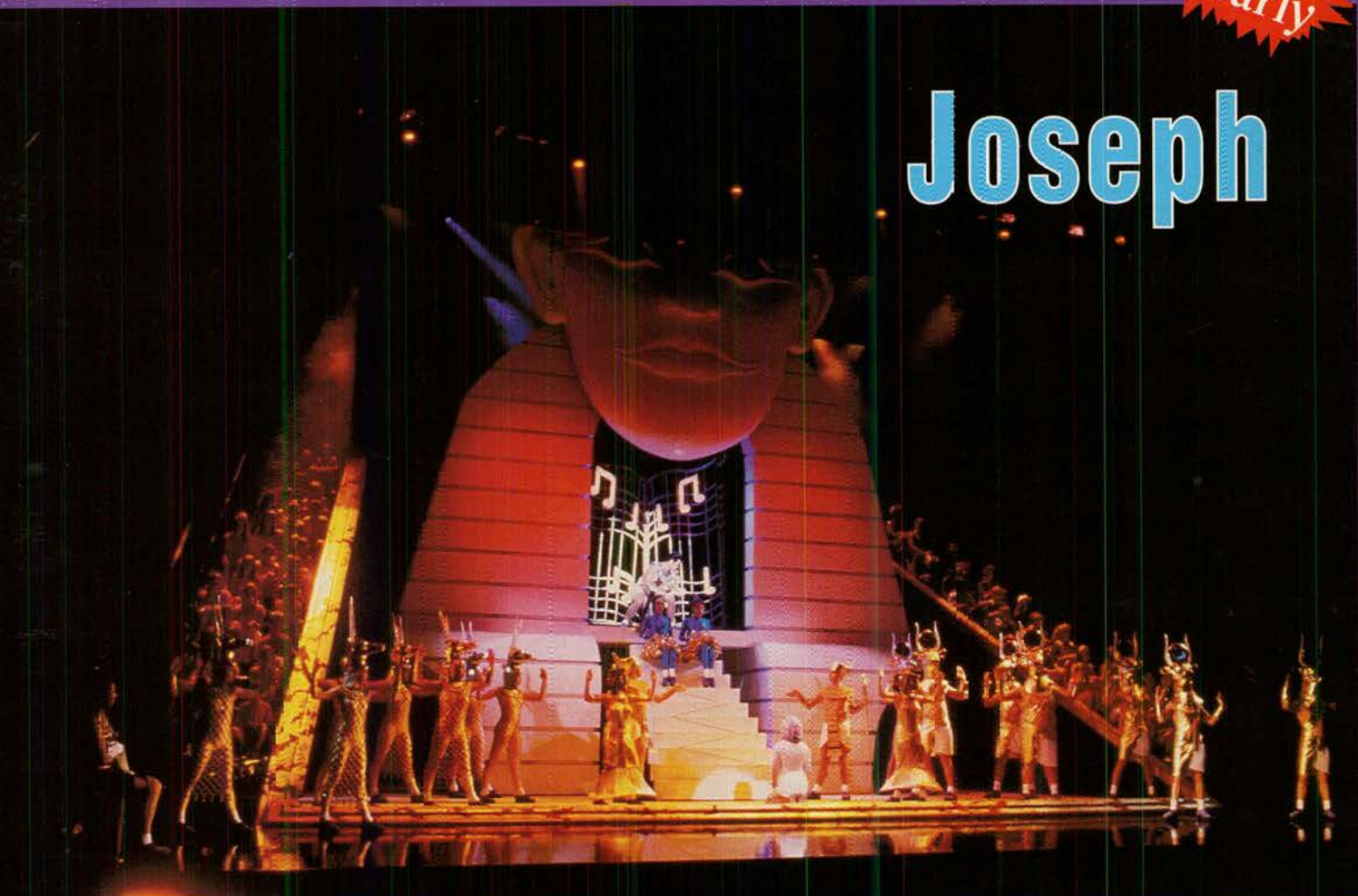


# Connections

Australia's SOUND, LIGHTING & STUDIO Magazine

10  
Issues  
Yearly

## Joseph



### BUYERS GUIDE:

- ◆ PROFILE SPOTS
- ◆ LIVE MIXING CONSOLES

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behind entertainment technology

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Studio News . REAL Gear Tests  
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23 KODAK 5074 24 EL 400 25 KODAK 5074 26 EL 400 27 KODAK 5074 28 EL

## INXS



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# Connections

JUNE (& JULY) 1993. Issue 5

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- ◆ **Joseph & his Coat**  
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**i**

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## MUSIC TECHNOLOGY SUPPLEMENT

Centre Pages

We don't publish in JULY (or January).  
Published on-time, 10 months yearly!

