 60 kg., but this looks good when compared to four big individual amps.

It even looks good price wise, and saves quite a bit of truck space.

-SK



Group Technologies

Group Technologies handle the distribution of RCF loudspeaker products for Australia. RCF are an Italian company who have been manufacturing speaker components since before most of us were born. Of course they don't like being left behind by relative newcomers like JBL. They have always had competitive products, and their latest gear is the pudding that will be eaten by many.

The ART 500A is the perfect example of this. It is a self powered two way active system with a 15" driver for lows, and 2" horn for highs, in a rounded cabinet. On a brief and restricted audition at Entech 98, the 500A sounded full of potential.

There is an excellent range of discrete products, including drivers, horns, and Xovers for amateur and professional speaker builders.

RCF also have a very new product with the RX 400E radio receiver. The sweet part of this product is the condenser mic supplied and the price of only \$1295 RRP. G.T. also offer the ETEX range of connectors. These impress in price and quality.

-SK

Horwood Australia

Horwood Australia are the distributors for the Atlas Soundolier 100V line ceiling system. Of growing commercial importance sound masking systems can now be installed in offices and the like, and afford a degree of privacy with out in-

cluding aurally in the conversation in the modern open plan office.

Other highly desirable lines include the Atlas sound stands Musician Series, and Pro Co Audio Interface Family. Bellari Professional Tube Preamps and Processors are hand built in the good ol' USA, and would be valued in any studio, whilst the Furman and White lines are well known and respected.

New on display is the EMS modular rack system. This really needs checking out. It is a revolutionary expandable 19" rack case, modern plastic, lightweight, flexible in usage, and tough as!!!

The price is affordable too. Lucky sales manager Grahame Harrison, who gets to live with all this gear.

-SK

Jansen Agencies

Processors and crossovers were displayed, but a range of LAB GRUPPEN amplifiers was the eye catcher at this stand.

These are manufactured in Sweden. The range is from the LAB 300, giving 150 watts per side into 4 ohms, to the LAB 4000, giving a whopping 3200 watts into 2 ohms each side, and weighing in at only 10 kg.

This is achieved by using a fully regulated switch mode power supply, which can maintain full power even under supply restrictions. This sounds like sound engineer heaven to me!

-SK

Exhibitor contact list on page 30.

P. Audio and Cannon Wholesale join forces

P. Audio manufacture a very complete and attractive range of speakers and high frequency components. Their factory is in Thailand, and the products are specked to professional standards. Even so, the Asian advantage means that a P.Audio product can be purchased close to the recone prices of some other brands of speakers.

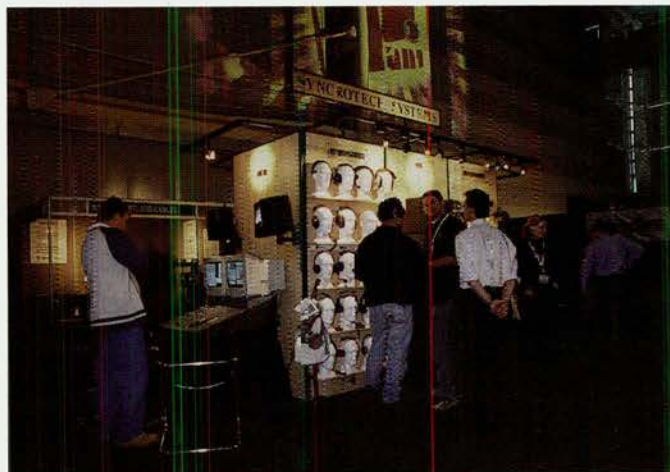
Cannon have now taken on the distribution of P.Audio products for Australia.

With the aid of design work from Jim V in Melbourne, and

the manufacturing skills of Ian Stewart of Ramtek Industries, Cannon are producing a range of audio boxes suitable for the hire industry, and professional owner operators.

Basically they are prepared to cut a good deal for the Professional operator, and have the advantage of the cost effective P. Audio product.

At the P.Audio and Cannon stand, interested parties received very comprehensive and beautifully presented catalogues of the product on display. -SK



Syncrotech

A tour around the Syncrotech stand with the managing director, Paul Heaton, revealed a number of really desirable products.

To start, for \$15,000 the Scuntracks MXD (32 ch.) enables serious front house mixing for live work. It has genuine English sound, and useful automation. That's bang for your bucks.

On the studio side, the Virtua is an entry level digital console for music and post production at \$4000, and can do much of the work of the Fairlight Fame.

Sonic Solutions was also being demonstrated. Sonic Studio V 5.2 was reviewed last winter in Connections and is now up

to V5.4. Its strength lies in its openness.

The range of KRK monitors displayed start at a very reasonable \$800 for the two way passive nearfield monitors, and reach up to the impressive KRK 13000B three way passive at \$5000.

Syncrotech also support a full suite of Beyerdynamic headphones and earphones. Beyerdynamic are renowned for their German craftsmanship and two new releases are the MCE 7 Micro Lavalier Microphone offering giant performance from minute dimensions and the MC 740, to do any studio proud. -SK

Ashton Admor open in Sydney

The Ashton Admor empire has expanded to the point where they have recently opened a Sydney office as an east coast launching point for the large range of products they are now distributing. ENTECH '98 was the opportunity for Ashton Admor to release an extraordinary number of new products from the lines they represent.

Spotlight srl of Italy, represented by Nicolo Oliva, were showing a complete new range of luminaires, including followspots, UV floods, cyclo-rama floods and full ranges of theatre, television and architectural luminaires.

Ermanno Tontini of SGM Elettronica was demonstrating the new Giotto 1200w MSR "moving head projector" a new entrant into the robotic washlight field, offering all of the

features required for theatre, concert and television use. Giotto offers 540 degree pan and 270 degree tilt with 16 bit resolution and the ability to trade off the amount of rotation for additional accuracy.

Also on show was the ColourDynamic100, a rather interesting colour effects projector which generates its fractal-like effects using a fibre-optical bundle consisting of hundreds of metres of optical fibres and a colour wheel. The patterns generated by the Colour Dynamic are also reputed to have a therapeutic calming effect something every IJ would have the occasion to take advantage of.

Space Cannon were showing their innovative Ireos range of dichroic colour mixing, DMX controlled, Xenon searchlights including moving yoke and

static, fully-weatherproofed architecturally oriented units. The architectural units are capable of being programmed with a standard DMX512 control desk or computer and then left to repeat a programmed sequence in the absence of the DMX controller. A single master unit can store the program sequences for up to 20 slave units.

Without a doubt, the best gadget on the Aston Admor stand was the locally developed and built, two channel, battery-powered hand-held pyrotechnics controller, complete with removable key and circuit continuity tester. Up to 10 devices may be fired on each of the controller's channels. A useful tool even though it doesn't directly interface to any of the standard connector types used for commercial pyros. -AC

ELSTA Lighting

One of the fun highlights of this stand was the range of Essential Party Accessories being launched.

They included the fingerlight for DJ's, strobing sunglasses and jewellery items that included earrings and bangles.

There were numerous other new products being launched and these included the Botex SPQ 2 1500watt dimmable strobe, controlled via DMX and the extraordinary looking StarWars laser that resembles a high tech spaceship in attack mode!

It features six adjustable mirrors and a stepper motor to allow for precise movement. It contains an internal microphone to allow the unit to initiate changes with the music. -JM



Studio Connections Australia

A good way to appreciate this stand is to note the brands on display. The core products include Lexicon and Drawmer processors, Genlec speakers, Microtech Gefell mics, and Sacie and Octavia DAWs.

In 1971, Lexicon produced the world's first digital processor, and have since been leaders in this technology. Now their newest product, the Lexicon Studio will provide processing into the future.

Drooling over the Drawmer 1962 Vacuum Tube Equaliser, and 1962 Digital Vacuum Tube Processor was not encouraged, but an understandable offence.

In the Genelec speaker range, there was a brief audition of the 1031A. At more than \$5000, it is still a popular choice as nearfield monitors. Don Dowling stated that persons using the 1031As, do not find the balance thrown out on transferring to commercial mixdown suites.

One last mentionable was the just released Microtech Gefell JMT 800 studio condenser mic. It has five selectable patterns of pickup, and is a direct competitor with the Neuman U 87.

Studio Connections Australia's exhibit was a real up market shopping experience for studio owners. -SK



Black Express

Black Express Light and Sound were offering cash and carry or free Sydney metropolitan delivery for the DJ equipment which they were selling direct from their stand.

The new Pioneer CEI-500s were featured along with Pioneer DJM-500 4 channel and DJM-300 two channel DJ mixers.

In addition the ADJ line of effects devices on offer, Black Express are now directly importing the extensive Programi Sistemi Luce range of lighting effects, that feature some very cleverly designed multifunction units which include several interesting effects in a single device. -AC

Media Vision

Media Vision were demonstrating two new hybrid lighting desks: Zero88's Sirius and Colortran's Innovator lines of

consoles.

Both consoles address the situation which appears to be rapidly becoming more prevalent, the integration of robotics and scrollers into rigs of what are essentially conventional, dimmer controlled luminaires.

Whilst the Zero88 desk is aimed at adding robotics to smaller club and community theatre installations, the Colortran Innovator, one of the first products since the merger of NSI and Colortran, is aimed at the mainstream commercial venue which is now running shows with scrollers and robotics.

The Innovator has up to three, configurable DMX output streams, 600 cue states, 2,000 time capable macros and two independent fade controllers, plenty of power to run most theatre productions.

Also on display from Colortran was a rejuvenated version of their original ellipsoidal/leko/profile spot range. Colortran have only changed the appearance of the luminaires as they believe their optics to be as good as anything else on the market already. -AC



Meyer Sound (Aust)

This ENTECH crystallised a new venture for Meyer Sound, the formation of Meyer Sound (Australia), run by Harley Richardson and Steve Devine.

John Meyer was on stand, in between meetings with consultants and being interviewed by journalists. Meyer

are enjoying a sales boom with their self powered speakers redefining the market. We understand most other manufacturers are working towards putting amps inside speakers, although many will offer both options.

John Meyer told Connections that speaker system design is a

perpetual compromise and that Meyer Sound have always taken a conservative approach to stating specification.

"We take back for that", but he asserted that although Meyer has a great marketing dept, the design group, headed by himself refuse to sign off any specification which is untrue.

Products on show at the busy stand included the new JPA-1P which has already been bought by many A/V and audio production rental firms.

John Meyer also talked about the role of the consultant, and expressed concern that products (like his own SIM) were incorrectly seen as replacements for consultants.

"We need experience and we need people who know how to analyse situations" he says.

John Meyer in Australia for just 48 hours before departing.

-Julius Grafton

PROLITE 3rd GENERATION LUMINAIRES

Prolite have developed their third generation of sub-kilowatt zoom profile spots with such in-demand features as microswitch power cut-off for relamping, locking gel frame retention latches.

There is a completely new body extrusion which offers an improved light seal in addition to a substantial increase in strength and rigidity and improved lens train adjustment.

Utilising a GKV 600watt axial lamp, which Prolite claim gives

the luminaires nearly three times the output of T/27 lamped units, the imaginatively titled Series III profiles come in either a 15/25 degree or 22/45 degree beam.

An unusual and attractive option for Prolite luminaires is the very recent addition (*prototypes only arriving for display by the second day of ENTECH*) of a built-in DMX dimmer with local selection to any DMX control number.

- Andy Ciddor



Lighting by Design

Lighting by Design generated a huge amount of interest in their custom gobos etched from stainless steel or vacuum deposited metal on a glass substrate, enabling them to produce grey scale images.

By applying the same principle to dichroic materials they also produce full-colour glass gobos, capable of withstanding the gate temperatures of most modern profile spots and robotics.

Joakim Odlander and Tim Bennett can turn a job around in as little time as a week from receiving original artwork.

They can produce gobos from line art, photographs and computer graphics files, provided that there is a sufficiently high resolution in the original material to withstand the enlargement of projection.

In a totally unrelated move, Lighting by Design were also showing the Arno quick release rigging strap.

-AC

TRC

The Resource Corporation were proudly displaying the K&M Drink Holder model 160/2, the legendary cup holder demanded by Dr Karl Kruszelniczi at the ENTECH awards dinner.

This device will hold cups, glasses, cans and bottles and has such useful features as a drip tray and a 270 degree safety rail. Available for a mere \$22 tax ex.

Also on display was the intriguing and innovative Teatrart safety stage which offers a transportable modular staging system based around a highly compact concertina like support structure, which folds down into an astoundingly small and lightweight structure for transport.

The stage-in-a-briefcase would seem to be getting nearer!

TRC were displaying the Link range of multipin connections and cables which includes a Socapex compatible mains-rated connector and the 150 pin connector which allows a full 48 mic/input lines to be connected in a single plugging operation.

Chameleon

This was a stand that demanded your attention, for starters it towered over everything else in the exhibition halls by several metres and featured two pool tables which proved to be a star attraction especially when stand visitors realised that it didn't actually cost anything to play.

A pool competition could be a profitable sideline for Chameleon next year!

Chameleon staff on the stand thought attendance's over the three days of ENTECH were good overall and at times there was no room to move on the

spacious stand which I'm sure had nothing to do with the bar facilities!

Chameleon were showing off a few new products which included the new ALE prototype winch up stand which is currently having its first manufacturing run. This is a sexy looking winch up with adjustable legs and spring lock-off which will be available in two heights either as a 22ft or an 18ft. It would be ideal for those occasions when you required something that looks a lot better than your used and abused trusty pub winch up.

Also making its debut was the new WaveFX from White Light which comes with a standard wave slide but can take an extensive selection of monochrome and colour slides which are available from Chameleon's ever growing slide library.

New Altman products were also shown, with Bob Kleigel from New York on hand.

-Jacqueline Molloy



ALCATEL

Alcatel Components were showing their now universal IDC connector line along with a full range of coloured boots suitable for many of their connectors.

Also featured were the new large-cable clamping Purple 'J' jaws and the machined pin options for the standard 3 pin XLR series connectors.

The Alcatel in-line attenuator range on display now includes bridging attenuators to provide both impedance matching and attenuation in a single device.

Although Alcatel have been producing optical-fibre patch cables for some years are now, it is only since the advent of high-volume digital networks in studios that the leads they were displaying have become part of the entertainment industry.

- AC

Cabel Labels

Cabel Labels were showing their latest development: SolutionBase, a computer based suite of solutions to the design, specification and installation of a number of common cabling installations.

Solution Base was conceived as an aid to organizations that don't already have the in-house engineering and design expertise but wish to undertake these projects using a reliable methodology. For each project it produces: specifications, parts lists, drawings, design notes, cable labels (of course), alignment data, troubleshooting information and a wealth of other operational and maintenance schedules, checklists and reference notes. Cabel Labels are continuing to add solutions for other types of installations.

-AC

Osram

OSRAM were displaying an amazing number of new lamps ranging from a 24 volt, 250 watt halogen lamp through to a single-ended, G38 based 6 kilowatt HMI.

On its first showing anywhere at ENTECH was the HSR 575/2, a new single-ended, metal-halide lamp for use in a range of robotic luminaires, although OSRAM believe the biggest hit of their new releases will be the HTI 152W which is a new 2,000 hour version of what was previously a 750 hour metal-halide lamp.

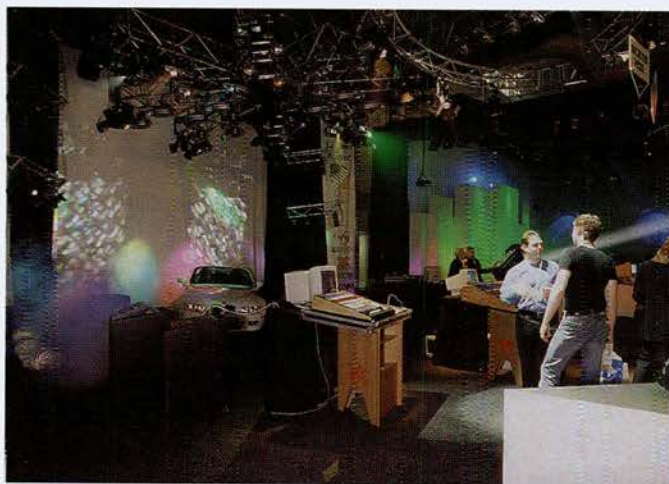
Whilst OSRAM don't manufacture fluorescent luminaires, they were displaying fluorescent softlights for film and television which are based around the fluoro lamps and flicker-free, dimmable electronic ballasts which they supply to luminaire manufacturers. OSRAM are promising a DMX controlled ballast in the near future to supplement the 0-10 volt controlled units which they are currently manufacturing.

Belden

Coffee machines are becoming a popular feature on ENTECH stands. In amongst the samples of cables that covered the Belden counter was a cappuccino machine that appeared to be attracting great patronage.

Also featured was a fairly new cable from the company which is the Belden MediaTwist, a four twisted pair cable that Belden believes has set a new benchmark for unshielded twisted pair (UTP) technology. MediaTwist was recently used to cable a TV station in Detroit and Belden believes their cable was chosen over the more traditional coaxial cable as it enabled the station to have conformity of cabling and it also reduced installation costs.

Belden has recently bought out Olex Cables communications division which gives them an Asia Pacific base and they now also have manufacturing facilities in Australia. -JM



ULA: Universal Lighting & Audio

ULA's Managing Director, Con Biviano thought this year's ENTECH was the best looking in terms of layout, though he was disappointed with the fact that the show didn't run on a public holiday or weekend to attract a wider variety of attendees.

ULA had fifteen employees and international guests working the stand which featured a stunning white BMW James Bond sports car - that had a sound and light show designed around it - which allowed products on the stand, including the amazing looking Abstract VR 8 scanner to be put through its paces.

It produced an 'archtainment' theme around the car, as well as using the car as a 3D prop.

On hand to give the VR 8 its Australian launch was John Saunders from Abstract. Other overseas guests included Axel Zeisenwenger and Michael Nothelfer from JB Lighting who were here to share their knowledge of JB's new VaryScan 5.

A product that attracted a lot of interest was the Neutron Star Hazer from LeMaitre and David Neill and Andy Harvey were out here from England to demonstrate.

ULA have also taken on the importation of LeMaitre pyrotechnics, so it was a busy ENTECH for them.

Significantly, ULA have recently taken over the exclusive Australian distribution of Avolites products. Avolites Sales Director Steve Warren was out here to fly the flag. He was particularly excited about showing off the new Azure 2000 lighting console which was launched at FLASA in 1997 and was also demonstrating the capacities of the Diarrond II and the Pearl 2000 control desks.

Also featured on a nearby stand were the Citronic and KAM range of DJ mixers. Biviano said that disco mixers sell extremely well and are very hot retail items, demonstrating that the Australian DJ mixer market is a large one. -JM



Cliff Catalogue

Paul Montague from Cliff Electronics was brutally honest in saying that, as a parts distributor, the only really new items on display at ENTECH were a line of coloured-insert control knobs, but what was much more important was the new colour catalogue.

The catalogues were in such demand from the kind of people who enjoy looking at coloured knobs, roadcase fittings and the colour range of those neat velcro one-wrap cable-ties that were sampled in Connections last year, and all the other cool tech stuff they supply, that the entire stock was exhausted by the second day of the show. If you missed out on getting your catalogue send an email to cliff@contal.net.au or fax them on (07)3252 3165. -JM

HirePoint '98

HirePoint were at ENTECH to showcase the latest version of their widely used equipment hire management software: HirePoint 98.

This version of HirePoint builds on previous releases by being a 32bit application compatible with Windows95/98 or WindowsNT and takes full advantage of the Windows95 Graphical User Interface (GUI). Interfaces to Word95, Word97, AccPac, MYOB, Sage and email systems in addition to the ability to use data from all previous versions of the system allow HirePoint98 to integrate with most office systems.

Available as HirePoint98 Lite or Pro, this software can be purchased outright or rented. But do they track their rented software with HirePoint? -AC

Stageline

Carl Richard from Stageline of Quebec, Canada admits that his presence at ENTECH was a fishing expedition to see if there was interest in his company's product in Australia. For the last 20 years Stageline have designed and manufactured mobile stage

systems that start out looking and driving like an air-riding pantech but which hydraulically metamorphose into a full load-supporting, roofed stage - complete with trusses, wings, windwalls, access stairs and safety rails in just a few hours.

The extremely impressive looking Chameleon stand at ENTECH was actually set up on one of Stageline's mobile stages. According to Carl his fishing expedition was successful, so be on the lookout for stages sprouting in a paddock near you. -AC

Treotham Trading

Treotham Trading, a first-time exhibitor at ENTECH were showing their ranges of mains rated multicore cables, multipin connectors and relay control equipment.

Far and away the most interesting item on display was the Igus range of "Energy Chains". Energy Chains provide a protected flexible conduit for any sort of cable or hose and can be used to safely feed audio, video, power, compressed air, liquid nitrogen, hydraulic power etc. to moving set elements, flying scenery, moving trusses, stage lifts, camera dollies, stage trucks, flying lighting bars or theme park rides.

Another piece of industrial technology just waiting to be exploited by the inventive minds of the entertainment industry.

-Andy Ciddor

PHILIPS LIGHTING

Philips were displaying their latest development in incandescent lamp technology: their "Blue Pinch" lamp range.

Philips have developed a method of pinching off their lamps which will withstand higher temperatures than previous technologies. This allows the hot filaments of their new lamps to be closer to the pinch seal in the base which means Philips can now make shorter lamps and luminaire manufacturers can in turn make smaller luminaires.

Desisti the film and television luminaire manufacturer have already designed new, compact luminaires using the Blue Pinch



The AV Group

The AV Group were demonstrating a range of very interesting video products. The most eye-catching was certainly the Fujitsu General 42" (105cm) Plasmavision widescreen (16:9) video display which is only 150mm deep.

With full-frame instead of raster screen refresh these units will be ideal for watching the 2000 games on, but only if the prices come down in the meantime.

Although a lot less spectacular in appearance there were many other exciting A/V devices on show, particularly a number of 1RU sized marvels which included the Network Electronics cross-point switcher with an 80MHz bandwidth; a G2 composite video processor which

combines a Time Base Corrector, Standards Converter, Proc Amp, Noise Reduction and a Test Signal Generator; a G2 component video processor which combines all of the above with composite, serial and component video conversions and the G2 Image Engine which can provide a complete, continuous video and audio slide show from computer images stored on a PCMCIA card.

The Eckler Instruments Pointmaker which allows you to overlay pointers, highlights and comments over any video stream was great fun to play with although it's really intended for serious applications such as lectures, video conferences and evidence presentation in courtrooms. -AC

Stage Technologies

Stage Technologies had only one item on display the Nomad stage automation controller, a huge leap forward in technology from their previous products, the widely used Acrobat and Juggler. The Nomad has recently been selected for con-

trolling the stage machinery at the Royal Opera House, Covent Garden and the Sadler's Wells redevelopment. The slick, ergonomic design of the Nomad controller seems to be following the trend in automation controllers set by Bytcraft's Argonaut.

lamps, as have Selection NZ who unfortunately didn't have any of their new Pacific luminaires available in time for ENTECH. And for those who couldn't make it to ENTECH but were wondering how Philips managed to colour the sails of the Opera House blue the secret can now be revealed: with blue glass filters from Showcraft over the front of their metal halide Arena Vision architectural floodlights! Doh -AC

ShowSafe

ShowSafe were pleased with the amount of traffic that moved through their stand expressing an interest in the organisation and what it stood for. They had a diverse range of literature covering various aspects of workplace safety for the entertainment industry and though they were surprised by the number of visitors who knew very little about the rules covering safety, they were pleased that they were in a position to offer information.

The safety seminars run by ShowSafe were well attended and generated lively discussions by those present. It was beneficial for all sectors of the entertainment industry to have the opportunity to hear one another's point of view on particular issues such as electrical testing and tagging.