Released on the first Thursday of: February, March, April, May & June. 5 consecutive months.  
August, September, October, November & December. 5 consecutive months.

**DEADLINE: 15th OF EACH MONTH. ie: August issue deadline: July 15th.**

● **AUCTION** sale - FREEDMAN have 25 years worth of accumulated treasures along with a pile of new stock, including lighting, sound and an Otari 8 track recorder on the line. Peter Freedman says he has \$500,000 in stock to go. The auction is on Tuesday 8th June. Call Freedman: (02) 638-6666 for details.

● **AUCTION AGAIN** - Tascam will clear over \$200,000 worth of stock on Saturday 19th June at the TEAC Australia warehouse; off Little Bay Street, Port Melbourne. Call Simone on (03) 646-1733 for a catalogue.

● **HARMAN** are set to buy AKG, according to U.S. sources in late May. AKG own DBX, Orban, BSS and Turbosound. If Harman, who own JBL, Soundcraft, Dod/Digitech, Lexicon and more - don't buy AKG, then it seems Siemens will. The contraction in ownership of North-World audio manufacturers spells product rationalisation, we have been wondering for a while why a common design can't be applied to ALL 1 r/u effectors. After all, it would save money, save learning time, and make things simpler, wouldn't it? Well?

● **TASCAM'S** much awaited DA-88 digital 8 track will debut on June 24th at EAV in Melbourne. Also on display that day is the new 360 Systems' Digicart IV, you can pop along to see these between 10am - 7pm. EAV Technology: 79 Little Oxford Street, Collingwood. Call (03) 417-1835.

● **KEEPING UP** is hard to do, Mackie have released the OTTO-1604 automation addon for the CR-1604 mixer, and moved factory. Stated reasons: "a dangerous shortage of latte stands in our immediate area", and: "the advertising dept. needs more room for Fabulous Fifties furniture and memorabilia", and of course: "the company is diversifying into cheap stomp boxes and heavy metal guitar straps with embroidered skulls and flashing LEDs". The new Mackie address is near the old one, so the number is the same. Here in Australia you get Mackie from Australian Audio Supplies, call 018-432-910.

● **APOGEE** Electronics (USA) also moved house in May, expanding its sales and marketing staff as well as moving to 3435 Ocean Park Boulevard Santa Monica.

● **TIVOLI REBORN!** At presstime the famous Sydney Rock Venue was poised to re-open in premises close by the famous George Street site closed in 1987. Patrick Corrigan and Nerandera Jain have leased premises opposite the Hoyts complex, above a McDonalds. The building once housed a disco called Maxi's Manhattan Disco - which the editor recalls lighting for a while in the late 1970's. Owned by Maquarie Bank, the building is now leased to the prospective venue owners for ten years. Said to be licensed for 700, capacity can be increased to 1200 with modifications. Our recall of the interior is that it is just 100% suitable for live music - and we hope and pray the duo can pull this one off in the life of this issue!

● **FAX** Polling has been discovered at Rock & Roll Music. All you do is have your Fax call Neil Smith's Fax: (02) 550-6919 - and when it answers, just hit your 'send' button. Smith's fax will then pollute your office with page upon page of second hand and new specials. We tried it, and got about 14 pages of stuff. Smith says he updates his list really often. A good idea!

**WE DON'T** publish in **JULY (or January)**. *Connections* appears ON **TIME 10 times yearly**. Next issue: **AUGUST**.

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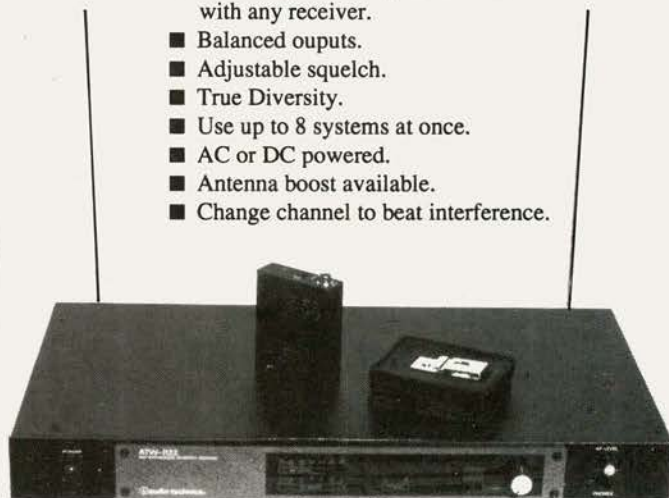
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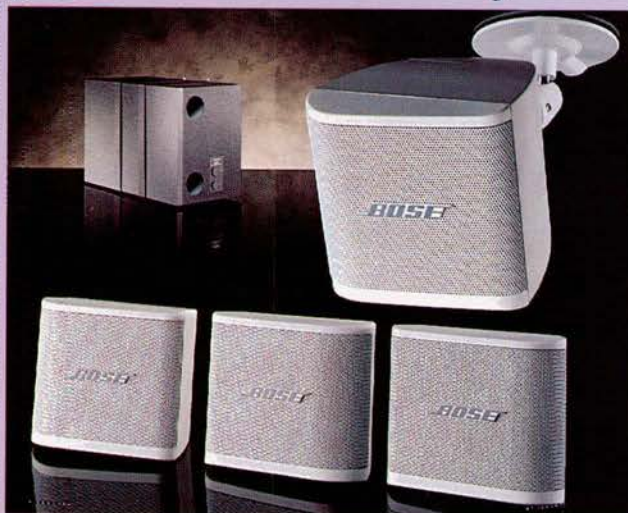
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## EVENTS

### NZ AV/Sound Expo

A major trade show for the New Zealand broadcasting equipment industry is being planned for Auckland later this year. October 5 - 7th are the dates for the Professional Vision and Sound Expo '93, to be held in Auckland's AOTEA Centre. This trade-only event will showcase the latest equipment available for the radio, film and TV industries.

Organisers 'Southern Exposure' say local agencies are giving a high level of support, along with O/S manufacturers - so the event will be of an international standard. Several Aussie firms will exhibit. Space is limited, they say, and the AOTEA Centre is in downtown Auckland.

Further info from Richard Thorne of Southern Exposure, call 64 - 9 - 373-2572.

### Aladdin for WOC

The World Of Commodore tradeshow in Sydney runs July 2nd - July 4th at Darling Harbour. The folks at Phoenix will be on hand with Aladdin, the Australian developed lighting control system for use on Amiga computers.

Aladdin now has very powerful tools available to music professionals like sequencing software and direct to disk recording. Check it out, call (08) 293-8752 for details.

### AES Papers Ready

Slated for August 24 - 26th inclusive, the AES show (as we call it!) will run at the World Congress Centre with a full schedule of papers, technical inspections and trade exhibits. Held every two years, this regional tradeshow and conference is an invaluable melting pot for the audio community in Australasia.

Of particular note this year is a paper to be delivered by Mohamed Ngasri Dimon of the University of Technology, Kuala Lumpur, on Acoustics & Sound Design - Domed Public Buildings. With our cultural landscape giving way to Moorish architecture (Mosques) and the huge markets just North, some hard data on this acoustic challenge makes for an interesting session.

Papers will be delivered on a variety of topics and subjects, by people such as Neville Thiele, David Murphy, Ken Jacobs, Jerry Stutzman, Peter Crossley, Peter Blackmore, Doug Ford, John Blair, Christopher Struck and Peter Mapp to name some.

The A.E.S. show (as it is known) is best known for the trade fair which promises to bring together much new technology. We at Connections always enjoy an AES - see you in Melbourne! August 24 - 26th.

*Details: VRF: (03) 696-2022.*

## NEWS

### Stellar adds Digital Patch

The International Digital Patch Network is not just another landline or satellite service - it transfers Digital data via Fibre Optic cable worldwide. The result is minimal time delay and no noise. The network includes the best post studios around the world, other Aussie and NZ studios are joining. Stellar say they recently received a jingle mix from New York - minutes before it was required. *Details from Cate or Brad at Stellar- (02) 592-8877*

### Music Directory Due

The 11th Australasian Music Industry Directory is on schedule for July, boasting 250 pages and \$200k in advertising. Produced by Immedia, the directory has driven off challenges from *Asia Beat* and *On The Street*, both of whom attempt to work the same market. Publisher Phil Tripp says the recession is over-he knocked back a \$500,000 offer to sell. *AMID details: (02) 212-6677.*

### New Snapshot Consoles

In January rumours reached our office regarding a proposed new Live console from AMEK, said to feature flying faders, Media Link port, and a price to scare Soundcraft and Yamaha. As we go to press we discover this console WILL appear under the Langley banner at the APRS show in London during June. This console and a new fully automated Studio console from Soundcraft (code named DC-2000) are said to be possible due to a low cost motorised fader now available from a Tokyo vendor. Our tip: Melbourne AES will flag a new era in console design.