ShowSafe hope to "promote ShowSafe as the credible vehicle to represent the industry on a national basis and lobby for the industry's needs and concerns to be addressed appropriately".

ATM Fly-Ware

Andrew Martin from USA company ATM Fly-Ware was making his first trip to Sydney to promote the company's products and took part in the rigging seminar alongside ShowSafe.

The company build systems that will suspend any loud speaker configurations and their products are unique because they're generic. They have over 650 products that can accommodate different speaker widths and changes in splay angles and gaps and that can enable pick up points to move. The company

Elite Industries

The Elite Industries group were demonstrating a number of video display products which included several Davis video projectors ranging from the ultralightweight (4.5kg) DL450, to the more powerful high contrast Powerbeam V and VI digital projectors for boardrooms and presentations. The most seriously fun device on the Elite

stand was the Powerscreen PS600 "interactive projection TV computer" which featured a 60" (1.5m) projection monitor/television/satellite receiver and sound system connected up to the built-in Pentium 200MMX computer with 128MB of RAM and a DVD player. Just \$27,385 (including tax). -AC

produce an extensive catalogue that details their various products.

Martin explained that ATM Fly-Ware is at the cutting edge of safe rigging practices and that they conduct workshops throughout the USA. Later this year they will launch an international program of safe rigging seminars.

American DJ

Rick Chisholm was really pleased with the constant stream of traffic through the stand and was very excited about the number of new products that the company was launching.

Inside their demonstration area they had a highly organised set-up with all their lasers and effects rigged with each one tagged to clearly indicate the product name, price and an identification number. A synched sound and light show then took the viewer through a demonstration of what each product was capable of.

A new product generating interest was the Stingray GREEN Laser, a compact laser which is lightweight with a head that features a unique beam splitter that creates the illusion of multiple beams generated by the one source.

Scott Davies, American DJ's General Manager from Los Angeles was at ENTECH to lend support and educate visitors about the company's wide range of products. He was also there to see the launch of the Lightsounds DJ chain of shops catalogue which is a 100 page catalogue outlining the various items the chain will carry. There are products from American DJ as well as brands such as Denon, Intimidation and f.a.l.

ENTECH 98 was officially the first time the full range of Antari foggers was on display with around half a dozen models and accessories on view. The new X-TremeAS moving light was launched featuring a 150w discharge lamp with 6000 hours of lamp life. For new products the ELSTA stand was a great place to be!
-JM

Lightmoves Technologies

The big tease from the Lightmoves team was projecting a custom designed live analogue clock gobo from an Optikinetics projector and not telling how it worked! Even with the projector turned off the clock holds time for up to ten days. The Optikinetics innovations didn't stop there. There was the new eight way slide changer which can take eight duplicate 35mm slides and can fade from one slide to the next via the shutter. This is obviously a lot cheaper than purchasing custom made gobos. Neil Rice from Optikinetics was on hand to display the finer points of his great looking projectors.

It would have been hard to

visit ENTECH and not notice the two helium inflated Lumiballoons suspended above the Lightmoves stands. The balloons are internally lit by tungsten halogen light sources and range from 300watts to 2000watts, producing a diffuse portable light source. They are available for hire or purchase.

Also on display was Teatro's new 650watt ONDA profile with a beam angle of 15-41 degrees in the one luminaire. Teatro also have a new 500watt fresnel that is interchangeable for either a fresnel or PC lens. On display for the first time was Racklite, suitable for mounting on any equipment to provide illumination.
-JM



Scafform

Scafform in Australia has only been operating for four months and the two partners felt it was very beneficial for them to be exhibiting at ENTECH.

They are Sydney based and provide elite seating and TOMCAT ground support staging systems and have complete rigging facilities which include CM and loadstar.

At the moment they can provide up to 1,000 seats but by the end of the year plan to have 4,000. Next year they plan to start manufacturing locally.

Also on display was the AltC grandstand seating system which is new to Australia. Receiving a lot of interest, this is the first seating system to be bought by the organising committee for the Olympics.

Oatley Electronics

Oatley sell their products in kit form making it very affordable and enabling them to carry a diverse range of products ranging from lasers to surveillance systems. This is the first year they've had a stand at ENTECH and each time I ventured to speak with them, they always had a potential client with them.

They sell through mail order and can also custom design products to suit particular needs.

Laser kits are popular as well as rope lite kits and foggers. The company uses the web a lot to do business and find that they can keep their prices down by doing most of their business by mail, though they felt that investing in a stand this year had paid off. Some of their more popular products include the automatic laser light show and audio laser light show.
-JM

Nightlife Music Video

The guys at Nightlife have been to every ENTECH and are old hands. This year they were displaying a couple of products they were pretty excited about.

Of particular interest was the Denon DN 2500 beatmixing system with a fully modified video CD decoder that enables you to play music video CD's. According to the Nightlife team this is quite a revolutionary system.

The other steaming hot product was the Denon DN 1400, a 200 stack twin VCD player that allows the DJ to be playing one CD while cueing another without ever having to handle the music or endure boring gaps in play. This system is designed to give flexibility to DJ's.

Dr Karl Kruszelnicki's after dinner speech at the Awards received 9 out of 10 for effort and good fun from the Nightlife crew and they begged me to give it a special mention!!!
-JM

Total Fabrications & Wild Gravity

Noel Anthony from Wild Gravity, the Australian representative for Total Fabrications, had a great stand planned for ENTECH 98 but unfortunately by day 3 the components for the stand were still loaded in containers down at the wharf!

Fortunately he had access to a truck that happened to have numerous sections of truss in it which he improvised with to build a stand, but in keeping with the week he was having, the truss was up the front of the heavily loaded truck!

Given what he'd been through Noel was quite cheerful though naturally disappointed but at least he did have samples of his rig of 48 EV X Array speakers that are available for hire and he also had details and images of previous projects the company have undertaken. Total Fabrications also produce a stunning brochure that details their products. Noel should definitely receive an ENTECH award for bravery and good humour in the face of adversity!
-JM

Lee Filters

Lee have only released one new colour since 1996 and that was PLASA Red, chosen by the members of the PLASA team.

It's rather exciting for them then to be on the verge of releasing 13 new colours which will be called the 700 series. Several British lighting designers were invited to come to the Lee factory and create the colours they'd always dreamed of.

The designers were given complete freedom in their choice of new colours and will now have to live with the consequences! The new colours will be available in Australia in late June. Lee have also been busy designing new gobo patterns and have just released 54 new gobo designs. -JM

Show Lighting Australia

Derrick Saunders from Pulsar was very happy to be out here at ENTECH and very pleased with the response generated by the products on display. He felt that much of what was on show on the stand was a result of innovation and high quality and came from a knowledgeable team of people.

There were new products from Clay Paky such as the new range of moving light luminaires; the Stage Colour fixtures, a stylish luminaire which ranged in size from the compact Stage Colour 300 to the Stage Colour 1200. A regular show on the stand put the fixtures through their paces and received good feedback from visitors.

Clay Paky also had a huge range of clothing on display, an area that looks to be a growing interest. In the future there'll be no excuse for being badly dressed at ENTECH!

-JM



Pioneer Electronics

The Pioneer team were so pleased with how the show went that they left ENTECH before close of business on the last day, leaving a minder to watch the stand! They no doubt went somewhere to celebrate given that they had sold every piece of equipment off their stand over the course of the three days. I guess it made packing up a quick and painless process!

Products attracting interest on the stand had been the small footprint cube projection systems and the Plasma screens. The star product was the newly released DJM-500, a 4 channel DJ mixer with synchronised effects.

BOSE AUSTRALIA

At the entrance to the show was the BOSE stand, (below) brilliantly designed, colourful and with plenty of focus. Nicole Hainsworth at BOSE put it together, in concept terms. It is modular as BOSE do a lot of different trade shows.

Crown amplifiers were on one side, with Panaray and various BOSE products scattered throughout.

BOSE auditioner was on hand too, and the stand had neat meeting rooms and hidden catering where required.

Brian Chiccott told me he'd been cracking a lot of business, and overall the BOSE team looked quite happy. -JG

Jands Electronics

Jands had the primo real estate being just to the left of the entry. Their stand was very large, their biggest ENTECH display yet.

Chris Goddie from Spirit was busy on the Jands stand showing several Spirit products that included the Spirit Powerstation 1200 power mixer and the Spirit Digital 328 mixer, which was making its southern hemisphere premiere. The Digital 328 was considered one of the hottest attractions at ENTECH by visitors.

He was also showing the entry level Spirit FX8 mixer and was very enthusiastic about the response and interest he was getting for all the Spirit products.

ucts.

The Jands staff felt that overall the visitors they had to their stand were genuinely interested in technology and they felt that they had met some new customers.

One of the highlights of the stand was of course the eagerly awaited Echelon, a 1000 channel lighting control desk. It is designed to accommodate both conventional and moving fixtures and uses the Wholehog II operating system.

Jands had brought along their mobile studio which enabled them to show off the JBL linear spatial system (LSR) studio monitors which just arrived in about a week before. -JM



Showcraft

Lee Conlon was a busy man right up to the closing moment of ENTECH. At the last minute a group of potential buyers decided they absolutely had to have a demonstration of Showcraft's architectural scrollers before they returned home interstate.

The new product on this stand was the new range of dichroic filters which attracted interest. Each colour filter is made to order and the glass thickness is chosen for each individual job depending on the application.

Showcraft's foray into the area of longlife architectural lighting has seen the development of unique products that have been very well received.

-JM

PLASA LTD

PLASA representatives attended ENTECH this year for several reasons but primarily to accompany the large group of British exhibitors, many of whom were attending ENTECH for the first time.

It also gave the association an opportunity to promote their organisation and their annual tradeshow held in London in September. My real suspicion is that they were here to enjoy the Sydney Nightlife and I'm sure I saw the official ENTECH "Nurse" head to the PLASA stand several mornings to hand out the medicinal berocca! -JM



Haycom and Hughes put it up there

Nobody who attended ENTECH 98 could have missed the immense video images being projected on the rear wall of hall 2. Haycom staging whose bread and butter is large screen video projection outdid themselves with images created by a dual projector system.

In a three hour operation, two 3kw Xenon powered Hughes-

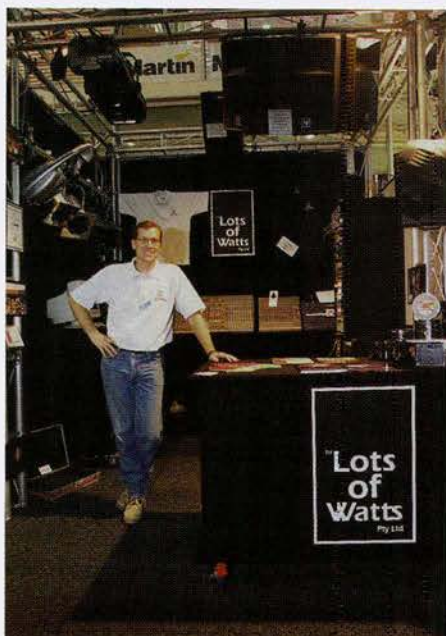
JVC Model 570 projectors were aligned to overlay each other to provide the brightness necessary for viewing.

The images were sourced from a JVC Professional DVC player via a line-doubler to provide the resolution and image stability which such projection system deserves. Truly monolithic images.

Columbus McKinnon & Lodestar

Columbus McKinnon, maker of the Lodestar chain winch, one of the most popular devices to grace the concert stage, were attending ENTECH to introduce the very cute Prostar 300lb (135kg) chain winch. Available in both single and three phase versions, the baby Prostar looks set to become a regular performer on the con-

cert stage. CM's other reason for attending Entech was to gauge the need in Australia for the CM "Motor Schools" which are popular in the USA and Europe for training users in the safe rigging, loading and maintenance of chain winches. The news is that Motor Schools may well make an appearance here in Australia.



Lots of Watts

With many years experience in professional sound and lighting for hire, production, sales and installation, Lots of Watts were kept busy promoting many of the products they deal with - Clay Paky, Martin, LSC, Dynalite, Jands, Turbo, Midas, Soundcraft, Yamaha and Alien & Heath. Reps from both sales and hire were fielding enquires from all areas of the business.

SBA MUSIC

SBA specialise in supplying audio and video CDs together with the hardware required for synchronised playback. Their flagship product is the Beat Suite.

They noted that the show was quieter this year but were quite happy with the steady flow of people through the stand. They were, however very disappointed with the noise restrictions, feeling that they were excessive and had restricted adequate demonstration of their products. Overall, they made good contacts with people from a variety of industry sectors. Asked if Entech had been good for them, they replied "Ask us in 2 months time". HJ

DIGIDESIGN & SOUND DEVICES

Digidesign came to Entech with the new version 4.1.1 of the ProTools operating system, together with the HUI 'Human User Interface' from Mackie, a purpose designed control surface which interacts directly with ProTools - no more mousing!

V4.1.1 offers new EQ algorithms and dynamics with new onscreen ways of depicting these. There is now automation for every parameter and compensation on a channel by channel basis for delays introduced by plug-in processors.

The demonstration using HUI showed that the interaction between the control surface and the screen is virtually instantaneous.

A static display on the Digidesign stand also referred to the forthcoming ProControl system, a heavyweight dedicated control surface for ProTools which is targeted at upscale installations.

David Corazza from Digidesign rated this year's Entech as extremely successful with generally high contact quality. They had seen a mixture of existing clients looking to upgrade together with novices intending to get into digital editing. He was very happy with the show.

-HJ

STUDIO SUPPLIES

On the well positioned Studio Supplies stand, Leon Hart reported good attendances with a consistent, steady flow of people, particularly those from remote areas of the country such as FNQ and WA whom he would not normally have the opportunity to meet.

His stand was featuring DPA microphones, Dynaudio speakers and Panasonic DATs. The DPA mini mics were the subject of particular interest. When questioned about the build quality, Hart told me more about mic manufacture in 5 minutes than I previously knew in 20 years. If you want to know about mics, Leon is definitely the man. Studio Supplies were also involved in the debut of the Ramsa digital console. HJ

Martin Professional Lighting Australia

I met Jens Helmer Larsen, the Martin area sales manager from Denmark at the stand who was thrilled to be in Sydney and spoke to Emmanuel Ziino, Martin Australia's Managing Director who was very pleased with the way the show had gone for them. Of course two of the most popular products on the stand were the MAC500s and MAC600s which Ziino said sell themselves these days.

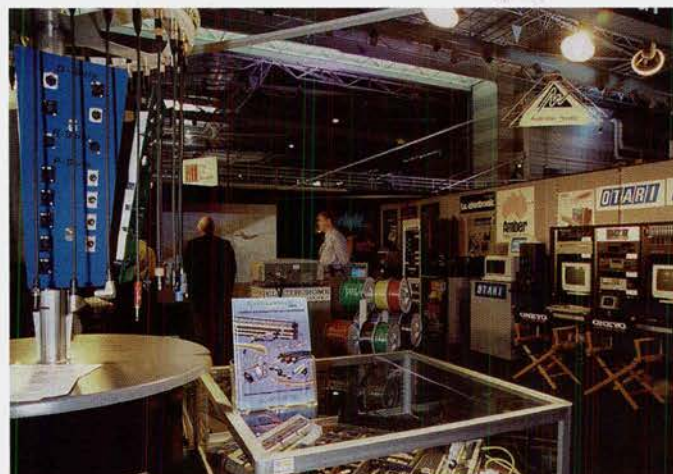


The Martin ProScenium^{DMX} multimedia lighting controller received a lot of attention too. This DMX512 software package can turn your PC or laptop into a lighting console with a multitude of features.

There were also disco effects and the popular Martin ImageScan. New architectural products were extremely popular - the way to go. Like many of the stands this year Martin

had regular shows which talked the audience through each of the products on display and they also held their own private seminars to acquaint visitors more closely with their products.

If you wanted a piece of Martin merchandising to take home, there was plenty to choose from as their Swag shop was full of goodies and if you hung around at the right time you might have been one of the lucky 200 to take home a free cap!



Amber Technology

This stand was browser heaven, with everything from Electrohome Video projectors, Fairlight MFX, Otari multi-stack CD burners, through the hot Neumann TLM-103 large diaphragm mic, at A\$1,595 inc. The TC Electronics Fireworx effector was getting a lot of demo action, and the Canare, Neutrix and 101 other devices on stand were all begging attention. Amber have a very strong grip on their distribution and their customer base, and always generate a friendly, efficient vibe on their trade show displays. -JG



Syntec International

The Syntec exhibit was very clever, taking full advantage of an island stand to produce a four sided display with a central feature. The feature was a tiny stage, with a drumkit and other instruments.

This served to demonstrate graphically the new Sennhieser Evolution range of microphones.

It was, without doubt, the most effective microphone dis-

play at ENTECH, because each mic was in the appropriate place.

Evolution is an affordable range, comprising vocal and instrument microphones priced from A\$269.

In addition, Syntec showed off the latest Fostex hard disk recorders, including the new D-160 16 track (A\$5,400) and the 4 track FD-4 portable HD recorder at just A\$1199.

Numark DJ audio

NUMARK Nick Skitz from DJ supply house Numark said that this year's Entech wasn't bad for them, but hadn't been as good as last time.

He felt that they had had good contact with the trade but that there were not enough attendees from the general public.

In particular, he missed the DJ shootout which was a feature of the previous Sydney show, saying that this year's Entech lacked a drawcard and that the organisers should be more pre-

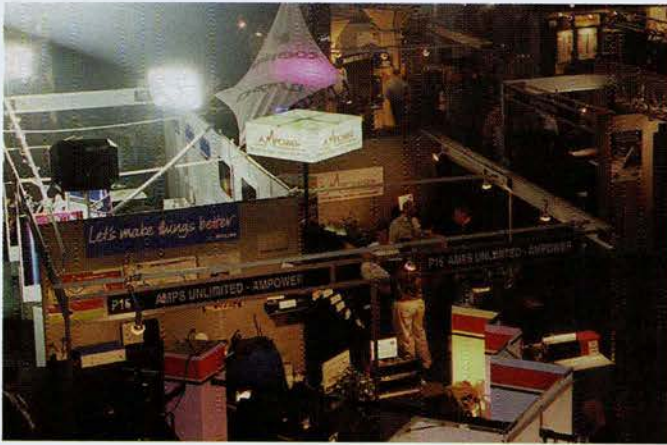
pared for the DJ crowd.

"I'm missing the hype & excitement of the crowds". All the regular Numark lines did well, with the Beatkeeper mixer and CD being favoured in particular.

Howard Jones

Organisers comment: this ENTECH was a Trade Show, but this doesn't/didn't stop any serious DJ getting in free. For the ENTECH 2000 show we will obviously take into account comments like Nick's. But in an open venue, noise and 'public' need to be controlled.





Ampower - ing

More audio and more amplifiers from Ampower - the E-Series BiPolar amps range from 2 x 450w to 4 x 450w and 2 x 800w, all into 4 ohms. Ampower have an expanding network of contractors buying Philips Commercial PA products and Ampower amplifiers nationally. They seem to be impacting on AWA, upon whose turf they certainly tread! The Philips range is vast, ranging from ceiling speakers through high power speakers and electronics. -JG

Capital Karaoke Imports

Capital Karaoke Imports UK was the first company to demonstrate karaoke in the UK (at PLASA, the UK's version of EnTech). Owner DARRYL HAYDEN himself a very experienced karaoke-jock has expanded to Australia with an impressive range of karaoke players and discs from around the world. Capital Imports (Aus.) also represent Sunfly in Australia.



Moore Music

Owner Tony Moore looked very happy when I encountered him on his stand. He is President of the Australian Music Association these days, and uncommonly in touch with music at street level. Why else would Moore Music have embraced DJ technology several years ago?

They distribute Vestax, which comprises a growing line of mixers, CD decks and multi purpose boxes. Mark of the Unicorn, Soundtracs and a whole raft of software titles and brands make up Moore Music, who also sell some traditional music lines not relevant to ENTECH.

They also sub-distribute Roland dance products, which makes for an interesting retailer/dealer dynamic. Tony Moore is quite comfortable with DJ technology, whereas many other music wholesalers are uncertain how to react to this market.

The traditional music market (guitars, amps, drums) is declining at a steady rate, with music shops forced to get with technology like that offered by Moore Music, or get out of business.



The PA People

The week of ENTECH, The PA People had finished commissioning of the first of several stage management consoles at the Sydney Opera House. MD Chris Dodds told an ENTECH Seminar on audio routing that the system developed for the SOH incorporated a variety of new developments. Firstly, it is currently the largest QSC RAVE network (Rave stands for Route Audio Via Ethernet) and it includes control for AMX as well as Peavey MediaMatrix components.

This is typical of where PA People are at, they also recently won the tender to install the PA system at the Olympic Stadium at Homebush. The stand reflected their high tech design, consulting, and manufacturing abilities. PA People have come a long way in 25 years! -JG

Yamaha at ENTECH

The new 01V 20 bit digital mixer pulled the people onto the Yamaha stand, where the whole digital mixer family were lined up - 01V, 03D, 02RII. Steve Lincoln-Smith told a Digital Mixer seminar that Yamaha have been in the digital mixer business for over 10 years now - and they have!

The small but efficient stand featured the new GA series sound reinforcement consoles, and the new Club loudspeaker systems - as well as the new 8 track MD recorder, MD-8.



Digital Sound Systems

The stand was empty when I arrived (above), but SoundScene and some net digital audio gear was on show. DSS also sell a lot of Penny & Giles components and faders, a very dependable part of their business, according to owner Rick Dowell.



Roland pack 'em in

It was indeed a pleasure to see a world debut at ENTECH, hot out of the R&D lab at Roland - a facility so prodigious it must resemble a small city! The new VideoCanvas products, the V-5 video-mix and title processor; and the new A-6 digital multi audio station: both will land at an eye poppingly low price of about A\$3000 each!



Roland of course used ENTECH to debut some quite extraordinary DJ products - and the stand was mainly given over to these and also the new VS-1680 16 track recorder. Hi tech city, a popular (if compact) stand. -JG

Ampetronic Ltd

Since 1987, they've made induction loops.

Since 1987, they've made induction loop drivers with extensive (and continuing) research into the requirements of the industry. The launch of the ILD9 loop driver was a watershed in establishing new standards and performance.

The present equipment line-up consists of various loop drivers, ranging from ticket counters to 1200 sq.m., with facilities for covering areas up to and beyond 8000 sq.m. Other equipment includes pre-amplifiers for microphones, loop monitoring receivers, flat copper tape for under carpet installation plus adhesive tape and PVC extrusion for installing the copper tape. Consultancy / advisory service offers full CAD design for induction loops, especially for complex lay-

outs, and for very low-spill induction loops. They have been granted a British Patent on a novel technique to suppress the generation of interference on induction loops.

Audio Visual Aust

Featuring the unique range of Tuffy Trolleys constructed from injection moulded thermoplastic that won't chip, warp, crack, rust or peel.

These durable trolleys are the perfect tool for storing and moving your valuable equipment. They are designed to move easily over tile, carpet, cement and hardwood surfaces utilising their four 19cm swivel castors.

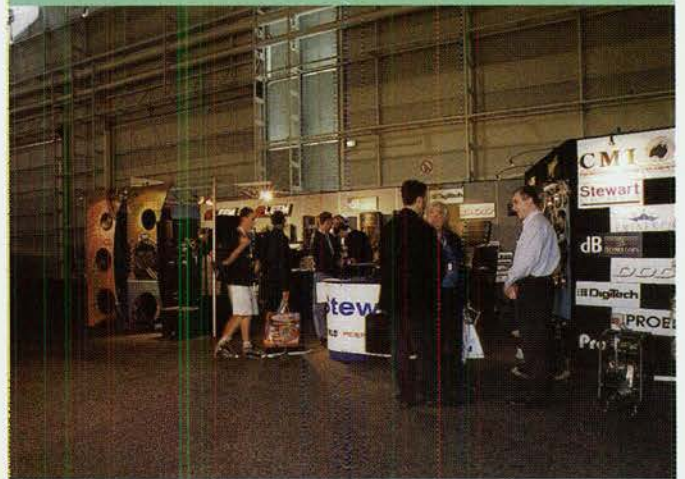
An extensive range of options are available to customise the trolley to your requirements.

CMI: Central Musical Instruments

Established in 1977, CMI have done a respectable job. They are in the top 5 musical equipment distributors, and also have operated on the edge of the pro audio market, representing lines like Dod, Digitech, Eminence and Proel. Now CMI have their competition on red alert, because family member Peter Trojkovic has joined after selling his long established concert and pro audio outlet, Troy Balance Corporation.

This naturally has fuelled fears that Peter and Drago (MD of CMI) are Out There Shopping For Agencies. Peter of course is the picture of innocence, absolutely insisting that CMI already have enough, a poultice of pro audio - which a recent visit to their warehouse tends to confirm.

Nevertheless, watch out for CMI in the broader picture of pro audio.



NEC Australia

NEC Australia, Professional Graphics Division, had the first public showing in Australia of the new XL3500, fully digital, high light output data/video projector. A leader in visual display technology, NEC has designed a product suited for demanding large-venue applications that offers the best video colour saturation, brightness and clarity for true digital camera-like quality unmatched by any other technology.

On Air Productions On Air Concepts

On Air Productions was formed in 1992 to provide a production service specifically in the area of large event TV. Production Management, Event Coordination and Crewing are part of the expert service we offer our clients. Since then we have diversified into theatre, corporate, touring and architectural lighting. We have also specialised in unusual

lighting products such as the Wybron AUTOPILOT. In 1997 On Air Concepts was formed as a sales arm of On Air Productions selling unique lighting products including Wybron's Advertising In Motion (A.I.M.) Backlit Scroller Display Unit and 'EL Lightstrip'.

Soundcorp

Crestron was the main focus for Soundcorp at ENTECH. Since taking on Crestron, Soundcorp have vowed to win market share from AMX. Crestron have an exhaustive range of remote control and 'smart' control systems, which are used anywhere from Boardrooms, to houses, to stage applications.

Most commonly asked question at ENTECH? "Where is EVI Audio" ... the organisers understand EVI elected to change their marketing focus this year and honestly hope to see them back in 2000!

Entech 1998 exhibitor address list

A.C. Lighting Ltd

Unit 3, Spearmast Industrial Park, Lane End Road, High Wycombe, Bucks
HP12 4JG UK
Tel: +44 (0) 1494 446000,
Fax: +44 (0) 1494 461024

Acoustic Technologies

8-10 Staple Street,
Seventeen Mile Rocks
QLD 4073
Tel: (07) 3376 4122,
Fax: (07) 3376 5793

Alcatel Components Limited

248 Wickham Road,
Moorabbin VIC 3189
Tel: (03) 9555 1566,
Fax: (03) 9553 3801

Altronic Distributors Pty Ltd.

174 Roe Street,
Perth W.A., 6000
Tel: (08) 9328 2199,
Fax: (08) 9328 4459

Amber Technology Pty Ltd

Unit B/5 Skyline Place,
Frenchs Forest NSW 2086
Tel: (02) 9975 1211,
Fax: (02) 9975 1368

American DJ Supply Pty Ltd (Australia)

629 Parramatta Road,
Leichhardt NSW 2040
Tel: (02) 9568 6496,
Freecall: 1800 643 111
Fax: (02) 9564 1917
Freefax: 1800 643 411,

Ampetronic Ltd

Whitehouse Wharf,
Millgate, Newark
NG24 4TY UK
Tel: +44 (01636) 610062,
Fax: +44 (01636) 610063

Amps Unlimited - Ampower

6 Adrian Road,
Campbellfield, VIC 3061
Tel: (03) 9357 8580,
Fax: (03) 9357 8572

AON Risk Services Australia Ltd

Level 20, 201 Kent Street,
Sydney NSW 2000
Tel: (02) 9240 0470,
Fax: (02) 9241 1533

ARX Systems Pty Ltd

33 Advantage Road,
Highett VIC 3192
Tel: (03) 9555 7859,
Fax: (03) 9555 6747
Email: info@arx.com.au
Web Site: http://

www.arx.com.au

Ashton Admor Pty Ltd

34 Hargreaves Street,
Belmont WA 6104
Tel: (08) 9478 3800,
Fax: (08) 9479 1941

A.R. Audio/TAG

558 Darling Street,
Balmain NSW 2041
Tel: (02) 9810 5300,
Fax: (02) 9810 5355

ATM Fly-Ware

21000 S. Wilmington Avenue,
Carson, CA 90810 USA
Tel: +1 (310) 834 5914,
Fax: +1 (310) 834 3042

Audio Sound Centre

1 McLachlan ave,
Artarmon NSW 2064
Tel: (02) 9901 4455,
Fax: (02) 9901 4229

Audio Telex Communications

149 Beaconsfield Street,
Silverwater NSW 2128
Tel: (02) 9647 1411,
Fax: (02) 9748 2537

Audio Visual Australia

3/25 Jersey Road
(PO Box 900),
Bayswater VIC 3153
Tel: (03) 9720 9888,
Fax: (03) 9720 9944

Audiology Pty Ltd

1/1A Pritchard Place,
Peakhurst NSW 2210
PO Box 300,
Hurstville, NSW 2220
Tel: 61 2 9584 0033,
Fax: 61 2 9584 0154

AustralAsian Music Industry Directory

20 Hordern Street,
Newtown NSW 2042
Tel: (02) 9557 7766,
Fax: (02) 9557 7788
Email:
directories@immedia.com.au
URL: www.immedia.com.au

Australian Acoustical Society

Tel: (02) 9437 4611,
Fax: (02) 9437 4393

Australian Audio Supplies

PO Box 183,
Ourimbah NSW 2258
Tel: (02) 4388 4666,
Fax: (02) 4388 4688
Web Site:
www.ausaudio.com.au
Email:
sales@ausaudio.com.au

Australian Monitor

29 Hope Street,
Ermington NSW 2115
Tel: (02) 9874 9355,
Fax: (02) 9874 9366

Australian Screen Sound Guild

Suite 360, 3 Holtermann Street,
Crows Nest NSW 2065
Tel: (02) 9973-1677,
9954-1279,
Fax: (02) 9413-8732
Email: assg@ozemail.com.au
Web: www.ozemail.com.au/
assg

Australis Music / Akai Professional

88 Bourke Road,
Alexandria NSW 2015
Tel: (02) 9698 4444,
Fax: (02) 9698 4545

AWA Distribution

1/175-179 James Ruse Drive,
Rosehill NSW 2142.
Tel: (02) 9898-7666,
Fax: (02) 9898-1135

Beaver Sales Pty Ltd

142 Magowar Road,
Girraween NSW 2145
Tel: (02) 9896 3088,
Fax: (02) 9896 3060

Behringer

42 Victoria Street,
Richmond Victoria 3121
Tel: (03) 9429 9299,
Fax: (03) 9427 0740
Email:
enquiry@musiclink.com.au

Belden International

Olympia Street,
Tottenham VIC 3012
Tel: +61 3 9826 0448,
Fax: +61 3 9827 2230

Birkart Concert Cargo

28 Clarendon Street,
Southbank, VIC 3006
Tel: +61 3 9696 2988,
Fax: +61 3 9696 7096

Black Express Light & Sound

275 Homer Street,
Earwood NSW 2206
Tel: (02) 9559 4363,
Fax: (02) 9558 4923

Bose Pty Limited

1 Sorrell Street,
Parramatta NSW 2150
Tel: (02) 9204 6111,
Fax: (02) 9204 6122

Bytcraft

23-31 Fonceca Street,
Mordialloc VIC 3195
Tel: (03) 9587 2555,

Fax: (03) 9580 7690
5/31 Bridge Road,
Stanmore NSW 2048
Tel: (02) 9550 3955,
Fax: (02) 9519 3977

Cable Labels - Cabel Labels Pty Ltd

PO Box 267,
Ringwood VIC 3134
Tel: (03) 9870 3051,
Fax: (03) 9870 2765

Cadillac Cases Pty Ltd

Unit 5, 23 Garema Circuit,
Kingsgrove NSW 2208
Tel: (02) 9740 7055,
Fax: (02) 9740 7095
Email:
cadillac@netline.com.au

Cannon Wholesale Pty Ltd

Shop 5, Brook Road,
Seaforth NSW 2092
Tel: (02) 9948 4440,
Fax: (02) 9948 9336

Capital Karaoke Imports

57 Moondarra Crescent,
Mooloolaba QLD 4557
Tel: (07) 5478 3756,
Fax: (07) 5478 0087,
Mobile: 0417 712 401
Email:
capital@dataline.com.au

Chameleon

7/41-45 Bourke Road
(PO Box 206),
Alexandria NSW 2015
Tel: +61 2 9310 5222
Fax: +61 2 9310 5511

Cliff Electronics

PO Box 732,
Fortitude Valley, QLD 4006
Tel: (07) 3252 3178,
Fax: (07) 3252 3168
Web Site:
www.contal.net.au/cliff
Email: cliff@contal.net.au

CMC Music Pty Ltd

Unit 33, 9 Powells Road,
Brookvale NSW 2100
Tel: (02) 9905 2511
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triple j's Australia Unearthed

How do they do it?

by Madeleine Murray

Bronwyn McConville is cheerful, friendly, and optimistic, useful qualities for helping the youth of Australia. "You'll recognise me by my big smile and maroon jacket," she told me. No problem.

McConville is part of the team that conceived triple j's Australia Unearthed project. She wrote the original submission two years ago, when the station went national and the programmers wanted to find out more about their new broadcasting regions.

"We decided to open it up," McConville said, "to explore what kind of music was out there, around the country. About ten of us sat down, and talked about the approaches and structure for a possible project. Then I went to the computer, and came up with a program for radio to unearth the regions of Australia."

They didn't know what they would find, so they started at Lismore, where there was a music course. They got a "phenomenal amount of entries," McConville said.

Since then, the Unearthed team have listened to 3,400 entries and recorded over 50 new bands from 37 regional centres, including four cities. Each centre is within a triple j frequency area. Some of their successes include Greenspoon from Lismore, and Endorphin from Cairns. Many other bands have gotten songs on independent CDs, and publishing deals.

"We're looking for a song for the radio, something that can stand up to great international and domestic songs. It has to be a strong song, not any particular genre, or age group," McConville explained.

They listen to every song. Perth and Tasmania had about 500 entries this year. "We're literally sitting down in a room listening to cassettes for days and days."

McConville runs around the country, organising gigs for the winning bands. Triple j goes out to the region, puts on a gig of the winners, interviews the local talent and legends, and broadcasts it.

"We bring the local flavour of the area to national radio, and it's a great way for kids all around the country to hear what other kids are actually doing. It's a real network for young people. Basically we have an existing network around the country, so we thought we could use it to help out," McConville said, and she meant it.

McConville is off to Tamworth, and the Moree-Narabri region the day after our talk. "Triple j morning program is already there in Tamworth Centennial Park, with the outside broadcast van, running around doing interviews, and meeting lots of people. Locals really support it, people offer their venues. There's not enough time to meet and greet everyone. It's just so important and means so much to them. They not only get the professional recording, they also get on national TV, because Recovery comes with us."

Winners from small town areas are brought into the ABC studios, where they produce their song, helped by triple j's music producer, Phil McKellar.

Sweating over the snare

McKellar looks like he hasn't left the windowless, fluoro-lit studio for days, and he probably hasn't. An intense guy, with edge, McKellar is hunched over the computer, working on the drum track of *Fly Away*, one of the winning songs, by The Aardvarks from Tamworth. Beside him is Dean Taggart, the band's singer, guitarist and songwriter.

Working on the drum track does not look like fun. They have been at it for fifteen hours yesterday, and will carry on for at least



Phil McKellar & Dean Taggart

five more hours today. They just keep playing bits of drum kick and snare over and over.

"That sounds better, doesn't it?" McKellar asks Taggart.

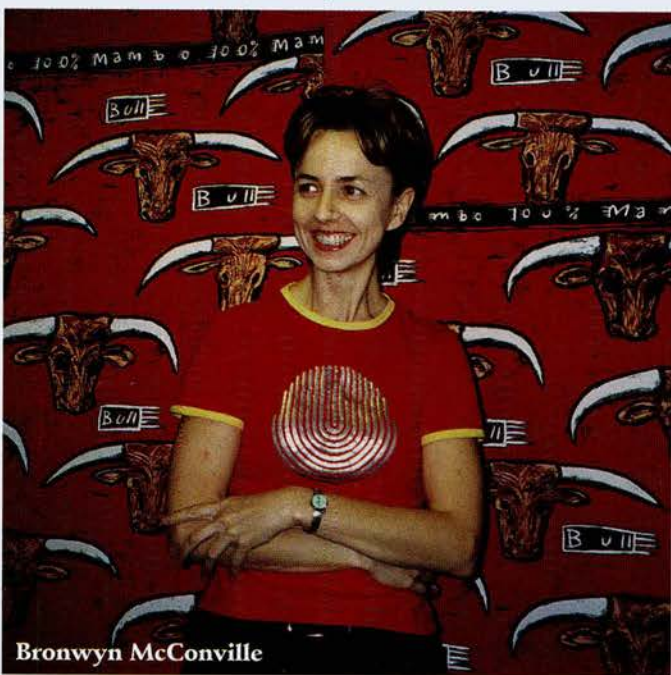
I'm baffled, it all sounds the same to me. They are compiling the drum kick and snare track into a Vision sequencer. "We've done a couple of runs, both fairly similar, and we just take the best bits from each one," McKellar explained. "There are bits in them all over the joint that are good, and there are other bits that are bad. So we're just compiling the good bits and dumping the bad bits. We end up with a kick and snare take that we want. But it won't be completely predictable. We'll keep in little flourishes and mistakes. Any good mistakes we'll keep, and bad mistakes, we'll dump."

They are looking for good patterns, timing, and the sound quality. "All those things have a feeling. Like a big stadium rock snare, or a little rap snare. They each give the song its own flavour," he said.

Working with new bands

As producer, McKellar is working with virgin bands, and he doesn't like to overproduce a new band. "Younger bands, who haven't been in a studio, have a huge amount of enthusiasm for their project," he said. "They haven't gotten jaded, and they really enjoy the process, seeing how they can change their song a bit. ABC studios in Melbourne and Sydney are well setup, so you can pull a good sound.

"Some demos are fairly underproduced, so we sit around and



Bronwyn McConville

talk about what we can do to it. It could be just looking at the beginning, or the end of a song, or moving around choruses, or middle eights. Maybe putting some extra things in, or carving a few things out."

Taggart is learning a lot. "I haven't really been in a studio like this," he said. "It's great to see the process of putting down the tracks, and working onto the computer, and everything going hard disk. It's different from what you do with the desk, and going analogue, although we are using analogue as well. This gives you a lot more scope to get it the way you want."

So far they have recorded guitars in the studio. When the drum track is compiled, they will record the vocals by the brilliant Geena Matteson, and finally the backing track.

Just when I think I'm going to die of boredom, confusion, lack of coffee, and claustrophobia, they play the whole song through with the vocal guide track. It sounds wonderful already.

The studio

The studio has an SSL4000E console, a Yamaha Rev7, a Yamaha SPX1000, an AMS digital delay, and a Lexicon 224X reverb unit. McKellar is running Vision 4 sequencer package, and Pro Tools on the computer.

A lot of the gear belongs to McKellar, such as the Drawmer 1960 tube compressor, a 1961 Drawmer parametric equaliser, a Behringer combinator (a multiband compressor limiter), a Focus Rite voice box, an Ensonic DP4, and two quadraverbs.

They are using Taggart's Ensonic VFX SD, with a 24 track sequencer on *Fly Away*. "A lot of the original sequencing was done on this, and dumped onto Vision. We are also using snare, kick, high hat sounds out of an Alesis D4 drum module. The kick and snare sounds off the Ensonic keyboard have a very 80's sound," Taggart explained. •

MINIMALIST RECORDING - LIVE

Most live engineers have been through the "desk tape experience". The band want a recording of the gig for reference so you hook up a cassette deck or DAT machine to the tape outputs on the front of house console. What you usually end up with is a recording that is heavy on vocals, kick drum and keys (if you've DI'd them) plus light on guitars and bass and few angry looks from the band. Having to justify why the tape sounds so rough often requires some fast talking, especially if you expect to be invited back next gig. Simply put, the instruments that are the quietest on stage, and therefore require a lot of boosting via the console, will be the loudest on the tape because the console is feeding the tape deck.

For my latest gig I decided to aim higher than the usual desk tape experience and this, of course, meant multitrack recording. The gig itself was a jazz/blues performance at a college auditorium with seating for around 260 people. The console I used was a Mackie CR-1604-VLZ and my idea was to combine this with an Alesis Adat XT to record the show. The Mackie would perform the triple task of mixing front of house sound, monitors and the recording. There were six groups performing a set of around 20 minutes each however the same basic stage set-up was kept throughout.

For the drums there was an AKG D-112 on the kick, an SM-57 on the snare and a Rode NT-2 condenser for overheads. There were two guitar amps which were both mic'd with SM-57's and there was an SM-58 for the vocal. As well as this there were two SM-58's set up for sax and flute and the bass was DI'd along with two keyboards. All up, these instruments occupied 11 channels on the Mackie desk. For outboard gear I had an Alesis 3630 stereo compressor plus a Yamaha REV-100 and Alesis Midiverb III for effects.

The usual set-up tests and sound-checks were done amidst much confusion as twenty three musicians tried to get themselves organised. Meanwhile I set up in my little corner and went to work. Auxiliary 1 (the Mackie has four in total) was used as a pre-

fade foldback send. Auxiliary's 3&4 were used as effects sends to the REV-100 and Midiverb III. These units were returned into aux. returns 3 and 4 respectively. Now it was time to take care of the recording side of things.

The Adat gave me 8 tracks to play with, however, as I had 11 separate signals coming into the desk the 'one track per mic or DI' scenario was not going to work. Clearly I had to group some things together. I grouped all three drum mics on to buss 1 and patched it to track 7 on the Adat. I then grouped the flute and sax. mics onto buss 3 and patched that to track 8. For the remaining six signals (guitars, keys, vocal and bass) I used the direct out feature that the Mackie has on channels 1 to 8 to get these signals to tape. It involved patching from the direct out on channel 1 to track 1 and from the direct out on channel 2 to track 2 and so on. As well as all this I had to assign every channel to the stereo buss for front of house mixing and also be wary of the fact that changing a signal's level and EQ out front would change it's level on tape, as all signals were recorded post fader. As usual the vocal presented a problem as I had to push its level the most through the mixer, however I got around that problem by patching in a compressor between the vocal channel's direct output and the Adat. I then set a high ratio and high threshold to prevent any stray peaks from causing overload. Doing it this way meant that the compressor didn't affect the front of house signal in any way.

At the end of the night I had two and half Adat tapes worth of jazz and blues plus the sound of an appreciative audience. The drums were in mono due to the lack of tracks but the general ambience present on all other tracks made up for that fact. There were only a few digital peaks on the Adat an upon taking the tape back to the studio I realised that the recording had been a success. The sound on tape was remarkably clean and clear. All that remained was for me to mix down the material, and add some effects.

• **Andrew Broadhead** *Freelance Audio Engineer* {call (03) 9525 3890}

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BASF National Tracking Guide