### Live Sound Dead

Sad for us is the passing of 'Live Sound & Touring Technology' magazine, based in Kansas. Born from the wreckage of R.E.P. magazine last year, this one had unrealized potential. Ex-editor Anthony McLean is a great guy.

## ON THE JOB.

#05 in a series

Hans Overeem was one of the GodFathers of PA, he built his own, usually based on Altec speaker components and featuring some snazzy milling. (Back when that was the only way to beat the 47% duty) One of Hans' proteges is Stuart McLean, who went on to design Australian Monitor's products. Today Hans is behind the design & manufacture of Audio Telex's Aussie made amplifiers and PA products.



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**Next issue: August.**

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## Sound

### Roland Make 3D Space For Your Effects



In the effector business it's getting hard to be different - but the folk at Roland have a couple of new machines worthy of a look. The SDE-330 Delay and SRV-330 Reverb create aural trickery with the ability to place your effect anywhere around you with just a stereo system. The SDE has eight taps, which can start left, go right, then around you. Maximum delay is 2800ms, (2.8 sec-

onds, to you) and like all contemporary devices of this nature, plenty of control is on hand. \$1895.

The SRV boasts 100 seconds of reverb - enough to sustain the first drum beat right through the song, right? Both devices have 'parameter scroll', which flashes across the screen when editing. MIDI and footswitch triggering too. \$1895

*Roland: (02) 982-8266.*

For Info Circle 144 On Reader Service Card



### Soundtracs Solo Logic vs. Spirit Auto

Mixing in production suites alongside ADAT type machines is where it's at today, and Soundtracs join the throng with Solo Logic. 12 bit VCA Fader Automation (including MIDI muting), machine control, 4 band EQ and full metring on each channel is the promise here.

Solo's mix automation records, stores and plays back fader and mute info, the VCA fader info is relayed at frame accuracy (1/30th

of a second), with MUTES at quarter frame accuracy (1/120th sec). 1 megabyte of onboard RAM is the mix data storage repository- you can transfer to a MIDI sequencer or data recorder. Dedicated tape transport buttons can be factory optioned for the ADAT too.

"It's easy to use", says Amber's John Fitzpatrick, so corner him at the AES show in Melbourne for a demo! *Details: (02) 975-1211*

For Info Circle 145 On Reader Service Card

## Lighting

### Selecon Debut New 2.0/2.5k F,PC Range

Selecon- the New Zealand based luminaire manufacturer have released new 2,000 and 2,500 watt Fresnel and P.C. spot models. The 2.0 kw units utilise a GY16 lamp base, while the 2.5 kw use a G22 base.

The SF2000/20 is an industry standard fresnel with a 200mm lens - and a beam spread from 7° to 60°. The PC2000 will spread from 4.5° to 60°.

Both lanterns are based on cunning extrusions and castings, a facet of Selecon's design since the 1970's. The N.Z. firm weathered claims of absurdly favourable extrusion deals



in the early days, and today boast posi-scale (no metal to metal) focussing, and plenty of user helpful features. Worth a look.

*Selecon: 64-9-360-1718.*

For Info Circle 146 On Reader Service Card

### 1200 Followspot

The CHORUS 1200 Quartz Followspot fills the missing link for Selecon, the missing link being where users convert Zoom Spots- and endure compromise. Well no more, the Chorus of course is based on the Selecon Zoomspot 1200 Narrow luminaire, but has some features followspot operators soon come to consider essential.

Features like balance, whereby the colour changer weight can be offset by moving the yoke, and handles -(gasp) whereby the device can be targetted at the talent without searing the hands of the targetter.

Optics provide an 8° to 16° spread, and at 10m you get the magic number: 1000 lux. The usual options are allowed for, you can order a four colour changer, stand



mounted dimmer (made by DynaLite) and even the stand itself.

Call Selecon N.Z. for details: 64-9-360-1718, or find a Selecon Dealer in Australia - not a hard task.