| ARTIST | PRODUCER | ENGINEER | PROJECT | ARTIST | PRODUCER | ENGINEER | PROJEC. |
|--|----------------------|-----------------------------|--------------------|--|------------------------------|------------------------|-------------------------------|
| New South Wales | | | | | | | |
| 301 Mastering Jacqui Espie (02) 9211 7301. CD Mastering Facility | | | | | | | |
| The Cruel Sea | Band | Steve Smart | Single | Orange County | John Cobbin | John Cobbin | Demo |
| The Whitlams | Rob Taylor | Don Bartley | Single | Sandy Evans | Tony Gorman | John Cobbin | Film Soundtrack |
| The Mavis's | Kalju Tonuma | Don Bartley | Single | Ian Stephen | Ian Stephen | John Cobbin | Album |
| Primitive Ghost | Ollie Olsen | Don Bartley | Single | Paradise Studios Jason Lea (02) 9357 1599 Custom Mixer, Studer A8000, MCIJH114 & Valve Outboard | | | |
| Cactus Child | Craig Portells | Don Bartley | Album | Trout Fishing in Quebec | Band | Jason Lea | Album-Tracking |
| You Am I | Philip McKellar | Steve Smart | Live JJJ Recording | Jimmy Barnes | Artist | Rick Will | Demos-Rec/Mix |
| Aphek Greg Dixon (02) 9876 8170. 16 Tracks to 1' Analogue | | | | John Rowles | Doug Henderson | Gary King | Singles-Mixing |
| Feet First | Band/Greg Dixon | Greg Dixon | Demo | Smother | Peter Quinn | David Quinn | EP-Mixing |
| Martin Reeve | Artist | Greg Dixon | TV Show Theme | Meaneither | Band | Jason Lea | EP-Rec/Mix |
| Soul Paradise | JJ Miller/Greg Dixon | Greg Dixon | Album | Bottle | Band/Carter | Jaimie Carter | EP-Mixing |
| Red Herring | Band | Greg Dixon | Demo | Paul Bryant Mastering Paul Bryant (02) 9748 0222. Mastering Suite | | | |
| Steven Tonge | Steven | Greg Dixon | Demo | Jamie Fielding | Michael Sheridan | Paul Bryant | Double Album |
| Flux Capacitor | Band | Greg Dixon | EP | Hat Fitz | Band | Paul Bryant | CD Album |
| A# Sharp Studio Jeff Cripps (02) 9153 9988. 24 Track 1' | | | | Slide McBride | Martin Cilia | Paul Bryant | CD Album |
| Nightmare in Vegas | Jeff Cripps | Jeff Cripps | Demo | Duncan Chalmers | Rob Specogne | Paul Bryant | CD Album |
| Hank Koopmar | Jeff Cripps | Jeff Cripps | CD | Jargon | Maurice | Paul Bryant | CD Master |
| Donna Marie | Jeff Cripps | Jeff Cripps | CD | Wayne Knight | Geoff Lee | Paul Bryant | CD Album |
| The Girz | Jeff Cripps | Jeff Cripps | CD | Q Recording Roy Mallace (02) 9212 4851. 24 Trk OTARI MTR 100 (2") Analogue Tascam M700 desk | | | |
| Slide McBride | Jeff Cripps | Jeff Cripps | CD | Leonardo's Bride | Justin Stanley | James Cadsky | Album |
| Audio Edge Greg Dunn (02) 9958 3111. Post, Music, Sound Design | | | | Alex Lloyd | Daniel Denholm | Trent Williamson | Album |
| KdC | Kearon Declovet | Kearon Declovet | 5 Song Sampler | Native Fear | Band | Warwick Buzacott | Demo/Single |
| Paul Smyth | Artist | Artist | 2 Singles | Fly Speak | Robbin Smith Communication | Warwick Buzacott | Cinema Ad |
| Left Right Out | Kearon Declovet | Kearon Declovet | Single | Epica | Roy Mallace | Warwick Buzacott | Demo's |
| Dirty Yundi | Greg Dunn | Greg Dunn | Single. | Terpentine | Band | Mick Seage | Demo's |
| Charing Cross Studio David Sykes (02) 9387 8362. 24 Trk Analogue-Neve-Sturder | | | | R&R Recordings Robert Zimola (02) 9672 4494 16 Trax 1' | | | |
| Dumpster | Tim Whitten | Tim Whitten | Album Mixing | Q Sticks | Band | Rob Zimola | Demo's |
| Half Miler | Wayne Connelly | Wayne Connelly | EP | Turning Black | Andrew & Ed | Rob Zimola | EP |
| Stella I-II | Tim Powles | Tim Whitten | Album Mix | Rockinghorse Studios Zubin Henner (02) 6688 4005 Analogue Neve/Studer + 32 Ch ProTools 4 | | | |
| EV 3 | Chris Campbell | Chris Campbell | Album Mix | Rebekah Brown | Zubin Henner/Rebekah Brown | Zubin Henner | EP |
| Bean | Martin White | Peter Jones | Album Mix | Zooid | Zubin Henner/Zooid | Zubin Henner | Demo |
| Karma Country | Jeremy Allom | Jeremy Allom | Album Mix | Ragdoll | Jimmy Willing | Zubin Henner | Album Mastering |
| Crystal Clear Studios Dave Tozer (02) 9684 1152 or 015 106 776. 24 Trk (ADAT) 32Ch Automated AMEK Big | | | | The Mumfets | Bana | Michael Worthington | Tracking |
| Roadkill | Dave Tozer/Band | Dave Tozer | Album | Eaglebums | Zubin Henner | Zubin Henner | Album Mastering |
| Bittasweet | Dave Tozer/Band | Dave Tozer | Demo | Richard Gutwein | Richard Gutwein | Zubin Henner | Demo |
| Rattle & Hum | Dave Tozer/Band | Dave Tozer | Demo | Skylab David Russell (02) 9310 4774 24 Trk Analogue, 32 Trk Digital/Analogue | | | |
| Toggle | Dave Tozer/Band | Dave Tozer | Demo | Sirrocco | Jarves | Dave Russell | Album |
| I OU | Dave Tozer/Band | Dave Tozer | Album | Rock Cats | Pepe | Dave Russell | Album |
| Mine | Dave Tozer/Band | Dave Tozer | Demo | Zanica | Jack Ellis | Dave Russell | Album |
| Damien Gerards Marshall (02) 9660 8776. 2" 24 1/2" 16/32 | | | | Copasetic | Luke | Josh | EP |
| De Soto TCB | Pete Wells | Russell Pilling | Album | Nick Hanlon | Robert Hanlon | Dave Russell | Single |
| Elia Bel | Marshall Cullen | Jaimie Carter | ReMixes | Niagara | Tim Heys | Dave Russell | Compilation |
| Andy Holm | Artist/Dave | Dave Trump | Album | Sony Music Studios Ross Ahearn (02) 9383 6320. 24 Trk Recording Studio | | | |
| Cynosure | Amy | Jaimie Carter | EP | Slava Grigoryan | Louise Taylor | Louise Taylor | Mix of Live Recordings |
| Rainhouse | Band | Jaimie Carter | Demo | Drown | Simon Tonx | Simon Tonx | Album Tracking |
| Dave Reynolds | Dave Reynolds | Russell Pilling | Drum Tracking | Patrick Lane | Simon Tonx | Simon Tonx | Album Tracking |
| Darling Harbour Studios Ike (02) 9211 1474. Recording, Rehearsal, 24 Trk MCI. | | | | Apparition | Louise Taylor | Louise Taylor | Album Mix |
| The Poor | Band (Boy's) | Greg Clarke | EP Tracking | Cornerstone | Simon Tonx | Simon Tonx | Album Tracking |
| LoveCraft | Band | Jason Blackwell | Single | The Boys Soundtrack | The Necks | Ross A'Hearn | Album Mix |
| Spinach | Band | Tim Newson | Demo's | Sound Level John Soane (02) 9552 3200. 16 Track Digital | | | |
| John Brewster | Artist | Tim Newson | Demo's | You Am I | Cameron | Cameron | B Sides |
| XYZ | Ike | Tim/Ike | Demo's | Stichface | Jorden Brebach | Jorden Brebach | Demo |
| Orange | Ted Howard | Ted | EP | Flamingo Barstool | Russell Pilling | Russell Pilling | Tracking |
| David Hinds Recording Studio David and Lyn Hinds (02) 6581 1235. 16 Trk Digital | | | | Justin Simms | Jason Blackwell | Jason Blackwell | Demo |
| Lincoln Greenery Nursery | D&L Hinds | D&L Hinds | Jingle | Ian McDermott | Artist | Artist | Demo |
| Wingham RSL | D&L Hinds | D&L Hinds | Jingle | Mark Tobin | Jorden Brebach | Jorden Brebach | Mixing |
| Westport Bowling Club | D&L Hinds | D&L Hinds | Jingle | Soundwarp Meredith Brooks (02) 9905 7144 Mastering | | | |
| Phil Anderson (Mr. Australia) | D&L Hinds | D&L Hinds | Voice over | Various | Chuckles (Bone Machine) | Meredith Brooks | |
| Warren Plowright Toyota | D&L Hinds | D&L Hinds | Music on Hold tape | Martin Lass | Martin Lass | Meredith Brooks | Album |
| Balance | D&L Hinds | D&L Hinds | Album Demos | Verdani | Vaughan | Meredith Brooks | Mini Album |
| Festival Studio Bianka Vukelic (02) 9395 8070 Neve 24 or 32 Track | | | | Peter Michael | Peter/Hugh | Meredith Brooks | Album |
| Skin | Skin | Willy Sweet | EP | Orange | Kurt/Ben | Meredith Brooks | Single |
| Sumo | Band/MT | Mark Thomas | EP | Roo | Artist | Meredith Brooks | Backing Tracks |
| Mentals | Band | Mark Thomas | Slim Tribute | Top Cat Recording Studio Bradd Wann (02) 6628 0843 Automated 24 Trk Ana, 16 Trk Digital, Mastering/Editing & CD Burning | | | |
| Don Walker | Don | Tony Cohen | Slim Tribute | Solasalew | Brad Wann/Band | Brad Wann | CD Album Mastering |
| Lavish | Mark Thomas | Mark Thomas | Remix Single | Noosephere | Brad Wann/Band | Brad Wann | CD/EP Mastering |
| Igloo Recording Studio David Carter (02) 4962 1855 Tracking, Audio Editing, PreProd, Jingles | | | | Richad Gutwein | Artist | Brad Wann | CD/Album Tracking & Mastering |
| Mother Popcorn | Bob Corbett | David Carter | Demo's | Trackdown Digital Geoff Watson (02) 9550 6890 2-32 Track Digital | | | |
| Oscar | Oscar | Andrew McAlister | EP Pre Prod | Skippy | Yoram Gross Village Roadshow | Tim Ryan/Leon Horricks | TV Series |
| Twin Psyche | Band | Chris Davies | Demos | McFeast | Chris Harriott | Simon Leadley | Songs |
| Michling | Steve Simmons | Craig Foster | Album Demos | Narrowcasdters | Aneta Olson | Katrina Schiller | Audio CDs |
| Club Phoenix | Steve Pickett | David Carter | Single | Forever Forever | Tiger Tiger | Guy Gross/Tim Ryan | Feature Film Music |
| JMF Recording Studio Fran Esther (02) 9790 4097. 32Trk Digital, 24 Trk ADAT Grand Piano | | | | Blinky Bill | Forest Interactive | Leon Horricks | CD Rom Audio |
| Carla Werner | Artist | Mike Ward | CD Tracks | Noddy | PTS Pyrotechnics | Katrina Shiller | Stage Show |
| Retroverts | Band | Guy Saminaden | Demo | Velvet Sound Recording Studios Dave McCunn (02) 9283 5968 32Ch. 24Trk. 2" + 32Ch. ProTools IV | | | |
| Shaan | Band | Ralph Esther | Album | Skunkhour | Tony Wall | Caig Portells | Single Mixing |
| Texas Radio | Band | Guy Saminaden | CD Single | Vermillion Girl | Tony Wall | Tony Wall | EP |
| Megaphon Guy Dickerson (02) 3550 6576 24 Trk Analogue & Digital | | | | Ninety-Nine | Paul Scott | Adrian Grigorieff | EP |
| Primary | Nick Launay | Nick Launay/Jason Blackwell | Album Tracks | Cactus Child | Craig Portells | Album Mixing | Album Mixing |
| Salut | | Kathy Naunton | Baroque Recording | The Infidels | Raoul Graf | Craig Portells | EP |
| Fini Scad | Mark Opitz | P. McKercher/J. Blackwell | Album/overdubbing | Holly-Go-Lightly | Darren Fenton | Craig Portells | EP |
| Tumbleweed | | Tim Whitten | Demos | | | | |
| Moonlight Studios John Cobbin (02) 9939 2462 16 Track, 1' Analogue | | | | | | | |
| Mark McEntee | Artist | John Cobbin | Demo | | | | |
| Rob Hirst | Artist | John Cobbin | Demo/Album Tracks | | | | |



BASF YOUR MUSIC IS SAFE WITH US



BASF National Tracking Guide

ARTIST PRODUCER ENGINEER PROJECT ARTIST PRODUCER ENGINEER PROJECT

Queensland

| | | | |
|----------------------------------|---------------------------------|---|-------------------------|
| Big Time Recording Studio | Dave Fitzgerald (07) 4772 1822 | 16Trk ADAT | |
| Random Faith | D.Fitzgerald | D.Fitzgerald | Album |
| B.Waters | D.Fitzgerald | D.Fitzgerald | Album Mix |
| P.Bonnano | D.Fitzgerald/Artist | D.Fitzgerald | Album Mix |
| G.Marinton | D.Fitzgerald | D.Fitzgerald | Album |
| Women in Doc Martens | D.Fitzgerald/Band | D.Fitzgerald | EP |
| Domenic Sound | Shane Hughes (07) 3216 5187 | 32 Trk ADAT-Music Recording | |
| High Priests | Dash McIvor | Shane Hughes | Demo |
| Andrew Pashley | Artist | Shane Hughes | Demos |
| Jenny Balmer | Rob Stevenson | Shane Hughes | Album |
| Shane Hughes | Shane Hughes | Shane Hughes | Album |
| WIN Television | Shane Hughes | Shane Hughes | Jingle Production |
| 7 Network | Shane Hughes | Shane Hughes | Jingle Production |
| OPM Studios | Daniel (07) 3374 0066 | 24 Trk ADAT 24 Trk ADATS Mackie Conso e | |
| Pillbox | Daniel | Daniel | Demos |
| Spider Monkey | Daniel | Daniel | EP |
| Anteskeptik | Daniel | Daniel | Demos |
| Tamarind | Band | Daniel | Album |
| Jetson 77 | Band | Daniel | Demos |
| Aishya | Band | Daniel | Album |
| Vandersound Studios | Eric Vandersande (07) 5546 8100 | Digital + Valve Hard Disc Mastering | |
| Ian Francis | Eric Vandersande/Artist | Eric Vandersande | Album Tracking |
| Mystery of Sixties | Eric Vandersande | Matt Soome | Demo |
| Defiled | Eric Vandersande | Eric Vandersande | Mini Album Mix & Master |
| Strutter | Eric Vandersande | Eric Vandersande | Re-Master |
| One Eyed Dog | Eric Vandersande | Eric Vandersande | Re-Master |
| Robinson | Eric Vandersande | Eric Vandersande | Mix and Master |

South Australia

| | | | |
|------------------------------|--------------------------------------|--|----------------|
| Nick Love Productions | Nick Love (08) 8297 6519 | 16-24 Trk Digital, 16 Trk Analogue | |
| Revolar | Nick Love | Nick Love | CD EP |
| Rob Guest | Carl Doy | Doug Janz | Album |
| Temporal Lobe | Nick Love | Nick Love/Walrus | CD EP |
| ASD | Nick Love/Band | Nick Love | CD Album |
| Outshine | Nick Love | Nick Love/Walrus | CD Compilation |
| Boom Box | Nick Love | Nick Love | Promo |
| SA Recording | Avalon Sperring (08) 8231 9900 | 24Trk ADAT Yamaha 02R Console | |
| Captain Pyjama | Louis/Band | Louis Panaylotou | Album |
| King Krill | Louis/Band | Louis Panaylotou | Album |
| Nervengire | D. Barcello, R. Candido, D. Crothers | Ross Candido | Single |
| Tantra | Louis Panaylotou/Band | Louis Panaylotou | EP |
| "The Fridge" | Nigel Sweeting (08) 8231 3588 | 16Tk HD Digital/16 Tk 2" Analogue, full Automation | |
| Giraffe | Band/Nigel | Nigel Sweeting | CD |
| Oompah Band | Neil/Nigel | Nigel Sweeting | CD Mixing |
| Mark Allen | Mark/Nigel | Nigel Sweeting | Tracking |
| Richard Holmes | Richard/Nigel | Nigel Sweeting | Demo |
| Indulgence | Nigel Sweeting | Nigel Sweeting | Tracking |

Victoria

| | | | |
|--------------------------------|--|-------------------------------------|-------------------------|
| Back Beach Recording | Mark Rachelle (03) 5988 6948 | 2" 24 Trk | |
| CDB/Viscous Vinyl | Andy Van/Arden | Mark Rachelle | ReMix Sweetening |
| Superheist | R.Norton | Marie Rachelle | Album Mixing |
| John Chester | Wayne Malcolm Gibbs | Mark Rachelle | Voices Over |
| Deloris | Band | Mark Rachelle | Album |
| Middle Earth | Band | Mark Rachelle | EP |
| Cynosure | Band | R.Norton | Demo |
| Cloudburst Studio | Bruce Jacques (03) 9416 1038 | 24 Track Digital, Music | |
| Elephant Gun | Michael Pollard/Band | Michael Pollard | Album |
| Massive | Wil Burston | Wil Burston | Demo |
| Debbie Morrow | Bruce Jacques | Bruce Jacques | Album |
| One Stop View | N/A | Dale Warren | Album Edits/Mastering |
| Firefly | Michael Pollard/Band | Michael Pollard | Album |
| Fortissimo Productions | Andy Parsons/Siiri Metsar (03) 9699 5811 | Music Studio, 24 Track | |
| Rose Bygrave | Rose | Siiri Metsar | Compilation CD Track |
| Marcia Howard | Marcia | Siiri Metsar | Compilation CD Track |
| Pheasant Pluckers | Matt/Siiri | Siiri Metsar | Album |
| The Ballsitic Allshorts | Band/Gordo | Gordo | Album |
| Dave Graney | Dave | Victor Van/Vugt | Album |
| Jam Hut | Mendo (02) 9471 1023 | 16 ADAT with Valve Pre-Amps | |
| Unsassy Ways | Band/Sebatron | Sebatron | Album CD |
| Different Colours | Chris Gatz/Sebatron | Sebatron | Demo |
| Petrophonic Productions | Petros Georgiades (02) 9553 0176 | Digital Recording Studio/Midi Suite | |
| Caulfield Grammar School | Petros | Petros | Music Composition |
| Mari Hall | Petros | Petros | PreProduction |
| Mark Joseph | Petros | Petros | 2nd CD |
| Hey Sister | Band | Petros | CD |
| Noble Park Calisthenics Club | Petros | Petros | Music Compiling/Editing |
| Itch Fingers | Band | Petros | CD |
| Recording Studio 7 | Chris Scheri (03) 9850 5075 | 24 Ch, 16 Trk Otari | |
| Wild Orchids | Chris Scheri | Chris Scheri | LP |
| SAE Melbourne | Neil Goudge (03) 9534 4403 | | |
| Soul Class | Neil Goudge | Neil Goudge | EP |
| Ches Haynes | Artist/Neil | Neil Goudge | Album |
| Smoking Joke | Neil Goudge | Neil Goudge | Album |
| Karl Wesols | Ben Hollard | Andrew Broadhead | EP |

| | | | |
|-----------------------------------|--------------------------------|--|--------------------------|
| Studio 52 | Paul Higgins (03) 9417 7707 | 32 Trk Automated, 24 Trk ADAT XT | |
| The Music Men | Trevor Carter | Trevor Carter | Album |
| Jaimz Phillips | Trevor Carter | Trevor Carter | Album |
| Peter Cupples | Artist | Trevor Carter | Single |
| Chivary | Band | Trevor Carter | New EP |
| Dutch Tilders | Barry Hills | Trevor Carter | Album |
| Kylie Auldlist | Band | Andrew Meake | Demos |
| The Ranch | Tex Mex (03) 9712 0136 | Analogue/Digital 24 Trk | |
| AMMA | N.J. McCourt | N.J. McCourt/Tex Mex | O/S Comp |
| Ted Bandoe | Ted Bandoe | N.J. McCourt | Album Tracks |
| YontaYonta Aboriginal | N.J. McCourt | N.J. McCourt | SBS Album |
| Toyland | Adam Calaitzis (02) 9482 2111 | 24 Track Analogue, 24 Track Digital | |
| Brian Canham | Artist | Adam Calaitzis | Commercial |
| Held on Hold | Adam Calaitzis | Adam Calaitzis | Nissan on Hold Messages |
| Instant Recall | Stuart Hills | Adam Calaitzis | TAG Multimedia CD-R |
| Chiron | Adam Calaitzis | Adam Calaitzis | Album |
| Steven Romig | Artist | Adam Calaitzis | Single |
| Subdiffuse | Adam Calaitzis | Adam Calaitzis | Album |
| True Form Music Services | Neil Gray (03) 9391 0907 | 24 Tk. Digital, 12 Tk. Analogue, 72 input inline console | |
| Odium | Band/Neil | Neil Gray | EP |
| Melodic Swell | Sand/Neil | Neil Gray | Mix Album |
| Jim Dowling | Artist | Neil Gray | Demos |
| Klinger | Peter Farnan | Peter/Neil | EP |
| Snakelips | Band/Neil | Neil Gray | Album |
| Wombat Rd Recording Studio | Barrie Clissold (03) 5145 4204 | 32 Tk. Digital, | |
| Kim Ashwood | M.Edmond | B.Clissold | Demo Tape |
| John Turner | S.Thorpe | B.Clissold | Album Mixing & Mastering |
| Longford in Harmony | Band/Clissold | B.Clissold | Demo |
| Clinton Cox | B.Clissold | B.Clissold | Demo |
| Jenny Owen | B.Clissold | B.Clissold | Demo |
| Winona | Band/Clissold | C.Clissold | Demo tracks/Album |

Western Australia

| | | | |
|-----------------------------------|---------------------------------|--|-----------------------|
| Bonsai Recording Studio | Tom Thorpe (08) 9246 4408 | 24 Analogue/32 Digital | |
| Kay-Redman | Tom Thorpe | Tom Thorpe | Jingles |
| Redgate | Tom Thorpe | Tom Thorpe | Demo |
| Susie V | Tom Thorpe | Tom Thorpe | Demo |
| The Zins | Tom Thorpe | Tom Thorpe | Demo |
| Pinnacle Recording Studio | Anthony B Kitson (08) 9382 1528 | 24Track 2" Analog, AMEK Angela | |
| Clem + Justin | ABK | Anthony B Kitson | Album |
| Steve Cowen | Artist | Anthony B Kitson | Album Tracking |
| Planet Sound Studio | John Villani (08) 9382 2211 | 48 Track, 32 Track & 24 Track Analogue | |
| Mike Vdelli | Artist/Williams | Les Williams | Album |
| Ginger Megs | Kevin Peek | Les Williams | Cartoon Series |
| Butterfly | J.V./Jeannie | John Villani | Album |
| Kerriane Cox | John Villani | John Villani | Album |
| Evergreen | John Villani/B.H. | John Villani | Single |
| Italian Connection | Nunzio Mondia | John Villani/Les Williams | Album |
| Poons Head | Rob/Samara/Bush (08) 9339 4791 | 32 + Track | |
| Seahorse Radio | Rob Grant/Band | Rob Grant | Album |
| Barnard Starr | Rob Grant/Band | Rob Grant | Album |
| Zanic Art | Rob Grant/Band | Rob Grant | Album |
| Simon Lynes | Rob Grant/Band | Rob Grant | Single |
| Cinema Prague | Rob Grant/Band | Rob Grant | Album |
| Nathan Gaut | Rob Grant/Artist | Rob Grant | Demo |
| Satellite Recording Studio | Darren Halifax (08) 9470 4003 | ProTools | |
| Jar Dropps | Band | Darren Halifax | Demo |
| Joel Smoker | Lucky Oceans | James Hewgill | CD |
| Breathe | John Edwards | Darren Halifax | Demo |
| Earth | John Edwards | Darren Halifax | Demo |
| Erwin Reiter | Artist | Darren Halifax | Demo/CD |
| Scott Arnold | Scott Arnold | Darren Halifax | CD |
| The Sonic Lab | Mark Whitehouse (08) 9375 3902 | Sonic Solutions Mastering | |
| Performance Dance | Raquel Muia | M.Whitehouse | Singapore Dance Shows |
| Tyko Brahe | Band | M.Whitehouse | CD Mastering |
| Centre of Gravity | Band | M.Whitehouse | CD Mastering |
| Michael Torres | Artist | M.Whitehouse | CD Mastering |
| Keti Susnjaj | Steve Susnjaj | M.Whitehouse | CD Mastering |

YOUR BASF TRADE SALES OUTLETS:

- NSW:** Audio Visual Designs (02) 9281-2444, Silver & Ballard (02) 9439-5355, Independent Tape Services (02) 9436-0666
- VIC:** CATS (03) 9529-3177, Chapple Tape (03) 9580-6620,
- DEX** Audio (03) 9372-2266, MTA & Assoc. (03) 9819-6455
- SA:** Adelaide Tape Duplicators (08) 8212-7111, Pro Media (08) 8276-6793
- WA:** Ausmag (09)314-1953, Pro Copy (09)375-3902
- QLD:** Musiclab (07) 3862-1633, Tek (07) 3239-4000



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BUYER'S GUIDE

effectors, reverbs and delays

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

REVERBS

AMS

Synchrotech Systems (02) 9417 5088
AMS RMX16 digital reverb system is a true reverb mono in/stereo out and features nine variable programmes all with full 18kHz bandwidth. \$12,500.

DYNACORD

EVI Audio (02) 9648 3455
DRP 10 one rack unit multi effects device. Reverb/delay/flange/chorus etc plus distortion effects for guitar and combined effects. Footpedal facility plus MIDI, 20kHz bandwidth. One hundred programmes. \$2309.
DRP 15 one rack unit multi effects studio device. Reverb/delay/flange/chorus etc plus combined effects. Footpedal facility plus MIDI, 20kHz bandwidth. Two hundred programmes. \$2309.

ROLAND

Roland Corporation (02) 9982 8266
SRV-330 uses proprietary Roland Space technology to achieve three dimensional spatial effects with conventional two-channel playback. Discrete stereo reverb algorithms for independent processing with 30-bit internal signal processing for a clear and accurate sound; 19 built-in effects algorithms including innovative 3-D Spatial Simulator for 3-D delay effects; 3-band parametric EQ for pre- and post-equalisation; 200 preset patches, 100 user patches; MIDI and realtime control via remote, control and expression jacks; +40dBm/-20dBm switchable stereo input/output. \$1649.

YAMAHA

Yamaha Music Australia (03) 9693 5164
REV100 true stereo reverb/delay, 99 presets plus variable control, MIDI control, 1RU. \$699.
REV500 professional true stereo reverb, 100 preset, 100 user, 20 bit AD/DA, 32 bit internals, MIDI control audition samples, balanced TRS and XLR I/O graphic display, 1RU. \$799.
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DDL 204 one rack unit room delay. Two in/four out, balanced on XLR's, 20kHz bandwidth. \$2625.

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EVI Audio (02) 9648 3455

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The Seekers

take the future road

BY CAT FORCER

SOUND

The Seekers are finding that their unique brand of folk music is attracting larger audiences every time they perform. In 1993 they toured to celebrate their 25th anniversary, concentrating on rural theatres and concert halls. Now in 1998 they are touring on the strength of their new release 'Future Road', which has presently notched up the triple platinum sales mark. Crowds are on the increase as the band plays sell-out shows in the larger entertainment centres.