For Info Circle 147 On Reader Service Card

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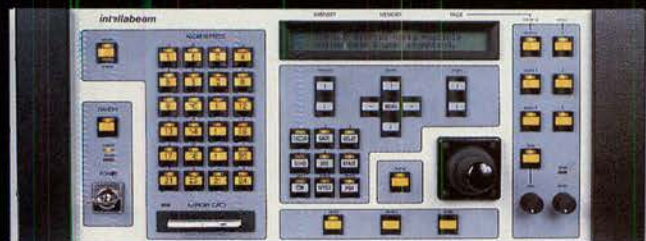
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## SOUND

## PRODUCTS

## LIGHTING

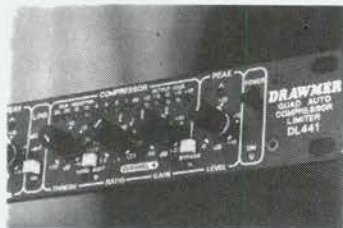


● **JBL** debut the new 4400A Studio Monitors, following the tradition of the 4400 series. The 'A' versions enable extended listening without 'ear fatigue', they say. The 4408A has an 8" woofer, while the 4410A is a three way with 10" woofer. 4412A is bookshelf sized but with a 12" woofer. Titanium tweeters are

aligned for left/right models. Details from Jands: (02) 516-3622.

● **DRAWMER** continue a run of recent releases adding the DI441

Four Channel Compressor Limiter (right). With switchable hard or soft knee compression in conjunction with ratio control, you - de user have compression slope control Auto attack, release and XLR in and out. Details: Amber Technology (02) 975-1211, (03) 646-5833.



● **APOGEE SOUND INC** say

the AE-8B concert stage monitor system gives 126dB continuous- with 46Hz to 16kHz response. Remarkable performance in anyone's language. To do this the 2 way wedge with 15" woofer and 2" h/f driver is electronically sorted out by the P-8 Processor, a two channel device for EQ and system protection that is 'Servo Looped' to amplifier outputs. With Time

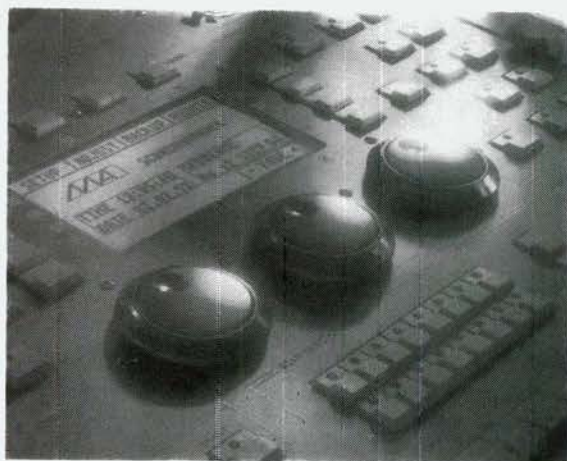
domain alignment, the system is thus rendered almost feedback proof. The nearest to this the Connections team have heard is Jands Production Services current (and time-proof) SLP/DLP/JX5.2 combination, so we can't wait to compare this combo. More details from ESA Audio, call (03) 562-4605.

● **Symetrix** are another

leading manufacturer releasing a range of processing gear, this time it's the 421 AGC Leveler, with a proprietary chip inside that will distinguish between noise and feedback - as distinct from useable signals. The 421 operates over a huge +20dB range to maintain a constant level. More details from Audio Telex: (02) 647-1411, (03) 562-8566, (09) 249-2977.



## SCAN COMMANDER IS HERE



The battle to control the rapidly growing robotic army of Moving Light devices across our region is well and truly joined with the arrival of the MA Scancommander from Eisingen in Germany.

Lights Audio Video Australia (LAVA) are now sole distributors for this compact console, which will run 16 Moving Lights - each with up to 16 channels - as well as 96

DMX channels of dimming or colour scrolling. Best of all is that the console recognises your fixtures - be they Roboscans, Intellabeams, Samurai or Golden Scans.

Connections saw this unit working in the Northern World last year, where it seemed to offer a simple yet effective package at a less-than-\$15,000 price tag.

Enquiries: LAVA (02) 816-4444.

For More Information Circle 148 On Reader Service Card

## LX Jumpers

● **Selecon** sold 80 new 2kw fresnels to Adelaide's Festival Centre - while Barratt Lighting have re-launched ALTMAN on the Australian market with 150 Leko's going to the same venue for 'South Pacific'.

● **ShowCAD** moving light control system is running the AustraliaGate SensorVision Theatre at Melbourne's Southgate Arts & Leisure Precinct. Installer was The Staging Company of Melbourne.

● **Meanwhile** ShowCAD importers Coemar DeSisti Aust, say a new software version will be here shortly.

● **Lightmoves** new W.A. agent is Pro Design Lighting, (09) 409-8964.

● **ICARUS** is an interesting software/hardware combination from DeSisti, whereby studio luminaires can be remote controlled - even by voice. Up to 1024 devices can be accessed, even things travelling on rails or vertically on a telescopic tool. Details CDA: (03) 467-8666.

● **Teatro** offer a new Tratto 2,000 profile - the 2-C, available in 9/18" or 19/42" variants. See our Buyers Guide, P.78. Details: Lightmoves (02) 560-0000.

● **Patrick Cahill & Associates** in Perth will update Burswood Casino with 8 TAS Mini-UltraScan200 moving lights & plenty of TAS effects.

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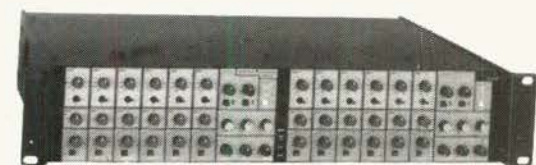
SYDNEY BRISBANE MELBOURNE

## AUDIO PRODUCTS

● **MITEC** announce the **EVENT** - a mixing console - not to be confused with Jands Event Lighting Console. Mitec hail from Germany, with a regional distributor in Singapore supplying Australian Monitor who handle the range in Australia. The **EVENT** is an 8 subgroup live console with mix and match module options. The base model is 24:8, through to the VL48 model pictured below. Unique is the option of fitting processing modules on the meter bridge - there are a variety of these, inc. extra EQ, compressor/gate, Matrix module or even an LED ramp!



At the output end, an insert/patch module with 160 TT jacks can be optioned. Individual channels carry four band EQ with 2 sweeps, 8 auxiliary sends and 4 mutes. A MIDI effect control is fitted to the master module. Prices from \$17 - \$28,000 retail. Details from Australian Monitor: (02) 816-3544.



● **CRQ-12** is a unique EQ device (left) from APOGEE SOUND. It has 2 x 6

bands of parametric EQ that can be configured in three ways. 6/6 mode is stereo 6 way EQ, while 6/12 mode sees Ch A output from the first 6 bands, while Ch B takes all 12 bands. In 12/12 mode you get all 12 EQ bands common to both outputs, but with separate gain, bandpass and shelving filters. Details from ESA Audio, (03) 562-4605.

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● **INKEL** have the **PSA-1200** amplifier (right) available, with 600w/ch at 4Ω or 1200w bridge. \$3000. Call Magna Systems, (02) 417-1111



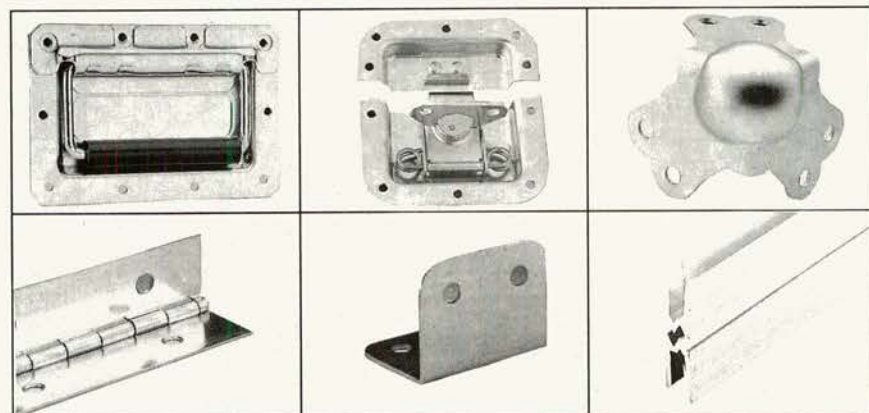
● **DBX** are the long standing U.S.A. makers of audio processing gear, who are now part of the AKG Acoustics conglomerate. They have announced a family of affordable processors known as 'Project 1', which includes an 'exciter' type of product that can't be called an 'Aural Exciter' because Aphex own that name. They like to tell us that, often. So the DBX offering is the 296 Spectral Enhancer, joining the 274 Quad Expander/Gate, and the 266 Dual Compressor/Gate (above). DBX say they have 'a host of imitators, but three times the units in the field', so they can build in the USA and still keep costs down. The 266 Compressor/Gate offers 2 channels naturally, which can be master/slaved. 'When Artists and Engineers use the 266's AutoDynamic controls, they will find the centre settings deliver the classic DBX sound, but the full control range will vary the voicing from slow leveling to aggressive peak limiting', says the impressively named



Jawxillion 'JX' Loeb from DBX. Details from Syntec International, (02) 417-4700.

● **PHILIPS** announce the creation of a new PA system, (right), essentially a packaging job of some new Philips PA components. We didn't know Philips had this line, but they are number 1 in PA in India, so there. There is a mixer, 3rd octave EQ, amps, wireless mic, and speaker cabinets. The guy to talk with is Michael Pun, on (02) 888-8222.