Glenn Inglis

Audio equipment for *The Seekers* 1998 National Tour was supplied by McLean Audio Services of Melbourne - Sound Engineer Glenn Inglis and Tour/Production

Manager Bill Rowe's preferred sound company for quite a few years now. Although preferring a Midas, Glenn mixed *The Seekers* on a Yamaha PM4000-56 using almost every input and output available.

"I thought I was going to fit them on a 32 channel console but during rehearsals I realised this was a bigger task than I'd imagined," said Glenn.

For effects, Glenn relies on 2 Lexicon reverbs for

Judith's vocal and for the three blokes' vocals. Three Yamaha SPX990's are used for the guitars, piano and drums. Lots of Brooke Siren compressors are inserted over vocal and guitar channels, including a BSS DPR901 for Judith's vocal. Drawmer noise gates were provided as a system standard but were not required due to the nature of the quality playing and sound of drummer Glenn Wilson.

Vocal microphones were Shure Beta 58 for Judith and Audix OM 6 for the blokes. Drum microphone selection was a Shure SM91 in the kick, a Shure SM94 plus SM57 on the snare (for brush and snap), Electro Voice ND40E on the toms and conga, and AKG C3000 mics on the overheads, percussion and hats. The C3000 is a favourite of Glenn's and he said that it should be tried by everyone on anything at all. All the instruments were direct using DB active boxes. The Seekers' guitars are split over 4 channels each, so individual instruments are assigned a separate channel on the console. The audio tech on stage was Conrad Hendricks who was responsible for all placement and wiring of monitors and microphones, as well as the many changes of set and positions of equipment during the show.

Paul Mossoz was the audio system tech in charge of the EAW speaker system being travelled, which consisted of 8 x KF850's plus 6 x KF650's, all of which are flown, plus 4 x JF80's as infill across the edge of stage for those important front rows. A couple of McLean audio 218 Sub Lo boxes were included in the package and all the speakers were powered by Crest

DATES of DISASTER

Paul Gadd is Gary Glitter. Scotland Yard know him by his real name too, they had a chat recently about some naughty pictures on his computer. When he toured here in 1982 I did the sound and marvelled at how someone so mature could pull so many chicks. With a wig too!

This gig at Selinas we were rather tired because the schedule, set by a promoter we called Waldo, was almost insane. But we were ready to rock at 11.45pm after the opening band Hoodoo Guru's finished.

Houselights down and I flip on the intro tape after the DJ rolls to a halt. Silence, punctuated by a lot of expectant yelling from a sellout crowd. The tape is rolling, the deck VU's working, the console input showing signal, but NO NOISE!

The horror!

My PA rigger barges through the crowd to the amp racks behind the stacks, expecting to find no mains. I am in the back of the drive rack trying to see if a cable has been unplugged. But it's a stereo system, so

one displaced cable to one side will not mute the other.

Confusion.

20 seconds have passed and the crowd is really hooting.

Rigger returns with the news the amps are idling, just as I realise that there is no signal present at the system limiters, and so nothing is coming out of the desk.

Of course when I stop and THINK, I realise that the 'Guru's engineer hit the MUTE buttons on the subgroups, something I didn't ever do myself! Off come the mutes and POW - that intro tape is REALLY heaving. It was a heart beat which fortunately ran for much longer than required. What would happen is that the drummer would pick up the beat and we would fade out the tape.

After, Mr. Glitter summonsed me into the bonking parlour. "Great delay at the start, really worked the crowd up!" - Julius Grafton.

Got a Date of Disaster to tell? Call us now - (02) 9876 3530 - or email: catriona@con.pub.com.au

amps. System drive included BSS Varicurve and third octave equalisers, DBX 160x system compressors and EAW processors. All multicores, drive snakes, effect racks and desk connections were via burndy multipin connectors assuring a very speedy set up and pack down.

"Good power distribution and transformer isolation in all the correct places made for a silent system, in fact the most noise came from the moving light show," said Glenn.

An additional 8 x KF850's were picked up locally in Sydney (Norwest Productions) and in Adelaide (Tim Marshman). In Perth, Audex provided the full audio production including a Midas console each end of the multicore, 32 x KF850's plus 8 x KF853 long throw boxes.

"As usual the Audex system sounded superb," said Glenn. "In Hobart we used Tony Millars 'Production Works' who supplied Midas consoles and their brand new Electro Voice 'X-ARRAY' speaker system. The sound quality was astounding. I hope we'll be hearing a lot more from this company in the future."

Monitors for *The Seekers* is a dangerous path to tread, Damen Young had his jungle boots on every day. The tour started with all four band members using the Garwood in-ear monitor system but due to either age or lack of rehearsal, this only lasted for three shows. A full compliment of wedges became the norm using a JBL speaker cabinet designed and built by Richard Bilinski of McLean Audio Services. A total of 16 wedges positioned all over the stage for various solo spots and set pieces added to a busy monitor mix. Again the spec was for a Midas console but a 40 channel, 22 mix Crest Century sub hired from the Production Audio was used (apparently during the tour McLean purchased a Midas XL 250 but it was too late to change mid tour). Twelve channels of inserted third octave EQ plus BSS compressors and Yamaha SPX990's were provided in the monitor system.

Stage manager Gary Radbourne dreams of keyboard rigs "just give me a box of discs and a few manuals to read". *The Seekers* have only one keyboard for M.D. Mark O'Connor, this took approximately 3 minutes to set up and wire - and it's always in tune! The main task in Gary's daily schedule was to re-string most of the 14 or so acoustic instruments and spend a large part of the day tuning and re-tuning those instruments - mandolin, banjo, 12 string electric's and the double bass. Various shapes and sizes of capo's were used and depending upon the song, guitars may re-



Photos: Carrie Joyner

quire tuning with the capo in position. The tour started with instrument changes for nearly every song, then slowly organised into a more sensible routine leaving enough time to position the many props and set pieces that make up *The Seekers* show.

LIGHTING Lighting Designer Kait Hall writes about her work with *The Seekers*

I have vague memories of my grandmother singing *Morningtown Ride* to me as a child but the band that had made it a hit had

broken up years before then. Consequently when *The Seekers* approached me to design their lighting for their 30th Anniversary tour, I spent quite some time reading biographies and listening to collected works in order to work out the best way to present the four piece folk group in 1998.

Knowing that they were wary of big productions and unnecessary equipment, I was told that I had half a semi worth of gear and that was my starting point. They had already enlisted Noel Crombie to design a 3-d backdrop for them but the design wasn't finalised until about a month before the tour and hence I was working towards a similar concept to those he had employed with both *Crowded House* and *Enzo*. In actual fact it ended up being similar in its perspective effect though quite muted in colour (pale browns and blues mostly).

From the onset I wanted to use moving lights in order to minimise the number of fixtures on the rig (and the truck), allow more subtlety in the operation, and be flexible to accommodate specific needs or requests that appear throughout the tour (eg. a rainbow, lighthouse and shimmering water). *The Seekers* themselves were hesitant because their experience with automated fixtures had always suggested "harsh white light" and were too rock'n'roll. They thankfully invested their trust in my judgement after I explained that moving lights do not necessarily have to move and can be colour corrected.

I used VL5's as my basic wash fixture primarily because they do not use an arc

continued over



ON TOUR

lamp source but also because of its reliable and smooth colour mixing and movement. I also needed scans which had colour mixing, rotating gobos and a wide range of beam variation. Stagescans proved to be the most suitable fixture especially in its multiple prism effects and its multi zoom lens system which allowed me to project an image from the front truss which filled half the cyc with one single fixture.

When The Seekers were able to see the scans and Vari*lites in the rig they were so impressed that they decided that the five minute overture should become a "light extravaganza". Judith Durham had requested that we use blacks to cover the backdrop during this period but I suggested that a white tab would allow us to use it like a painting canvas and hence it became an alternative look for the entire second half.

I had not used Shakespeares before but used 16 mixed angle profiles as specials and for a fixed gobo - their output and lamp reliability really impressed me. I used



2 x 5k fresnels with Colorset scrollers as side light from the floor and 16 par cans as backlight. A combination of Selecon 1.2k PC spots and Fresnels provided front wash for the band and backlight for the scrim sections of the backdrop. Twelve Thomas 4 x 1k cyc units were used to light the backdrop and white chiffon cyc from the top and bottom. The analogue lights were all powered with 2 x LSC 48 way touring patch racks which had been custom made

for Active Lighting. My two riggers - Matt Arthur and Russell Brebner - were fantastic and ensured I had everything I needed even though Active had several other tours running at the same time including Hunters & Collectors, Indigo Girls and Apollo.










In Perth we used CCP and although the gear was similar I really missed the colour mixing in the HPE's and found that the MAC 600's were a bit too rock in their brightness and frosting limitations. I took my Wholehog II with me to Perth and I can't say enough good things about this console. In

order to achieve a similar theatrical feel with the limitations of these fixtures I had to reprogram most of the show but with the Wholehog II it was so quick that it didn't really create many problems. I was also confident enough with the desk that I didn't feel it was necessary to have a back up console with me. In Tasmania Production Works were not able to supply me with any moving lights but I did get to use their Avo Diamond III.


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Write in Reader Service Number: 112



LIGHTING

MONTHLY

May 1998

Edited by Catriona Forcer



Photos: John Stanton

Metallica scream into town

If you were lucky enough to see Metallica's *Load* tour last year, I think you would have been amazed by the staging and lights designed by Mark Fisher and John Brockerick. Famous for his big and theatrical designs, John lit an in the round stage consisting of two stages connected in a figure-eight shape. Lights were placed on towers that were designed to dramatically collapse, pyros were abundant and burning stuntmen flashed across the stage. Heavy drama.

Hoping to see something of that calibre on this tour in Australia, a posse of Connections staff attended one of the two Sydney shows at the SEC. Whilst the sound was good, the staging and lighting was a tad disappointing.

The highlight of the lighting was the opening to the show when the band came on stage with the house lights on full, playing most of the first song in this state until dramatically switching to a the norm. Risky, but successfully dramatic.

"The *Load* tour was fantastic, I really miss it and I was sorry when it ended" said John. "This tour started two nights ago they're touring their two albums *Load* and *ReLoad* in the Pacific. It'll last about six weeks and then we do America for about twelve weeks."

The lighting system used in the Pacific will be 'evolved' for the American shared tour - ie: it'll be bigger and better.

"To go from the last two tours, which were in the round, to designing this was very difficult," admitted John. "Metallica go everywhere over the stage, they have no fixed positions and rarely go the same place twice in a given night. So there are certain restrictions which usually I would not be bothered by in the round. You have to have truss follow spots because with a lot of their songs there are four stage entries by the different band members. You can't have something like a Super Trouper searching a dark stage trying to find them. You're restricted to putting the moving lights where they can hit 100% of the stage for 100% of the show, wing tip to wing tip. That restricts you to a back truss so I try and off set the spotlights to one side or together to give it an off-centre look.

"Then you have to have eight FOH spots and the stage space is restricted due to the amount of the band gear used. So you're really restricted on your floor lighting and putting lights between the stage surface and the trusses - the air space - to get any sort of back or side looks. It was very difficult to get any kind of different look

out of this and I'm still not sure we've accomplished it. People tell me they like but I have a little bit of a difficult time with it. This look that I have now I've been doing for 25 years - this calling spots - so it's accurate and the cues are there, I'm still trying to develop it to make it look interesting."

SPOT CALLING

Although John has gained a reputation as one of the industry's best spot callers, it's a talent he plays down.

"So I'm a good spot caller, to me it's a technique - a little bit of psychology - it's a craft to get a look that you want," he said. "To me that's a given, if you're a lighting designer you have to be a good spot caller. If you can't call spots as a concert lighting designer, you're not a lighting designer you're a button pusher. Somebody else is calling spots. Spot calling to me is second nature now, it's not a challenge. The challenge to me is making it look different."

John also strives to make the performers as visible as possible. When you hear a guitar solo, he doesn't want you to have to search the stage for the guitarist. He draws your eyes straight to the person.

continued on next page

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STUDIO COLORS

The rig was based around High End System's Studio Colors, an instrument that John absolutely loves.

"They're fantastic - super bright, fantastic colour fading," he raved. "But like any instrument they're only as good as their operator. Ben Richards is the programmer and he's been with me a

couple of years now. He's fantastic, accurate and very fast. He's also got a really good artistic sense, good memory and he knows the songs. He can interpret what I'm telling him immediately. That's a critical part of a lighting system."

Nearly forty Studio Colors were used, a relatively small amount for John who tried to get some variety in the rig by stepping the trusses at different heights. Eventually he plans to have them looking more 'wonky'. Because John needed to have the rig installed and demounted rapidly in Australia he also had about ninety par cans but in America he plans to replace them with Molelights with colour changers.

"A par can is a futile instrument against the Studio Color," added John. "The Studio Color is just so bright, I can push all 90

par cans on in a cue and, if I have enough Studio Colors on, you won't read that effect - they'll be no punch in the air."

John was the first person to take a very large rig of Studio Colors out on a long tour and the chance paid off with the instruments exceeding his expectations.

"I just had my own personal demo of the new Technobeam at High End and I think it's a pretty impressive little instrument but I'd have to have the right application for it," he told me.

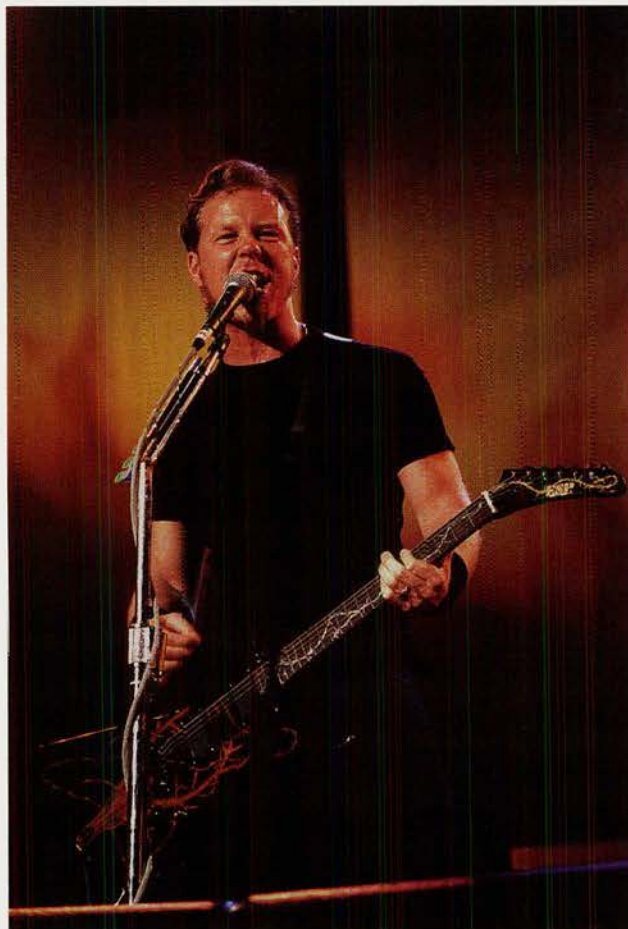
PISS & BLOOD

The back drop for the Metallica show was taken from an Andre Serrano artwork (remember the Piss Christ fiasco in Melbourne - well that was the artist) entitled Piss & Blood.

"It grows on you as a piece of art, it's really a fantastic piece," said John. "At first I thought that it would restrict me but I was willing to take that chance. So

we made it translucent so we could shoot light through the back and change it to many different colours.

"Metallica are street based in their own way, we can't do 'reveals' of things. Like the *Load* stage, when the audience came in it was all there, nothing was hidden. The challenge, in the first few seconds, is



to make it look totally different from the stage the audience have stared at for the past two hours. The back crew just sits the whole time. For me there's a point when you flip from the real world into the show world and that's a matter of the band, sound, lighting and the audience doing their job. The audience have to do that 'theatrical suspension of disbelief' where you're prepared to be sucked into Metallica's world."

The pyre count was way down for a Metallica show due to the small size of the stage.

CONTROL

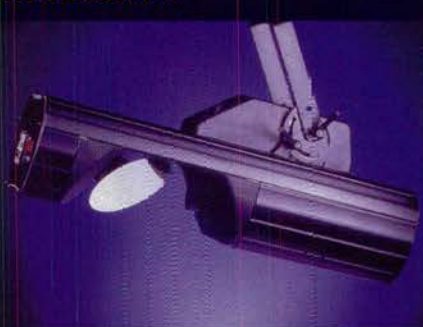
"Metallica are a very accurate band and the show has to be analogue - analogue console, analogue multi cable and analogue dimmer," said John. "Then I can do the attack on the lights, digital can never be that fast. In America I will have the DMX

continued over

LXbizzBITS

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CASE CONTROLLER NEW WING

Among the prototypes shown by Martin at SIB 98 was an "add-on" for the Case controller range - the Playback Wing which fits both the Case Pro 1 and Pro 11 controllers.

The Playback Wing has been designed to provide extra playback facilities making it more suitable for theatre and TV applications. This means the 10 standard playbacks increase to 42 playbacks. Ease of use and general flexibility of the Case has also been increased.

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Merger set up where one of the cables (the third cable that runs 30 of the channels on the Avo board) goes to an analogue to digital converter. The digital signal then goes into the DMX Merger which meets the signal coming from the Status Cue board (which runs the Studio Colors) and merges the two DMX signals as one. That allows me to control the parameters which open and closes the gate on whatever Studio Colors I want. So for all the hundreds of little drum accents and fills, offbeats that Metallica does I can control, say, all the floor Studio Colors. We did it last time in America and after the show people would ask how I programmed all those but of course we didn't.

"Ben Richards came up with the idea and I can't speak more highly of him. I have the best of both worlds - I'm running analogue conventionals from the same board I'm running digital lights at the same time. It does require you to run your hands at two different time zones at the same time. When my left hand hits the ana-

John Broderick and Ben Richards



logue section of the board a light comes on instantly, when I hit the DMX Merger section with my right hand the digital processing creates a delay. So if I want a Studio Color and a Molelight to come on at the same time, my left hand has to hit the board after my right hand does."

John wanted to make sure that the Production Manager Dan Braun was credited for a lot of the artistic input in the show, as was the band. He also credited the Jands crew.

● *Cat Forcer*

Jands Valve Dimmer

It seems that many of our readers did not realise that the article in last month's Connections magazine about the new Jands Valve Dimmer was an April Fools Day hoax.

Many people turned up at the Jands stand at Entech asking to see it - including one of their dealers! Jands did actually built the contraption (pictured right), love the high tech chicken wire.

Jands also received a large order for some Valve dimmers via email - they're not sure if the joke is rebounding on them.



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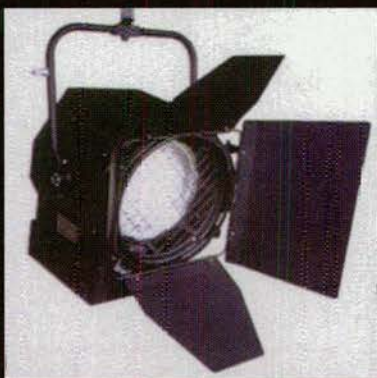
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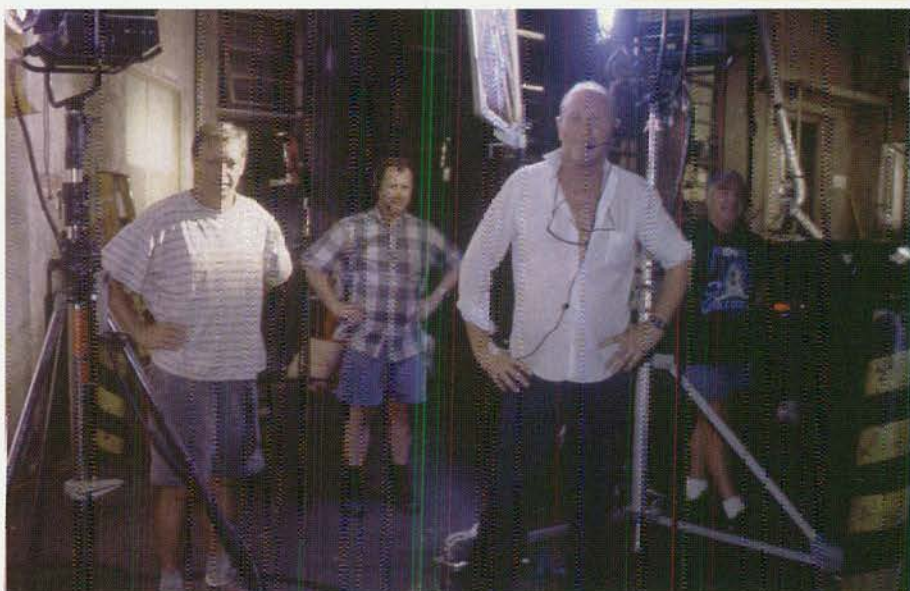
The free HORIZON CD-ROM is actual software, it is not a demo. It allows you to write cues, assign channels, prepare groups, submasters and even parked channels.

To run the show and dim lights, however, you must purchase the HORIZON DMX Interface Module (\$180.00 plus s/t) from your Rosco dealer.

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big lights make Shadows Lighting Wildside

Joe Pickering is not afraid of the dark. As DOP on *Wildside*, he has gone for a dark moody look rare in Australian TV series. Set in a police station and crisis centre, *Wildside* eschews the standard flat overlit look. The characters move through pools of dark, their faces often dramatically in shadow or silhouette.

Working with gaffer Tim Jones, Pickering has gone for maximum contrast, which is achieved by heavy back lighting. Ironically, they are using huge lights to create darkness. There is not much fill used. "We get a big highlight ratio, compared to the exposures on their faces, which is quite dark. We then get a very heavy backlight look," Jones explained.

As gaffer, Jones has been working hard on this one. An episode is shot every five days. It is shot on film, with two or three cameras set opposite each other. Jones mainly does the floor work, and has three assistants, who work around the edges of the set.

"I stand on the floor with the DOP, and the guys run the lights around as per instructions. I have a guy that runs the console, one that runs the big heavy backlit wall, and a guy that does the other corridor. I go up and down with the camera, and move the lights around on set. And I try to make sure that nothing blows up on us!

"We're using very big lights. In the studio, we are using about 250,000w worth of lights in the police set alone. We have 20 Einaro 5000w rigged in the studio, 20 Barco 6000w Spacelights, two Dinettes,

which are 12000w tungsten lights, four Mexi 6s, which are 5000w tungsten lights, and four Arri 6Kws. The Arri's are daylight lamps, which we convert to tungsten with a gel.

"Everything is worked through a dimmer, so it slides up and down with one button. We've got to have that because it gets so hot in the studio. If it's 30 degrees outside, then it's about 42 on the floor, and about 60 up on the roof, where we work."

The crisis centre has another ten Spacelights, three Einaro 10Kws, six Einaro 4K HMIs, and fluoros. "Because it is lit so low inside, and so heavily lit coming in through the windows, you get that contrasty feel of the dark and the light behind it."

Jones is a big admirer of Pickering's style. "Joe's been really brilliant. It's exposed on the dark side, so the big heavy backlights become a big highlight. It's about 2.8 on their faces, and he exposes about 4, and the actual exposure from behind is about 8. So you get that contrast of bright backgrounds, and dark foregrounds."

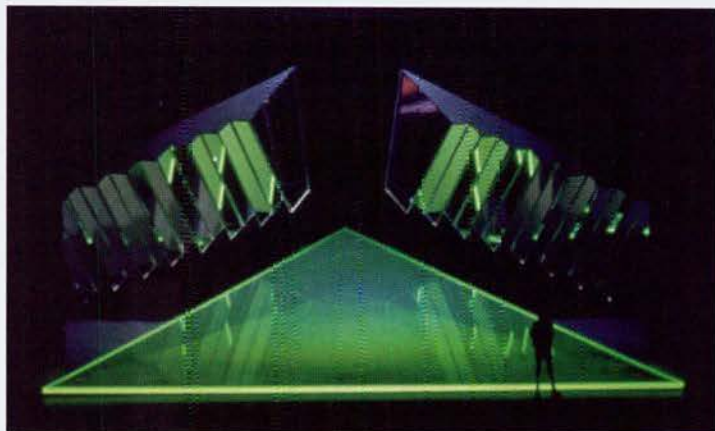
And because they have a big exposure, the actors are given much more depth, they don't have to hit a mark exactly each time.

Jones thinks that the harsh Australian light is the best training for Australian DOPs. "In Europe the light is always diffused. When Aussie DOPs go overseas, they are considered geniuses, because they have worked in the worst."

• Madeline Murray

Sex Glowing Green

Tannhauser hits town



The opening scene of *Tannhauser* is one of the strangest, most exciting things I've ever seen, anywhere, ever. Arms grasp and shadowy hands beseech us from a weird surreal world without gravity or a horizon.

The stage is covered in an eerie green glow, with sharp edges. A huge triangle of luminous light forms a tilted, diaphanous surface. Bodies writhe partly submerged through it. Where they break through the surface, green light drops glisten on the bodies like a wreath of water drops. An outstretched arm forms a shadow ten metres long. This green substance is both opaque and diaphanous, solid and transparent simultaneously. Like light or water, but neither. This is the erotic underworld of Venusberg, the amazing creation of designer Michael Scott-Mitchell, and LD Nick Schlieper.

Venusberg

The two designers wanted to use a laser, but not as a gimmick. "The laser becomes an object, when it is not moving," Schlieper said. "It ceases to be a light source, and I hope it doesn't look like a laser, with everyone expecting it to start whizzing around the room. By leaving it absolutely still, it defines the space. It becomes a floor that you happen to be able to see through."

The little pearls of light like a watery meniscus were made by extra lights. Smoke pumped onto the stage gave the laser

light form. "I lit around it, as though it were a gauze," Schlieper said. "But it's not hanging, it's lying back at an angle. So you can see through it, and the rest of the time, you try not to see through it. People can do appear and disappear tricks. So it works like a gauze that's not vertical, and people can come through it at will."

The long shadows were striking. "There's nothing like a laser for brilliant output," he said. "The optical quality gives a perfect shadow. And when you throw a laser much further, you still get them. You can get shadows miles long."

Hung at angles on both sides of the stage were accordion shiny silver panels. "That was quite a challenge, starting a show with fifteen minutes of nothing but laser, and a stage full of mirrors, of major proportions."

A lot of Preludes hanging in view at the side threw out strong beams of white light. "That was essentially very basic dance cross

light. It was all rigged around the lasers, to work in front of, and behind it, or over and under it. You're so aware of the lights because they are sitting on stage. It all has to get whisked away in seconds. The smoke accentuates them, and makes the light look much more brilliant. We had to use a lot of smoke, by Opera standards."

Another effect was vast plumes of smoke billowing down from above, with subtly changing colours. "That was just two Pars and two Scrollers. It was an open scroll, so it goes through half courses on the way, and the level of the lamps goes up and down while the scrolls move."

The world above

Above Venusberg is the concrete Prussian world, filled with a huge chorus. Scott-Mitchell had to design something that would handle over 40 people. He explained that "The major constraint was the venue [the Opera House stage]. It's diabolical, it's a miracle that anything ever gets on there. It has no wing space at all. The rear stage area is at a lower ceiling level, so there's no flying ability there. It also has reduced drift, and it's just basically a nightmare."

For Schlieper, it was challenging to go from the intimate area of Venusberg, to the much larger scale of the following acts. "We were using the rear stage, which isn't really designed to be performed in, and that creates practical problems. The trucks that pass through



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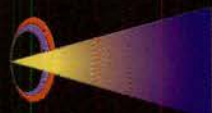
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Tannhauser *continued from previous page*

are almost as high, so there's a lot of Heath Robinson pulleys and strings back there to raise and lower lamps in and out when they are needed. It's quite fiddly. I finally managed to get my hands on a large HMI, and a remote louvre for it. I persuaded the nice people at Chameleon to buy one."

The night I went, something apparently didn't work in the second act, but I didn't notice. In the opening of Act II, the stage is framed on either side by four storey galleries. At the rear is a baroque crimson and gilt set, with steps up each side. Halfway through the act, this baroque piece moves forward, the balconies close in, and the three join. The night I went, the pieces moved, but didn't join. I heard some strange noises, but I didn't know that something didn't work.

The trucks are driven by Lindys, little machines used to drive luggage at stations. The Tannoy system broke down, so there was no communication with the drivers. The lift initially went down instead of up, in the confusion. "So it was late coming up," Scott-Mitchell explained, "and they were a bit panicked, and they drove the Lindys too quickly, and it jumped its track. It only came halfway downstage. It's supposed to come right down, and lock in, which is a big mechanical move. If one part of the technology breaks down, you're in for a bumpy ride!"

Scott-Mitchell was disappointed about the breakdown. "On every other night, that move has gotten a round of applause from the audience, so you really saw it on a dud night.

"The company bent over backwards to make that show work. Tannhauser is one of the most technically demanding shows to do. To make all that stuff work, particularly given the constraint of the venue, is miraculous. Hannes Finger did an extraordinary job building it. He's German, and he was very excited about the project from the beginning, which helped enormously."

Introducing Hannes Finger

For anyone who has ever worked at the Opera, Hannes Finger is a bit of a legend. Bold, blustering, immensely dedicated, skilful and experienced, Hannes has been head of the workshop for over twenty years, and comes up with all kinds of inventive



ways to make a designer's ideas work, within the limited budget. He has that slightly terrifying Teutonic intensity and commitment to his work. I remember when I was painting scenery, and a carpenter ran the drop saw over his fingers. Hannes was particularly upset that the man hadn't been wearing his safety gear. "I have passion for any show, right now I have it for quite a number!" he bellowed down the phone, when I asked him about the alleged passion for Tannhauser.

He conceded that one of the challenges of Tannhauser was engineering, and moving so many people. "Big trucks have to move, big trucks have to be accurately built. We were very lucky to do it fantastically accurately. New all-dimensional castors which cost \$450 each, had to be de-

veloped for it. The greatest challenge is to be within the budget, which for a Wagner production is a lousy one! We do all shows on a narrow budget, because we haven't got much money. It is quite a challenge to make them excellent, which we do, even with little money."

OA has little pushers, the Lindys, which are supposed to push five tonnes, but they don't always do the job. "It's quite difficult thing to come up with the lift first, then open up the downstage galleries, then drive the other King loges down into the right position, and at the right spot bring in the other ones. That is a big task, for us, because we have to change over every day, so we cannot really build the equipment into the floor, like Cats. Ours is all manual, and has to be struck after the performance.

"The galleries had an enormous load of people on the very good, but very few castors."

Hannes was also very proud of the burnished silver cow which flew down. "It's a beautiful cow, and the revolve was good too. I won't give all my tricks away, but that was winched down. There was a wire in the floor in the track, and a winch in the pits. Someone was winching that wire down, and as it came down, it revolved as well."

I confessed to Hannes I remembered the cow, but not its revolving flying entrance. "Oh God, you didn't remember that!" he exclaimed. "That was one of the very beautiful moments, a beautiful cow! I think that was quite good. And how we did the silks coming in with the blunderbusses was very good too. All the technical prob-

lems we did solve very nicely, very excitingly. And overall, I must say, the production is one of the better ones I have seen. Tannhauser is not an easy opera.

"The last time we did it was 20 years ago, when we had to pull the dead people offstage all the time, because they stood there in heavy rubber costumes, and collapsed. They stood in rows for 45 minutes, and collapsed."

Hannes was also very pleased with the spears that came out of the gallery walls. "I'm very proud of that really. How did I do that? Noodle, noodle, noodle! I can't explain it over the phone. You have to have the right idea, and the right way of doing it. There's a rope system, it's very very nice."

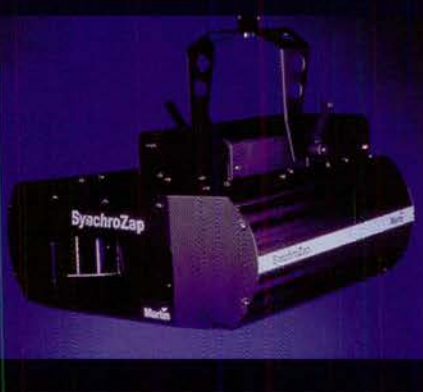
● Madeleine Murray

LXbizzBITS

PRODUCTS

MARTIN SYNCHROZAP

The DMX-controllable Martin SynchroZap is the latest newcomer in Martin's line of intelligent effects for clubs and DJs. Using a MSD 250 lamp, the SynchroZap has two individually indexed rotating mirrored drums acting as projection surfaces. There are 19 fixed gobos along with 9 colour filters and a shutter. Each function can be controlled individually and a sound activated provision is built-in as standard. Call Martin Professional Lighting Australia (02) 9898 1111.



LXbizzBITS

NEWS

- **Selecon news** - After testing by the world famous Galileo Ferraris Institute, Selecon PA1200's and 1200 Condenser profiles have been chosen to light the Holy Shroud of Jesus Christ when it goes on display for this month only. In preparation for their role as the major lighting contractor to this year's Adelaide Festival, **Osmond Electronics** geared up with new Selecon luminaires including: 1200 Zoomspots; Arena High Performance Fresnels; Aurora Cys, PC1200s and further Acclaim Fresnels, Cys's and Zoomspots. "The Matrix" a major sci-fi feature now being shot in Sydney has back cloths lit by 12 Selecon Aurora 4 way Square Cys's purchased by Sydney Gaffer **Reg Garside** through Herkes Pro Lighting NSW.
- The **Sydney Opera House** has re-structured it's lighting department and new positions recently filled

are: **Stage Lighting Coordinators:** Phil Dunesky and Andrew Hudson
Lighting Supervisors: Catherine O'Shea, Chris Venn, Adam Smith (Acting) and Peter "Moz" Lockwood (Acting)
Lighting Technicians: Kate O'Neill, John R. Lewis, Michael Schell, Alynn Pratt, Simon Jenkins, Peter "Moz" Lockwood, Adam Smith, Raymond Hawkins and Dave Kocass
Lighting Operators: Sue Baylis, Antony Deary, Jerry Luke and John Padbury.

- **Lots of Watts** have added to their hire inventory the following: JEM Techno-fog; JEM ZR22 DMX fogger; and Abstract VR8 automated lights.

- **LSC Sydney Office** Andrew Winslade has joined LSC as Business Development Manager for NSW. Based in Sydney Andrew offers local support to industry. Phone: 02-9899 1779 Fax: 02-9899 1779

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OPTIKINETICS K2 EFFECTS PROJECTOR

By Cat Forcer

Optikinetic's K range of effects projectors has replaced and improved the Solar range while maintaining compatibility with Solar effects accessories. An advanced, stylish cast aluminium body with in-built air flow ducting encases the complete range.

The range includes the K1 (an update of one of the popular most popular effects projectors ever built - the Solar 250) which uses an M33 250w lamp, the K2 which uses a MSD 200 lamp and has an electronic ballast allowing the projector to run at any voltage between 90 and 240 volts, and the K4 which replaces the Solar 575.

Ziggy Zeigler has been working at the Sydney Exhibition Centre for three years, the past nine months as Head of Lighting. It is Ziggy's job to look after the purchasing of gear, maintenance, installation, bump-outs, as well as hiring in and out of gear. If it involves any stage and theatrical lighting, it involves Ziggy. The actual building lighting is a separate department.

Last September two, black Optikinetics K2 projectors were purchased from Lightmoves Technologies. Occasionally K4's are hired.

"We chose black models instead of white because in most applications we don't want them to be seen," said Ziggy. "The white ones are good for exhibition stands and display areas but we use them more as a rock'n'roll/theatrical tool."

USE

"During the past few months we have used the K2's extensively," said Ziggy. "We've used them on nearly everything - dance floors, cyrcs, projections screens, as camera fill lights, and as slide projection tools."

WHY THE K2?

"We looked at the Mini Scan HPE, Martin 518's, the old Optikinetics Solar 250's and a couple of other similar projectors," said Ziggy. "We chose the K2 for a few reasons. With moving lights you're pretty much fixed with the patterns that are available and they are expensive. Maintenance is also expensive and you need people who know about them. The majority of our stock is analogue and there are very few people here who know much about moving lights. They know the basics only. We had to go along the lines of something analogue and the K2's are perfect for that. They are basically an analogue version of a moving light, you just put all the bits and pieces together to make the light you want. Instead of having all the elements already in the light - prism, gobos, colours, mirrors etc - you can choose to have, for example, the colour and the gobo or the colour and the mirror attachment. Depending on the ability of the lighting technician they can add as much as they want into the light."

DMX

"The K2 can run off DMX but at the mo-



ment we only run analogue control, although that can be converted through an analogue to digital converter but you need all the cables etc," said Ziggy. "There are DMX cards but unfortunately they are not available in Australia yet*, I've been trying to get them. Lightmoves have been trying to get them but Optikinetics can't supply them - it's probably some sort of standards configuration problem."

* Lightmoves say the DMX card has not been released anywhere yet by Optikinetics but will be available in the future.

SHUTTER

"The K2 does not come with a shutter card," said Ziggy. "The shutter is an optional extra and it shouldn't be as it is something the unit really needs. It obviously cuts the price down to not

include it in the unit. We bought the unit without a shutter card and soon found out we needed it - the MSD lamp is an arc lamp so it does not dim and when you turn it off it takes about two minutes to restrike and warm up."

COOLING SYSTEM

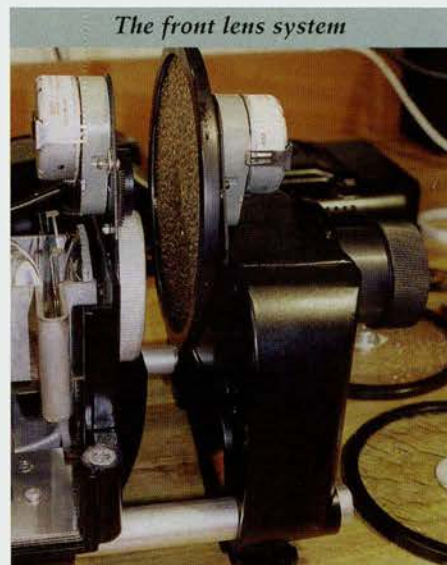
"The cooling system is really nice, better than any other effects projector system I've seen," stated Ziggy. "It's got a very large magnetic fan at the back which draws air out the bottom of the unit with lots of air intakes down the sides and on top. A funnel runs down the underneath of the lantern to the front where all effects, gobos, wheels etc are positioned and there's an outlet there which has cool air going straight into the gate. That means all the effects are directly cooled and your gobos and wheels last a lot longer. You can also use lower grade materials, not everything has to be high temperature glass or metal. A lot of our wheels are perspex and they last a lot longer than the old Solar 250's or 575's. It also means you can use 35mm slides and they don't burn out."

"Unfortunately the fan does make a noise, it sounds very

continued over



Ziggy Zeigler



The front lens system

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OSRAM

OPTIKINETICS K2 EFFECTS PROJECTOR

continued from previous page

much like a vacuum cleaner 40 metres away. It sounds very sci-fi so if that's the sound you're after, it's really good! You have to have them very high up or hidden in another room shooting through holes. In the conference business, which we're in, people are starting to be more forgiving about noisy gear."

BUILD

"The K2 is heavy for it's size because they are a solid build," said Ziggy. "However they do tour very well, you can knock them or even stand on them like I have! The weight does make it difficult when you're putting a lot on a small bar."

LAMP

The K2 uses a MSD200 lamp with an average lamp life of 2000 hours. Typical light output is about 2000 lumen. An hour meter connects to the lamp circuit and monitors actual 'on' time.

"The lamp lasts for ever," enthused Ziggy. "The effects on the K2 is used for are not generally on for long, unless it's an exhibition display, and that long lamp life makes it last very long. That's important for us because we have a very low budget compared to most production companies.

"The lamp is bright enough, I've used it in a large 3000 seat auditorium and it punches out quite a bit of light. I've used it to throw over a distance of 25 metres and the beam spread to cover a stage 20 metres wide. You could still see the effect over the par washes although it wasn't very bright over them."

LENS SYSTEM

"You can attach any type of slide projection lens to the front of the unit," Ziggy said. "That means the limit of angles is endless. Normally with lantern lenses you're limited to what the manufacturer makes, but slide projection uses all different sorts of lenses. I've used 45mm lenses through to 300mm and the optics have been fine.

"Another good thing is the 'rails' down the front of the unit which means you can move the focus position in and out and put huge amounts of effects in. I think the type of effects it can do are almost limitless however it does require you to be more creative. With moving light technology everything is provided for you, you use what you've got. With the K2 you have to think what you want and then how you're going to do it. It's like a little engineering project every time you want to use it. It suits our technicians fine because that's the way they work - we've got a lot of old equipment here so that's the way they think!"

ACCESSORIES

"Most of the large wheels I get from Optikinetics through Lightmoves who have quite a large stock," said Ziggy. "If you have to order one, you have to wait up to a couple of weeks.

The K2 with some of its accessories



I've found that the cassette rotators they supply actually fit in a standard M size gobo. All the housing wheels can be used as a retro fit device for anything else - I've used Clay Paky dichroic glass gobos. It's the old style of lighting, attaching bits and pieces together and putting them in the lamp. Unfortunately the standard Optikinetics gobos, effects and wheels are a slightly different size to every other manufacturer so other makes don't fit straight away.

"It would definitely be an improvement if you could attach more standard effects without making adaptation plates. I think they are trying to use their own size to make you buy them*."

* Lightmoves state that Optikinetics have been doing image projection in their size since projection was invented in the early sixties.

MAINTENANCE

"The units are extremely easy to open for maintenance and lamp change," Ziggy said. "They have two Philips head plugs at the front of the unit which are half turn only and the front section panel slips off to access the lamp, lenses and reflector. To get in the back half of the unit, it's a matter of a few screws to access the transformers and fan. There are no wires or extra pieces attached to the covers either."

SERVICE

"The service from Lightmoves has been great, the only time they fall down is when you want specific effects in a hurry," said Ziggy. "I haven't had to do anything to the K2's since we bought them and they've been toured around our building quite a bit - they can't go in roadcases either. In fact they're not treated nicely. They've been hung in all sorts of positions, even almost upside down. I can't really say too much about the service as I haven't really needed any!"

K4

"The K4 has a different lamp assembly inside," Ziggy explained. "It has a MSD 575 lamp which is much brighter (4000 lumen) - about the same as the MAC500 or MAC600 - and it's lamp life is 750hrs."

Price ex tax: K2 - \$3370. K4 - \$5825.

Manufactured by: Optikinetics Ltd +44 1582 411413

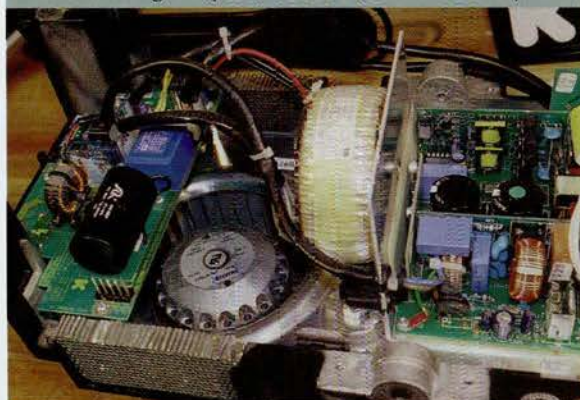
Australian Distributor: Lightmoves Technologies +61 2 9560 0000

New Zealand Distributor: Lightmasters Agencies +64 3364 7070

Hong Kong Distributor: Laser Theatre Lighting Ltd +852 2797 9808

Singapore Distributor: Hawco Trading Co Ltd +65 2870011

Accessing the fan and transformers is easy

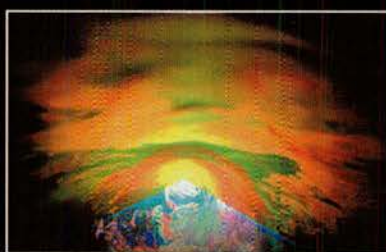


K2 SPEC

Size: 595mm x 225mm x 210mm (length, width and height excluding projection lens and hanging bracket. Weight: 12kg.
Mains voltage: 100-120 volts AC or 220-240 volts AC 50/60Hz (Automatic voltage sensing). Power consumption: 320 watts maximum.

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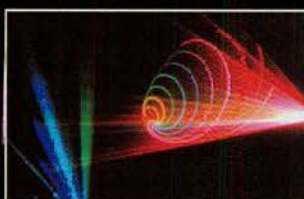
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Write-in Reader Service No: 150



*lil'*DMXter

By Andy Ciddor

If you haven't previously met a *lil'*DMXter you may well be wondering what on earth it is and what you can do with it, and you'll almost certainly be wondering about the name. The *lil'*DMXter is an all purpose test, measurement and fault finding device for DMX512 lighting control systems. It offers four basic operational modes: DMX receiver/analyser, DMX transmitter, cable tester and DMX record/playback, each with a multitude of options. In keeping with Connections policy of user product reviews, I have conducted an in-depth interview with myself as a long time user of the *lil'*DMXter. Just this once there's no chance of complaints from the user about being misquoted (except of course for my infamous appalling typing).

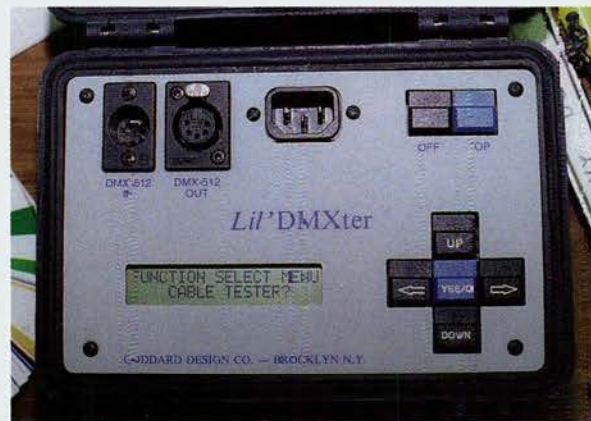
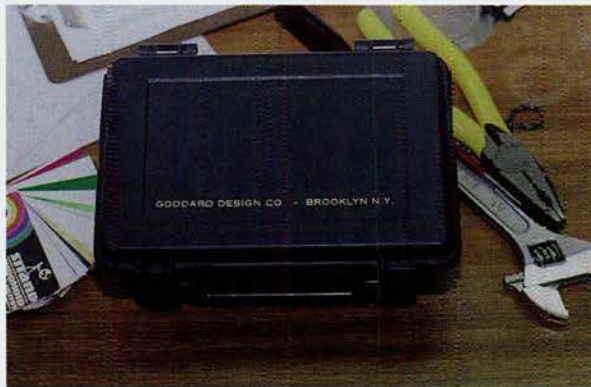
Many lighting techs will tell you that all you need to fault find in a DMX system is some sort of continuity tester and one of those XLR5 test plugs with two LED's in the end* which light up when it receives a DMX signal, and whilst I never leave home without both of these devices, I have come across many problems which they could not solve.

PHYSICAL CHARACTERISTICS

The unit is solidly constructed, with all components mounted between two rigid brass plates and the entire unit being enclosed in a tough plastic case which, at first glance, resembles a lunch box. The *lil'*DMXter has a two line, backlit liquid crystal display with all functions accessed through a multilevel menu via seven control keys. The electronics are powered by an internal, sealed lead-acid battery which is recharged from the mains via an IEC inlet (jug socket).