● **AWA** do HECO HiFi speakers (right), the Interior Reflex range go for \$699 - \$1499 pair.



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## Pro Audio & Light Tradeshow set for Singapore in July

At Presstime exhibitors were firming arrangements for this important regional tradeshow, held between July 7th and July 9th at The World Trade Centre.

Many Australians attend this show to forge trading links in the growing Asian markets, which include India and of course China, recently re-evaluated as the third largest economy in the world.

Exhibitors at press-time included these: (a very credible list, indeed!)

Acoustica Beyma (Spain)

ADC (USA)

Adtec (Germany)

Adtronics (Singapore)

Akai

AKG

Alcatel

Altair (Spain)

Altec Lansing

Amcron/Crown

Apex (USA)

Apogee (USA)

ARX

Asia Sound Equip. (Sing)

ATB (Italy)

Audio Matrix (USA)

Audio Technica (Japan)

Audio-Visual Land (Sing)

Australian Monitor

Auto Inspection Devices

Avolites

Brahler (Germany)

Bruel & Kjaer (Denmark)

Camelont (UK)

Carver

Chiayo

Data Disc (Germany)

Daxco (Singapore)

Disco Club

Disco Dancing

Disco Mirror

Dynacord

Dynalite

D.A.S. Audio (Spain)

Ecler (Spain)

EDR (UK)

Electro Acoustic (Sing)

Electronic & Eng (Sing)

Electro Voice (USA)

E-Line (Sing)

Emerald Technology (USA)

Furman

Gauss

Gemini

Genelec (Finland)

Geni (Taiwan)

Globe Precision (Sing)

Heino Ilseemann (Germany)

High End Systems

HM Electronics (USA)

INT/Mitec (Germany)

IRP (USA)

IED (USA)

Inova (Sing)

James Thomas Eng (UK)

JANDS

JBL

JBM (Sweden)

JVC Acoustic

Koch (Austria)

Klark Teknik

Leybold AG (Germany)

Lite Puter

Lyrec (Denmark)

Lycian Stage (USA)

L.S.C.

Machines Dubuit (France)

Mark IV Audio

Martin (Denmark)

MIX Magazine (USA)

MMS (USA)

Multi-Media (Switzer)

Nady

Nexo (France)

Neo-Neon (HK)

Nikkodo (Japan)

Nobler (USA)

Numark (USA)

ODME (Netherlands)

Optical Disc Corp (Netherlands)

Otari

Pani (Austria)

Para-Di (Singapore)

PAS (USA)

Penn Fabrication (Australia)

QSC (USA)

RCF (Italy)

Sony (Japan)

Soundcraft

Space Star (Taiwan)

Spectra-Physic Laser (USA)

Spectra-Synthesis (USA)

Strand Lighting

Studer Revox (Sing)

Symetrix (USA)

S & VC Magazine

Tapematic (Italy)

TARM (Germany)

Teca-Print (Switzerland)

Technology Exchange (HK)

Te Deum (Sing)

Telex (USA)

Theatrelight (NZ)

Trouper Industries (USA)

University Sound (USA)

Vega

Vantage Lighting

Werner Kammann (Germany)

Wenger (USA)

Yamaha

**UK National Pavilion:**

Amke, Neve, Arri, AC Lighting, C Audio, Celestion, Citronic, Cloud, Expotus, Drawmer, Formula Sound, Lamba, Laserpoint, Light Processor, Linden Associates, Lite Structures, Martin Audio, Millbank Elect, Penn, Soundtracs, Studio Master, Total Fabric, Turbosound, VW Marketing, Wembley Loudspeakers, Light & Sound Design, Zero 88.

**Italian National Pavilion:**

Coemar, Clay Paky, Coef, FAL, Lampo, La Novalight, Outline, SGM, Spotlight, Studio Due ... and more to come.

**Organisers:** Business & Industrial Trade Fairs, contact Alan Suen. (852) 865-2633.

**Travel:** Expect to pay about \$1200 for a five night package ex Sydney.

**Connections Magazine's** Caroline Grafton will be there, look her up. Contact c/o Ray Bond, TeDeum stand, Q913 or c/o the tres glam 'Apollo Hotel'.

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● **PEAVEY** distributor's Australis, attracted several hundred eager punters to a Sound Seminar at the University Of NSW on May 30th. Presented by Marty McCann, the seminar dealt with a broad spectrum of audio topics, we dropped in while it was in full flight to find the audience intent on McCann's style. The presentation didn't labour on Peavey's products, and was pitched in a fairly broad sense. McCann has handled sound duties for many an American act, including ZZ Top in the early days. This sort of Seminar is fast becoming the PR opportunity of the 90's, with many firms in the US running 'learning experience' roadshows to foster punter awareness as younger starters benefit greatly. Congrats to Peavey and Australis for running this.