FUNCTIONS

As a DMX receiver and data stream analyser the *lil'*DMXter provides a window into the DMX data stream, showing the level of each channel in one of three formats: 0 to 100% as seen on a control desk, 0 to 255 as actually transmitted in DMX or as hexadecimal 00 to FF as spoken by microprocessors and seriously bent digital nerds. Other DMX data available includes the value of the start code, the number of channels in the packet, the interbyte and interpacket times and the length of the break and mark after break pulses; none of which are of much interest unless you're debugging an installation or trying to figure out why one particular DMX device in a system is behaving strangely.



One really useful feature is Flicker Finder mode which allows you to establish whether or not the desk is to blame for that flickering dimmer or jittering robotic. This feature enabled me to return a brand new lighting desk to its (unnamed) manufacturer in Sydney for replacement, despite their insistence that their lighting desks never had that much jitter and that our robotics were entirely to blame.

In basic transmit mode the *lil'*DMXter behaves very much like any of the DMX remotes that abound, except that it includes the ability to change virtually every parameter in the DMX stream to test the stability of suspect DMX receivers. The *lil'*DMXter allows you to define up to three sets of non standard DMX "flavours" for receiver testing. I have found the *lil'*DMXter's autostep function, which sequentially fades each channel up and down, particularly useful for focus and softpatch checks.

The *lil'*DMXter has two cable test modes: a standard test for those cables which can be plugged into the DMX in and DMX out sockets on the unit and the more unusual single-ended test which allows for the testing of installed cable runs. Both modes check for full DMX data integrity rather than merely testing for continuity. I have used the *lil'*DMXter to locate the problem cable in a rig after every cable had previously passed the continuity test on my faithful Dick Smith cable checker, but was never-the-less managing to mangle the data to a whole bar of robotics.

In DMX record/replay (Show Saver) mode the *lil'*DMXter can serve as a backup controller; storing sixteen "snapshots" of the controller's output for later replay. While this is a very useful feature, I feel its use is limited by only being available through push-buttons and menus, which are a bit of an encumbrance to deal with if your desk has just crashed and there are thirty people screaming at you over the talk-back (in a most professional and controlled way, of course).

PROBLEMS

The battery. If you don't charge it up once a fortnight the *lil'*DMXter goes into a coma from which it requires several hours on charge to recover. If you leave it on the bench in the workshop between fit-ups you had better make sure you put it on charge at least once a week. My other complaint is that the

buttons and menu system are not very intuitive: having a button marked "Yes" without having a "No" button is very confusing when the screen asks "Are you sure? Stage will blackout". What button would you be looking for? I would also like to see a numeric keypad for access to channels, levels etc.

CONCLUSION

Since our *lil'DMXter* grew legs and walked out of the building a while ago I have looked at the many alternative products on offer as possible replacements and I have yet to find anything which offers as many useful features for DMX512 systems. I would be waiting for a couple more weeks before purchasing though, as new software is currently under test which is designed to simplify the testing of robotics luminaires in transmit mode. This looks like a really promising upgrade.

Oh yeah, the name: it's just a touch too cute, and along with such screen messages as "*lil'DMXter* is sleeping", "Low battery warning! Please feed me!", "Meal Penalty" and "OK, OK, I'm awake!" gives an indication of the level of weirdness to be expected from its maker Goddard Design of Brooklyn, New York. The well written manual is also liberally laced with humour and slightly off-beat comments in addition to some excellent fault-finding insights. Overall, I believe the *lil'DMXter* to be one of the most valuable tools a DMX512 user can have at their disposal, although, at the price, ownership will probably fall to venues and companies rather than individual lighting technicians.

Price: *lil'DMXter* \$1,350 tax ex, Show Saver \$150 tax ex.

Australian Distributor: LSC Electronics +61 3 9561 5255

Singapore: Distributor: Desisti Asia Pte Ltd +65 382 7622

Goddard Design Website: <http://village.ios.com/~goddard/>



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BUYER'S GUIDE

effects lighting

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

CENTREPIECES

ADJ
Show Technology (02) 9898 1111
Astroraggi II This unit is fan cooled and features 103 multicoloured pencil thin beams that sway to the rhythm of music. Perfect for clubs or anywhere maximum impact is required. Lamp Type: 2 x 24V 250W EHJ or long life 24V 250W M/33. \$779.22.
Gyrator Two cosmo balls gyrate with an explosion of colour. At this price, it is easy to fill any sized room with a minimum of ease. Lamp type: 64514 120V 300W. Weight: 9Kg. \$389.22.

AMERICAN DJ
American DJ Supply Australia 1800 643 111
Mystic employs special design reflectors to create a unique beam pattern resulting in 30 criss-crossing beams which are extremely bright for its size. Lamp: 64514 x 2 (120v 300w), weight 6kg. \$368.
Sunray III projects a myriad of bright multi-coloured focussed beams. It has the added feature of rotating at 6rpm and great as a centrepiece. No transformer keeps the weight to a minimum. Lamp: 64516 (240v 300w), weight 7kg
Coloray projects multiple beams of coloured light that criss-cross to the beat of the music. They look great in multiples or on its own as a compact centrepiece. Lamp: 2 x BRL 12v 50w, weight 2kg. \$327.
Tempest Built in programs, 6 dichroic colours + white, solid and moonflower type beams sweep across a room, low profile design for low ceilings, fan cooled, great centrepiece effect. \$1,475.

APOLLO
Coemar De Sisti Australia (03) 9467 8666
Climax A specially designed rotating mirror deflects beams from two separate sources. Nine dichroic colours, nine gobos, strobing effect, rotating & contra-rotating. Utilises twin M33 lamps and available in DMX or stand-alone versions. Can be ceiling or wall mounted. \$1,847.
Paradox A triple light source shining on a specially designed rotating mirror deflects beams from two separate sources. Featuring multiple dichroic colour wheels and twin 9-gobo wheels, strobing effect, rotating & contra-rotating. Utilises three M33 lamps and available in DMX or stand-alone versions. Can be ceiling or wall mounted. \$2,777.

CLAY PAKY
Show Lighting Australia (07) 3369 3399
Astroraggi Power Equipped with a HSR400 lamp and 102 constant colour motion beams the Astroraggi Power animates the dance floor with a spectacular show of light! DMX controllable this unit comes complete with two axials, flow fans for forced ventilation cooling, two control channels for direction of rotation and dimmer and strobe effect. \$4211.22.
Astroraggi Twin floods your dance floor with multiple rays of light that move to the beat of the music. Projects 103 white beams of light, and featuring simple automatic operation and easy installation. This unit takes two halogen lamps and weighs only 19Kg. \$1911.

COEMAR
Coemar De Sisti Australia (03) 9467 8666
Comet Seven beams of concentrated light with 1460 pre-programmed scenes incorporating rotatable multicoloured beams controlled by dichroic filters. Add to this intense shafts of light generated by a lamp specially designed by Philips for Coemar and the effect is transformed in a multiple of spectacular thin beams of colour. Unique and extremely rapid strobing effect only available with the Coemar Comet. \$4,195.

FAL
ELSTA 1800 35 80 80
PF4030 Galactica FAL's most popular and spectacular centrepiece - 16 moving mirrors, HMI-575 lamp (also available for HMI-1200), 8 dichroic colours, 0-10v analog control or music activation by inbuilt microphone, 17 precision DC motors, weight 38kg. \$3,275.
PF4070 Pentagon 10 moving mirrors in 5 arms which can direct light to an additional 5 rotating effects mirrors (barrels and moonflowers), HMI-575 lamp (HMI-1200 version also available), 8 dichroic colours, 0-10v analog control or music activation, 16 DC motors, weight 33kg. \$2,868.
PF-4015 Mini-Octopus One of the smallest and most compact centrepieces from FAL - 8 arms incorporate 4 deflecting mirrors, and two pairs of oscillating discs creating a dramatic spectacular effect, lamp HSD-200, 5 dichroic colours, 0-10v analog control or music activation via inbuilt mic, weight 22kg. \$1,966.
PF-4050 Nebula 16 moving mirrors in 8 arms which deflect onto a further 8 effects mirrors in the centre of the effect (barrels and moonflowers), lamp HMI-575 (HMI-1200 version also available), 0-10v DC control or DMX-512, weight 42kg. \$4,917.

FUTURELIGHT
Coemar De Sisti Australia (03) 9467 8666
Cross Beams Four bright beams of dichroic coloured light cross each other like light swords to create clusters of flower beams in time with the music. Perfect for mounting in low ceilings or for mobile use. Very bright output from the 575w HMI lamp. \$1,980.
Spider Eight mirrors sweep the dichroic coloured beams of light through a large arc. The centre effect mirrors are divided into four flower mirrors and four effect rolling mirrors. The colour changer speed is completely adjustable for maximum versatility. \$3,290.
Miracle \$3,330.

GRIVEN
ULA 1800 648 111
Splendid 1200HMI with 16 dichroic individually coloured beams, 8 preset sequences, automatic & sound-to-light mode or recallable by 0-10V signal. \$4965.48.
Helios DMX 1200HMI giving infinite combinations of beams and colours. Eight arms with mirrors that reflect spectacular light beams of dichroic coloured light, 8 preset sequences, automatic & sound-to-light mode. DMX512 controllable. \$8553.48.
Shuttle DMX A complete lighting show in a centrepiece effect. 24 beams and gobos from HMI1200 lamp. Eight interchangeable gobos, manual focusing, 24 animated mirrors, 8 eight animated arms which can rotate beams on their axes, strobe and blackout effect, centre rotating mirror ball. The Shuttle comes complete with 23

preset sequences, DMX512 controllable. \$15178.02.
Cyclope Compact sized centrepiece with 8 changing dichroic beams reflected by the mirror fitting on the moving central part of the projector. Sound-to-light preset programmes, remote controllable 0-10V. \$3999.84.
MARTIN
Martin Professional Lighting Australia (02) 9898 1111
Centrepiece Based around the powerful MSR1200W lamp, eight vivid focused beams emanate from around the perimeter of the Centrepiece. This unit can be mounted convention-

ally from the ceiling or vertically from the wall - further adding to its dynamic capabilities. Weighs 40kg. \$3899.22.

Wheeler Taking a bright 300W lamp, the Wheeler features four dichroic colour filters, automatic stand-alone control, four faceted revolving mirror drums, built in microphone, is sound activation and weighs only 10Kg. \$680.

TAS
Coemar De Sisti Australia (03) 9467 8666
Synchro Digital A 575 HMI effects unit which produces dancing beams of multi-coloured light. Absolute room filler, with stepper motor controlling all movements. Internal preset programmes can be accessed via analogue signal or the unit offers total independent control of all functions via dedicated controller. DMX addressable via standard control desks. \$4,200.
Duetto Twin mirrored moving light effect which allows brings the advantages of moving mirror technology to the centrepiece lighting effect. With inbuilt audio control or analogue and DMX signal control optics, the Duetto offers a twin head moving mirror setup with internal colour and gobo changer. Uses high output dichroic 250W lamps. \$2,840.

STROBES, CONTROLLERS

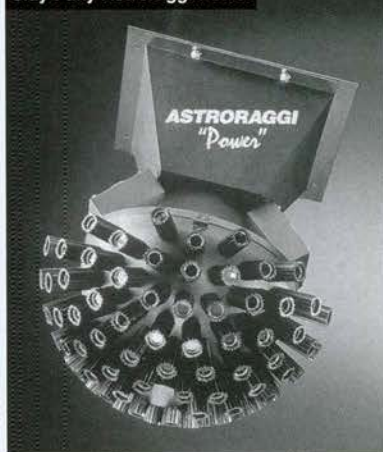
AMERICAN DJ
Supply Australia (02) 9568 6-96
SPQ-4 Features:- Plastic casing, 45W, flashes from 1 to 15 per second, Ac input AC115/230V, flash tube type BT-Q1, 130W x 200D x 200Hmm, 0.8 kg. \$72.95.
SPQ-2 Q strobe with dimmer and duration DMX control, plastic casing, 100W maximum power, 0-100% dimming rate, duration and flash rate: 50 time/50Hz 0.2 to 120/second 60 time/60-Hz 0.2 to 60/second, 1.5 kg. \$228.69.

ANYTRONICS
TechScape (07) 3358 5118
Superstar Strobe MkII 11 Joule strobe w/ internal oscillator 1-10 FPS or external trigger input 3-20V+ or - . Also available slave only and par 64 pod. \$415.19.
Megastar Strobe MkII 1500W linear tube, fan cooled w/ toughened glass filter. DMX option available. \$1,215.90.
Death Star Strobe High output version of Megastar strobe. \$1,675.58.
ESC Extension Speed Control Extension speed control unit for Anytronic strobes. \$108.83.

BOTEX
ELSTA 1800 35 80 80
SP-750 DMX controllable 750w strobe, dimmable from 0-100%, flash rate 1-13 flashes per second, uses BT-750 linear strobe tube weight 3kg. \$327.
SP-106MR Botex 60w Disco strobe - bright output for its size, flash rate from 1-15 flashes per second, uses BT-106MR strobe tube, can be controlled by CN-100 Botex strobe controller, weight 3.1kg. \$130.
SP-106S Botex Mini-strobe, 14w max power, robust plastic casing, flash rate 0-10 per second, uses BT-106S mini strobe linear tube, weight 0.225kg. \$32.
CN-100 Botex strobe controller - controls flash rate from 1 - 15 flashes per second, dimming control from 0-100%, can be music activated by inbuilt mic, 12v pulse signal output, size 170 x 100 x 48 mm, weight 0.6 kg. \$73.

GENI
Show Technology (02) 9898 1111
Junior Disco Strobe This strobe is a budget priced yet comprehensive unit with jack inputs for external control, external fuse, IEC power lead and plug all wrapped up in a sturdy metal casing. \$108.42.
Disco Strobe This disco strobe has a powerful 75W-xenon

Clay Paky Astroraggi Power



lamp with a flash rate of 1-12 flash/second, and comes with an attractive aluminium case. Jack inputs allow for external control. \$147.42.
Giga Strobe A powerful 3000W disco strobe with an output that packs a punch! The features of the Giga strobe include dual jacks, a rugged aluminium case and tempered glass making it perfect for any application. \$412.62.
Giga DMX strobe With a specially designed reflector for wide dispersion, this two-channel DMX controllable strobe has a flash rate of 1-16 flash/sec for precise control of intensity and flash rate. \$623.22.

HIGH END SYSTEMS
TechScape (07) 3358 5118
AF 1000 Dataflash Indoor Mount Strobe Fixture Ultra high power flash and continuous illumination Xenon fixture. Uses up to 3 DMX channels in 7 different modes for control over rate, duration and intensity. \$929.37.
AF 1000 Dataflash Weatherised Strobe Fixture same features as Indoor model except with captive data leads and "weatherised" for outdoor applications. \$1017.88.
AF 1000 MINI Controller Controls up to 12 AF 1000 fixtures. Has standby, flash, up / down, program, rate, intensity and audio keys. Uses DMX512 control protocol. \$1237.38.
AF 1000 LCD Controller Controls up to 256 AF 1000 fixtures. Has LCD, 9 memories, 891 pages (scenes), 1024 programmable presets, simple menu operation. \$5,885.98.

INFINITY
ULA 1800 648 111
75W Strobe Powerful 75W Xenon tube in an aluminium extruded case, flash rate 1-12 per second, dual "jacks" for synchronous operation. Ideal for small clubs & mobile DJ's. \$133.34.
1500W Giga Strobe 0-10V Made from a refined aluminium case with a high temperature tempered safety glass, fully dimmable, flash rate 1-16 flashes per second, controllable via 0-10V. \$400.45.
1500W Giga Strobe DMX512 Made from a refined aluminium case with a high temperature tempered safety glass, fully dimmable, flash rate 1-16 flashes per second, controllable via DMX512. \$434.17.
4 channel strobe controller Five selectable flash sequences, four selectable delays, audio auto or manual trigger, 1 to 5 strobe units per channel, flash rate 1-12 per second, standard "jack" outputs. \$256.78.

OPTIKINETICS
Lightmoves Technologies (02) 9560 0000
Terrastrobe the most powerful Optikinetics strobe. 5 amp power provides flash tube life of 15 flashes/sec - using 400w. \$1315.
Super Slave 70 watt medium power strobe. Long life strobe, rated at >100 million flashes with maximum brightness and reliability. Position continued over



Apollo Climax

Take one enterprising young man and a desk.....

When Englishman Ben Teale decided to visit Australia for a holiday he bought his work with him - a Light Processor QCommander lighting control desk. It's not that he thought his desk needed a holiday, rather Light Processor agreed to give him one for free if he showed it to a few production companies here in Oz. Light Processor currently do not have a distributor here in Australia.

So Ben trekked through South Australia, New South Wales and Queensland showing his desk to whoever was interested and generating a lot of interest. On his last day he visited Brian Walsh at BLM Production Services in Sydney who was so taken with the desk, he bought it!

"We have just completed an Australian National Night Club Tour that found us carting a Martin 3032 PC control system and a Jands Instinct48 console around the country," said Brian. "Control space was often very limited, as in most instances, Night Clubs are not designed for stage acts with large lighting and PA systems, plus their operators. The QCommander can successfully take the place of BOTH of these control systems for this application, weighing in at only 5kg and requiring only 1/2 meter of working space. The same tour is on the road again in a slightly different format later this year, and this time, we will be using the QCommander." Whilst being limited to 16 moving fixtures, the QCommander will be more than capable of running the 12 Martin fixtures,

Ben Teale and Brian Walsh with the QCommander



4 x Colour Changers, 3 fresnels, 24 PARs, 2 x Duets, 1500w Strobe, Le Maitre G300 Haze/Fogger and more whilst still leaving 100 DMX channels spare.

The QCommander comes equipped with a comprehensive fixture library encompassing 187 commonly used fixtures.

"We were delighted to find the MAC500 (our next scheduled purchase) amongst every fixture we own, know or are yet to encounter," Brian said. "Upon testing the QCommander with a number of different fixtures, we were amazed to discover that each of the included personalities worked perfectly first go - unlike a recent experience with another manufacturer's product costing more than 5 times the price, whose fixture library required many hours intensive surgery before being of any use at all. "For small-medium touring applications such as those for which we provide production on a regular basis, the QCommander will easily allow one programmer/operator

to control every aspect of the show from one small, powerful and easy to operate console.

"Multi-level password protection is a definite bonus in both touring and installation applications, enabling programmers to keep cumbersome untrained fingers out of harm's way.

"HTP/LTP provides a single master level that allows all fixtures and analogue to be dimmed without any other positional information being interfered with. This is of course another big plus for a solo operator.

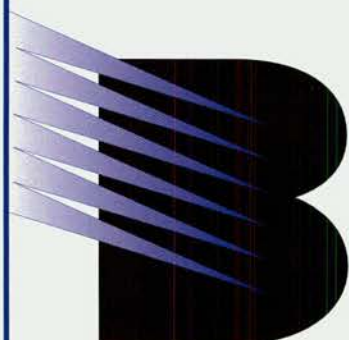
"3D beam plotting via the on board Trackball increases ease of use. The console automatically adjusts to support hi resolution 16 bit movement, offers easy menu navigation and a facility to alphanumerically name scenes & chases.

"Of course, no console is perfect, and the QCommander could use a few minor improvements. A power switch would be kind of handy when it comes time to turning the console off and repositioning the 3-NC socket for the desk lamp so as one can actually get one's fingers around the plug to remove it would also be nice.

"Whilst I am a little nervous about purchasing a product that is not represented by an importer in this country, I think the QCommander is a feature packed console that offers unbelievable value for money and hope that an Australian Importer picks them up soon."

Anyone interested contact Light Processor +44 181 575 8828

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Phone: 02 9550 3955 Fax: 02 9519 3977

Write in Reader Service No: 101

BUYER'S GUIDE

effects lighting

tioning universal, 1 amp required, weight 37kg. \$530.

TAS

Coemar De Sisti Australia (03) 9467 8666
Saetta Strobe 1500 A high-powered strobe with variable rate strobing in an aluminium housing c/w safety glass and lamp. \$1,149.

FX PROJECTION

ABSTRACT

ULA 1800 648 111

Gladiator Revolution Features high output 100W 12V lamp, full DMX512, seven colours on seven gobos, 360degree rotating barrel, twisting through 180degrees, fully automatic sound-to-light shows in every fitting, optional 1500 hour lamp now available. \$764.40.

Gladiator CED The award winning Gladiator CED features high output 150W HQI 6000 hour lamp, full DMX512, 11 colours plus white, 11 gobos plus open, mirrored barrel rotates through 360degrees at upto 40rpm, tilt through 50 degrees, fully automatic sound-to-light shows in every fitting. \$1723.41.

Galactic Moon 20 high power beams in seven dichroic colours plus white and seven gobos plus open, using 150W 15V lamp (long life lamp option now available), DMX512 or fully automatic sound-to-light shows. \$854.10.

Twister3 16 colours on 16 gobos twisting sound-to-light with music, supplied complete 100W 12V lamp. \$495.30.

ADJ

Show Technology (02) 9898 1111

Skylight II A myriad of multi coloured beams which dance frantically to the rhythm of the music. Taking a 24V 150W lamp. \$467.22.

Gobo Moon II Two gobo wheels work together to project an array of multicoloured images that

swing back and forth to the beat of the music. Rich dichroic colours. Lamp type: ELC 24V 250W. Weight: 7.5kg. \$467.22.

Mushroom New from Show Technology - this high impact disco effect uses two different lamp types to change beam shapes - a revolutionary effect that has NO MOTORS! Takes 2 x 64514 lamps plus 1 x R7 lamp. Weight 6kg. \$233.22.

Rotogobo Perfect for any retail outlet, attract customers to your company with your very own logo or image with this effective yet simple effect. Taking an MR16 12V 100W lamp. \$194.22.

ALTMAN

Chameleon (02) 9310 5222

Shakespeare Projector a custom adapted Shakespeare to project images from transparencies. As used in Sydney Theatre Company's production of Moby Dick. SPOA.

AMERICAN DJ

American DJ Supply Australia 1800 643 111

Roto Gobo Extruded aluminium casing, full focusing, compact size, comes with 1 random gobo, perfect for promotional applications, DJ's, nightclubs and bars, the uses are limitless. \$163.

APOLLO

Coemar De Sisti Australia (03) 9467 8666

Polaris Rotating oil-wheel effect utilising standard effects wheels to produce a psychedelic effect. A new generation will be thrilled by this effect. Hey, if it ain't broke...don't fix it.! Utilises an M28 lamp. \$927.

Neutron Features a high-quality optical system with a high-definition kaleidoscope lens to create a unique and fascinating projected effect. Contra-rotating twin gobo wheels and rich dichroic colours are coupled with a powerful, long life HQI 150 lamp. DMX or stand-alone operation. \$1,536.

Atomix Reminiscent of the famous Coemar

Projector flat-beam effect, the Atomix utilises a powerful HQI 150 lamp coupled with a sound-activated, slotted gobo wheel to produce multi-coloured, flat beams of light which rotate and turn through the air. From \$927.

Megatron A front lens is used to split and elongate the projected image in this unique effect. Featuring two gobo wheels and rich dichroic colours, the unit can operate either in stand-alone mode or via DMX signal. \$1,536.

CLAY PAKY

Show Lighting Australia (07) 3369 3399

VIP300 The Versatile Image Projector is suitable for all installations in numerous settings such as piano bars, clubs, museums, discos, shopping malls and hotels. Various accessories are available. Takes a HT1300 Halogen lamp and weighs a tiny 7.1Kg. \$1341.60.

SIP300 The Simple Image Projector takes a 300 Watt halogen lamp and non - electrified effect guides. This projector is identical in all other aspects to the VIP models but weighs only 2.0Kg. \$966.42.

VIP250 This fixture is identical to the VIP300, differing only because it is equipped with a 250W halogen lamp. Various accessories are available and weighs 6.8Kg. \$1130.22.

VIP300DIA Versatile Slide Projector is the latest projector to be developed in the Display Line range. Clay Paky's DIA has all the available accessories of the VIP300 range plus the addition of single slide holder - for projection of a 35mm slide, rotating slide holder - for projection and continuous rotation (4RPM) of a single 35mm slide, manual/auto slide changer and the newly released oil wheel effect. \$1556.10.

COEMAR

Coemar De Sisti Australia (03) 9467 8666

Versatile 750w or 1Kw static 'finger' beam projector with mammoth 115° beam angle and a 3 to 12m throw. Uses the unique Roundlux lamp to produce cones of light through eight lenses. Able to utilise integral reflector lamps to produce shafts of light. Effective in a chase sequence. \$349.

FAL

ELSTA 1800 35 80 80

PROMO 2 Projector/scanner of high resolution images. Using an MSD 200 discharge lamp, it projects easily interchangeable photographs, and/or gobo patterns, gobo may rotate through 360° at various speeds. Fast action shutter for beam blackout and strobe effect, fully automatic functions, extruded aluminium housing, 15kg. \$1,966.39.

PROMO 1 Using an MBI-T 150 W lamp, the PROMO 1 projector permits installation in small and/or elegant places such as boutiques, shops and bars. The gobo pattern is easily interchangeable. Extruded aluminium housing, 8 kg. \$572.95.

FUTURELIGHT

Coemar De Sisti Australia (03) 9467 8666

FX-150 Instead of a mirror the unit has a varispeed rotating barrel to split the light into six beams over 120 degrees. Twelve gobos including two multi-colour. Strobing function on every gobo. Eight colours. Full DMX control. \$680.

RT-150 Instead of a mirror the unit has a varispeed rotating effect mirror (Flower, Pizza Pie or Convex Curve) to split the light into a myriad of beams over a large area. Twelve gobos including two multi-colour. Strobing function on every gobo. Eight colours. Full DMX control. \$680.

GENI

Show Technology (02) 9898 1111

Blaze Sharp coloured beams twist and turn to the beat of music. This high-powered, richly coloured moonflower effect features include audio control, aluminium case, superior optics, dichroic reflectors, high torque motors and axial cooling fans. Lamp Type: 24V 250W M33/EHJ. \$241.02.

Wild Blaze This dichroic flower effect scans across any venue to the beat of the music. Its features include long life torque motors, scanning mirrors, adjustable beam angle and supe-

FAL Nebula



rior optics. Lamp Type: 24V 250W M33/EHJ. \$342.42.

XTC A pyramid head provides multiple, richly coloured moon flower effects that crisscross to the music. An original and dynamic effect with CE approval. Lamp Type: 24V 250W M33/EHJ. \$389.22.

Spyro NEW EFFECT from GENI. The Spyro projects a myriad of twisting multi-coloured beams and is DMX controllable. This is a great club effect guaranteed to set any dancefloor alive. \$8999.

GRIVEN

ULA 1800 648 111

Circus 575HMI Two powerful rays rotating on two independent axes and projecting cones of light, two gobo wheels coloured by dichroic, 9 in-built sequences, sound-to-light or remote control 0-10V. \$3131.70

Cruiser 575HMI The power of six scanners in one projector, two double dichroic filters with one mirror on each arm project 6 beams, 170degree pan 180degree tilt, two gobo wheels of 10 gobos each, 23 built in sequences, sound-to-light or DMX512 operation. \$6897.54.

Kubo HSD200 Floor based effect, internally lit cube with coloured beams, sound activated or 0-10V remote. Make your dance floor come alive, also available with 650W 240V lamp or HMI575 lamp. \$3087.24.

HIGH END SYSTEMS

TechScope (07) 3358 5118

Technoray Uses MSD250-2 lamp, remote focus, 12 colours plus open, 8 position rotating lithopattern wheel, 5 position rotating effects wheel, 11 to 17 degree angle, DMX or stand alone and weighs just 14kg. \$5,885.98.

Technobeam LCD Controller 24 individual fixture programmable control of any combination of Technobeam, Technoray or Technopro luminaires. Rack mount control with all the standard LCD Controller features. \$5,885.98.

MAD LIGHTING

TechScope (07) 3358 5118

Star 311 AP DMX controllable plastic cased fixture covering large spaces with fill in effect. Has 12 gobos and 11 colours and can operate stand alone. 6000hr 150W discharge lamp. \$1,274.03.

Star 411 AP Same features as Star 311 AP except with shutter. \$1,392.65.

Star 511 ARP Same features as Star 311 AP except with 10 interchangeable rotating gobos and separate strobing shutter. \$1,722.42.

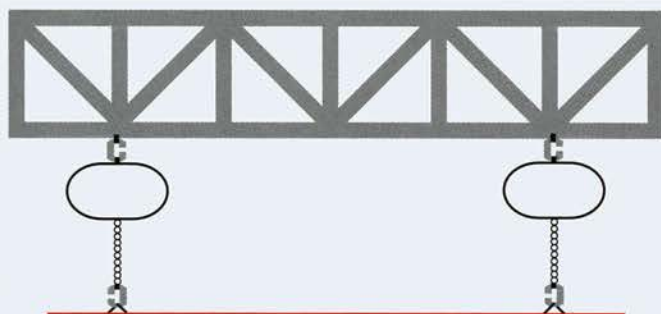
MAD 1 Controller 60 scenes and 12 chases preprogrammed with further 60 scenes and 12 chases available for user programming. MDI input with MIDI file record and play back available, cued from built in SMPTE decoder. Audio Input. DMX Output. \$925.27.

MARTIN

Martin Professional Lighting Australia (02) 9898 1111

Lynx generates multiple beams of light which revolve around each other - changing colour continuously to the beat of the music. Featuring 13 dichroic colour filters, automatic stand alone control, 100W halogen lamp, built in mic and weighing only 7.5Kg. \$467.22.

Destroyer featuring 250W long life lamp, this effect projects a myriad of twisting, multi-coloured beams.



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BUYER'S GUIDE

effects lighting

Twelve combing gobos and colour filters lend a kaleidoscopic atmosphere to any lightshow. This effect is DMX controllable and weighs only 7.5kg. \$701.22.

Punisher featuring fan cooling, multi-faceted reflectors, combined gobo wheel and shutter, 7 gobos, dichroic filters, manually adjustable focus and taking a 250W lamp. This unit weighs only 7.5kg. \$776.10.

Magic Moon featuring 20-80 multi coloured beams, 3 complimentary dichroic colour filters, automatic stand alone control, built in mic, and taking 250W lamp. This unit weighs 16kg. \$776.10.

METEOR

ELSTA 1800 35 80 80

Probeam 75 Standard probeam includes a multicoloured oil-wheel and uses EYF 12v 75w reflector lamp (3500 hr lamp life). Oil wheel turns at 0.5rpm and is interchangeable. It is easily focussed for any distance. Weight 4kg. \$735.

Probeam 75C This version of Meteor's probeam projector accepts a cassette mechanism which can project any image held by the cassette. It too uses an EYF 12v 75w lamp, is easily focusable, and is available in an architectural white enclosure. Weight 4kg. \$778.

OPTIKINETICS

Lightmoves Technologies (02) 9566 0000

K1 entry model projector uses a 24v, 250w lamp. Improved optics provide 75% more output than Solar 250. All accessories are interchangeable. \$1395.

K2 powered by 200w MSD optional accessories are: lamp metre, animator card and shutter/dimmer. Standard 50mm lens are interchangeable providing images any size. \$3370.

K4 used for clear images over long distances. Powered by 575w MSR. Weighted just over 12kg. Runs cool even after hours. \$5825.

Ludwig PANI

Bytecraft Pty Ltd (03) 9587 2555, (02) 9550 3955

PANI BP 2.5 HMI 2.5kW Stage Projector, compact construction and high light output due to the aspherical condenser system with cold mirror spherical reflector. Can be hung or floor mounted, and a range of lenses and effects is available. From \$28,000.

PANI BP4 Compact 4kW HMI Projector includes condenser lens, slide carrier, adjustable slide mask, universal ballast. Available for hire, or purchase. From \$35,000.

PANI BP 6 GOLD high performance 6kW HMI projector was developed for applications requiring great projection distances, for extremely large projection images or extremely high intensities. Available for hire, or purchase. From \$40,000.

STUDIO DUE

Show Technology (02) 9898 1111

Mini Beam is a motorised spot featuring 6 colours and black out effect, rainbow effect, 6 gobos, strobe effect with adjustable frequency, pan/tilt 300 deg and DMX512 card installed. \$4991.22.

Giant NEW EFFECT from Studio Due! Small

but only in size, the Giant uses a 150W discharge lamp which is installed in a very efficient dichroic reflector and produces a bright white beam. Features one wheel with 5 dichroic colours, one wheel with 5 gobos and one shutter with strobe effect. Weighs 10kg. \$2999.

Predator features variable speed control, pan/tilt 300 deg, 4 speeds, 5 colours plus black and white. It is DMX512 controlled using 6 channels, and has music activation, remote control selection of beam with 30 rays of a flat line and is fan cooled. \$4679.22.

ULA

ULA 1800 648 111

CP150 Corporate projector with powerful 150W HQI 6000 hour lamp, interchangeable glass or metal pattern can be rotated in two directions and variable speed, effects can be mounted also, including scanning & walking head. \$1092.

PROJECTION ACCESSORIES

BEACON

Lighting by Design 0418 797762

Beacon Full Colour Gobo full colour glass gobo, patented method, manufactured under exclusive license in Australia. Most sizes available. Discounts to trade. \$215 first one, includes artwork.

Beacon, Greyscale Glass Gobo full greyscale glass gobo. Manufactured in Australia. Most sizes available. Resolution up to 2400dpi possible. Discounts to trade. \$215 first one, includes artwork.

Stainless Steel Gobo Fast delivery. Discounts to trade. \$150 first one, includes artwork.

METEOR

ELSTA 1800 35 80 80

PROBG Graphic and custom oil wheel suitable for the Meteor Probeam 75 projector (and others as well), various designs available including wheels made to your own design. Standard size is 6 inches (152 mm). From \$220.

PROBCASS Graphic and custom cassettes suitable for the Meteor Probeam 75C projector (and others as well), various designs available including cassettes made to your own design. From \$220.

OPTIKINETICS

Lightmoves Technologies (02) 9566 0000

Linear Motion Mirror moves on an image continuously between two points on a straight line. 12v power from projector. \$630.

Circular Motion Mirror moves on an image in a continuous circle. Tilt is adjustable. 12v power from projector. \$600.

Deflector Mirror designed for applications where a fixed image position is required. Useful in low ceiling applications. \$350.

Solar System programmable effects changer can create over 64 effects. DMX control. Effects can rotate clockwise and anti-clockwise. \$4995.

ROSCO/DHA GOBOS

Rosco Australia (02) 9906 6262

Gobos 800 patterns in stainless steel to suit most profiles. Designs and company logos can be made to order in under 3 weeks. \$22.

Gobo Rotators to suit many popular profiles, the rotators turn gobos on their axis in the gate. Available to suit single and double patterns in different directions. \$925.

Animation Discs discs to make gobos appear to move. Can be used on fresnels and PC's to create moving light effects. \$700.

WHITELIGHT

Chameleon (02) 9310 5222

Objective Lens three standard objective lenses are available (15cm, 10cm and 6.5cm) to suit VSF90, VSF DMX and Wave FX units. Priced from \$490. Special adaptors are available for Altman Shake-speare or ETC Source 4 lenses for long throw applications priced from \$280.

VSFX Discs for use in VSF90 and VSF DMX rotators. These discs are available in Thunder Cloud, Fleecy Cloud, Storm Cloud, Rain, Snow, Flame and Running Water. From \$480.

VSFX Drives The Whitelight VSFX 90 system produces striking and realistic projected moving images, used throughout the world by top designers. Custom discs are available for corporate designs etc. From \$1800.

Whitelight EP full range of accessories for use with VSF90, VSF DMX, Wave FX and effects projector heads like Strand 252, Strand Cantata, Strand Tocatta and CCT Starlette. Accessories include: 3.25" slide carriers, adjustable masks, beam diverter mirrors, break up glass, custom slides, discs and flags. From \$100.

UV'S & UV PRODUCTS

ALTMAN

Chameleon (02) 9310 5222

UV703 a 400w fresnel based on an Altman 10" metal halide location fresnel which provides superior spot/flood performance for illumination of fluorescent material at distances of up to 150'. From \$5825.

UV704 a compact 400w outdoor UV illuminator weatherproof available in spot, medium or flood distributions. From \$3850.

UV705 Altman's newest 400w flood fixture features internal ballast and will accept a barndoor for control of UV distribution. From \$2400.

APOLLO

Coemar De Sisti Australia (03) 9467 8666

Blacknight A robust UV flood fixture utilising a 400W UV lamp and with a beam angle of 160 degrees. An integral safety wire guard protects the lamp from accidental damage. \$513.

GRIVEN

ULA 1800 648 111

400W UV Projector 400W UV projector, 370mmx340mmx370mm, 8.4kg. \$427.44.

LIGHT POINT SYSTEMS

Lightmoves Technologies (02) 9566 0000

Miniblack perfect for nightclubs and theatres. 4.54kg with a 350w mercury vapour. Longlife 5000 hrs contains beam angle of 35° with a maximum throw of 10.6. \$995.

Blackflood compact 400w black light flood, 2 different reflection options. Produces 12.2m -



Griven Circus

183 beams of illumination in the 350/365m range. 4.5 amp with throw of 12.2 - 16.7m. \$3995.

ROSCO

Rosco Australia (02) 9906 6262

Permaccolor Filters glass dichroic filters to fit Q1 lights to cut out visible light (woods glass filter) and activate fluoro effects, and UV filter to cut out UV light to inhibit fading. All sizes available. \$35.

Fluorescent Paint a range of 9 UV activated paints in 0.95 litre container. Great for posters with bright colours under normal lighting. Starter kit includes one of each colour. \$38.

Vivid FX an artists palette of 13 vivid fluorescent colour paints. Opaque paints with good coverage and brilliant colours under UV light. Starter kit includes one of each colour. \$25.

Clear Colour 6 colours that are invisible in normal light and bright fluorescents under UV (black light). Can be used on virtually any surface. Starter kit includes one of each colour. \$105.

WILDFIRE INC.

TechScape (07) 3358 5118

Long Throw™ UV Fixtures Range of nine (9) UV fixtures from 20degree beam angle to Flood and including Ellipsoidal fixture. From \$1,238.71.

Effects Master™ Series UV Fixtures Range of six (6) UV Fluorescent fixtures in manual and DMX controlled models, both dual and single tube configurations. From \$1,343.04.

Wildfire Paints Range of visible (fluorescent), invisible paints and phosphorescent paints. From \$48.42 per 473mL.

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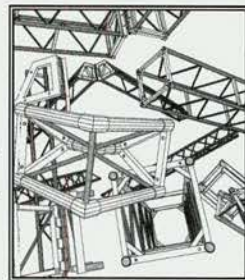
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Club Sandwich



By Caroline Grafton

Rimini SIB '98 Ooh Yeah!

What can I say about SIB '98, that I haven't said before. This trade exhibition is colour, glamour, and ostentatiousness, personified. Dress-up, dress-down, or don't dress at all. Anything goes at SIB, and the local community takes full advantage, to strut their stuff. And I love it!

SIB is the premier European trade show for the discotheque industry, organised by Rimini Trade Fair and patronised by SILB (the Italian Dancehall Owners Syndicate) and APIAD (Italian Association of Discotheque and Theatre Equipment Manufacturers).

650 exhibitors, including 300 from abroad, represented the lighting, audio, and video industries, as well as furniture and club design. Also represented were periphery services, such as cleaning, security, conditioning systems, and rental firms.

There was a lot of interesting new product contained in the 45,000m² area (ooh! my aching calves), as featured throughout the relevant sections of this current issue.

The larger exhibiting companies included Clay Paky/Pulsar, Abstract, Martin Professional, Studio Due, Gemini Lytequest, Griven, Spotlight, RCF, SGM, Coemar, Numark, Space Cannon, HiEnd, KAM and FAL. Competitiveness in dynamic displays (choreographed and static), and hospitality lounges is strong.

But it's not just the large firms that are of interest. From UV products to refrigerators with inbuilt bubble tubes, to the latest in furniture design and table top digitised marketing, if your in the disco market you can the product at SIB.

New Look APIAD!

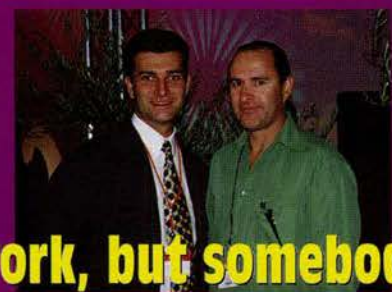
In 1983 six Italian manufacturers got together, to establish the Association of Italian Discotheque and Theatre Equipment Manufacturers - APIAD. Joining forces allowed common problem solving, a position of strength with suppliers and the ability to change the face of 'Made In Italy' products on an international level.

In a changing market, APIAD has changed its name to APIAS - Association of Italian Manufacturers for the Entertainment Industry. The new look association will now expand to include professionals involved in the productive and creative side of the entertainment industry such as theatre, TV, cinema and live genres.

Interest should be directed to: APIAS Secretary, Maurizia Micheli
Via Marco d'Agate 19a-20139 Milano, Italy; Tel/Fax: 39 2 569 3402; Email: info@apias.it; Website: www.apias.it

Bits of Interest

- Europe has in excess of 50,000 dance halls/discotheques
- Italy alone enjoys 7,000+ venues
- Annual revenue from discotheques in Italy exceeds US\$1,000m
- There are several Italian discotheques that hold 12,000 people
- Many venues do not restrict themselves to young patrons, offering traditional dancing, in a family environment early in the evening
- Vandalism is extremely low in Italian venues
- Many venues run dual rooms, catering to adults in one, and an alcohol free zone for the under-aged in the other
- Yes! x-dressing in Italy is common place.



It's hard work, but somebody has to do it! Aussies at SIB

Emmanuel Ziino
Martin Professional
Lighting Aust.

Cuono Biviano of ULA (I) with
Dinko Burmas of Metropolis
Concert Club (Perth WA)

Peter Kemp
Coemar De Sisti Aust.

Peter McKenzie from Show Lighting
Aust. (I) & Greg Kean, Lots of Watts

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THE PA PAGE

With Michael Orland

BACK TO BACK TO BASICS: Part 3 - Make Yourself Useful

Speaking from the point of view of someone who owns and runs sound systems, I gotta say I always appreciate the type of hired help that doesn't need constant supervision.

During a setup, my mind can be racing everywhere from "Why isn't the punter barrier here yet?" to "Will I get paid if the gig stiff?" to "Mmmm....pye...".

Getting interrupted every five minutes with "Hey Michael, whaddya want done next?" can be a bit of a distracting nuisance. Like, don't get me wrong, I'd much rather be asked than have crew standing around scratching their bums or ducking next door to play the cardies on my time.

As part of my beginner's guide here are some ways to make yourself useful once the truck has been unloaded...

Once the gear is in the venue, or better yet, as it's been rolled in, help create distinct work areas. Rows of lighting cases can be lined up in front of the stage and opened. A row of audio packers to one side and opened. Desks and accompanying racks to positions, or speaker cabinets with their amp racks to position. Stage gear in an orderly heap well and truly out of everyone's way.

If the lighting crew have heaps of room to set up on stage, then risers, stage sections can go straight to position. If their work space is limited, see: Stage gear. From an audio stance, positioning speaker cabs is first priority, freeing up room for everything that follows. If a promoter or venue management need to be consulted first with regards to seating, sight lines, access, etc, then you and your mates should hold back till given the go ahead by the system engineer.

When erecting ground stacks, (as in loading in part 2 of these articles), try and pair up with someone who obviously knows their stuff, and mirror them. Old roadie saying: Let gravity be your friend. Stacks are up. What next?

Well, you might as well face it. The lower your rank, i.e. the less experience you have, the more menial your tasks are likely to be.

Look for boring jobs like unpacking mic stands and running/gaffing multi cores. Just don't assume that because such jobs are boring, you can't get it wrong. Always unpack more mic stands than required for the job. Whoever does the mic-up often needs to select different types/sizes for each application.

As you unpack each foldup stand, ensure that the centre upright is fully extended within the base and not resting in the floor. These should be clamped in place finger tight only. The centre telescopic rod should then be raised enough to grip with your hand so that the sliding clutch can easily be tightened. Boom arms should be left pointing down. Group all stands in a cluster out of the way 'till required.

Seeing a lot of beginners running multi cores reminds me of when I was a kid. My mum would ask me to call my brothers in for lunch or whatever. I'd go to the back door and scream "Mum

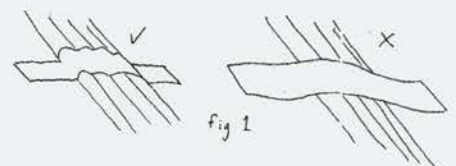
wants you!". She'd roll her eyes and say "thanks Michael, I could have done that!

Running multi cores in an auditorium, pub, etc, must be done first and foremost with public safety in mind. This does not mean running a bee line from A to B. It means as much as practical, running tightly around dance floors, aisles, or entire rooms, keeping exposed runs to a minimum. And please don't be afraid to leave plenty of slack at either end. Sometimes I think beginners must carefully measure out each cable so that once it is gaffed into position, it ends up precisely 2 feet short of its destination. Recently a loader told me he'd been working with Arthur, last year's road warrior, and was rightly impressed by the fact that the boss wasn't too proud to get down on all fours and gaff his own multi cores. When I mentioned this to Arthur he said "Pride nothing I just get sick of seeing it done wrong!" So listen up...

The cables need to be run dead straight, parallel against each other, pulled tight as you go. Gaff crosses and H's are usually unnecessary. Single even strips are fine as long as they're applied snugly as per fig 1. If two of you are available for the job, one can do the crawling and sticking while the other walks alongside tearing off strips. For doorways, especially toilet access, where it isn't practical to go up and over doorframes, the cables should be completely covered with long overlapping strips running parallel with the cable.

While you've got that roll of gaff in your hand, look for anything that needs "dressing". Drum risers, floor subs, consoles, etc, all may need to be draped ("blacked off") or scrimed. Common sense rules. You may find different degrees of finesse are required for different gigs. Like staging an after dinner show for an IBM director's conference or, say, doing "Johnny Vomit and the Dog Violators" at the Cockroach Hotel. The "Never too loud!" attitude we used to have at so many gigs has often been replaced with "never too neat" in the 90's.

If you're a beginner who's keen to absorb more information and progress beyond the menial, then by all means ask questions, AFTER the set up, not during. All crews work to deadlines. You are unlikely to get useful answers from someone who's stressed. Wait till they are relaxed or better still, bored. If they're anything like myself, they'll be happy to kill time, when available, with the sound of their own voices.



• Michael Orland runs T-PAC Sound and Light in Sydney. Phone/Fax: +61 2 9799 7219

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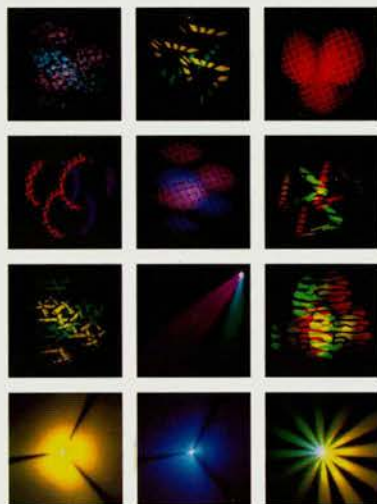


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