● **ALESIS** say the new AI-2 by Timeline is a companion synchronizer for the ADAT digital recorder. Timeline will interface the ADAT with the video world, including Sony Video Editors. Details- Electric Factory, 03 480-5988.

**FIRE at 42nd street- Premier save the day!**

It was meant to be a routine delivery - Michael Francis from Premier Lighting was dropping some colour filter to Her Majesty's Theatre before the opening the following night of 42nd Street. Turning into Exhibition Street he expected to be confronted with parking hassles. He was - Fire Engines blocked the street.

Just after 4pm, the cast were on stage rehearsing and noticed a very realistic flame effect at the back of the Theatre. The control room was ablaze, the crew fought the fire with extinguishers until the fire brigade arrived.

The control room was a disaster zone- and Premier's \$180,000 Strand Galaxy, the 384 channel lighting console - was a total write off.

At 4.45pm Premier got the panic call - the show had a preview performance that night. Andrew Holmes raced in to survey the situation, Lee Hayward at the Bayswater service office got the spare Galaxy prepared.

The scene Andrew discovered

wasn't great - the Galaxy was a charred mess. The backup system, complete with the show's backup disks, was also destroyed. By pure luck, one small part of the Galaxy's electronics crates had survived - with the memory chips that held all the cues for the show!

Lee Hayward charged in from the suburbs- he heard on the radio news of the fire, and that a new lighting system was being raced to the theatre - the show would go on!

The feverish work to install the new Galaxy began- a new system and all the cables needed to be re-terminated. An ugly job. Premier, the theatre tech's, and Startec's Gordon Richmond got into it, with help from Terry's crew at the Comedy Theatre.

The system was in- and running- with all memory. The curtain went up at 8.45pm - just 45 minutes late! The fire brigade think an old variac used to dim the control room lights caused the fire.

-Simon Thewlis.

● **LIGHTING** sales: in PERTH Burswood Casino have brought 36 of Lee Conlon's Showcraft colour scrollers, and a new LSC Focal desk with CSM and Trackball from Pat Cahill's Theatrecrafts. (09) 2277015.

● **The Palace Nightclub** in Melbourne have 4 new Golden Scan 3's from Lightmoves PES, (Vic).

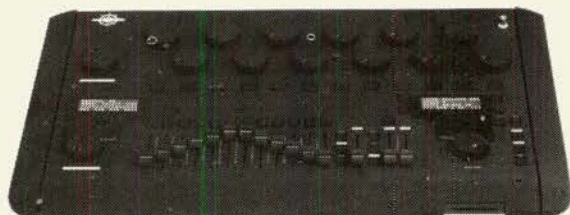
● **TAS Mini Ultra Scan 200** moving lights have found homes with NOVA Productions ACT, BSS (SA), Osmond (SA) and Burswood Casino (WA).



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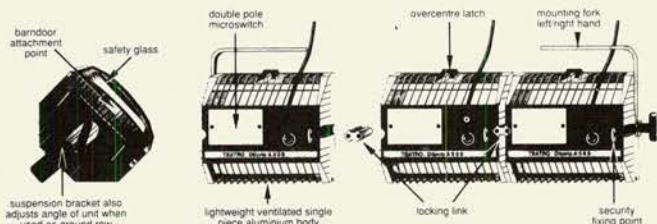


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## Wrong- Jands amps blow Lines: Pin 2 or Pin 3 hot? Ode to 'The Loader'

Your 'Good advice re. speaker cables' (P.62, May Connections) is wrong - try this:

1. Take any Jands 920 or earlier amp.
2. Take a Bose 802 or 302 speaker.
3. Connect the two with a cable wired as described in the paragraph referred to.
4. Stand back as you apply power and wind up the signal, wondering what will blow first, the fuse on the back of the amp or (more commonly) one or more output transistors and/or emitter resistors.

Please note that this is a very common speaker/amp combination, and the ONLY way to be safe is to just wire pins 1 and 3, leaving pin 2 open on both ends. This is because Jands amps have pins 1 & 2 linked internally.

**-Merlin Zener, Burleigh Waters, QLD.**

*\*Thanks Merlin. You are, of course, 100% right.*

### Guts and Aphex

I can't recall seeing a product given such an honest appraisal as the Aphex Type C Enhancer was in your May edition. (Page 44). The enraged response from the guy at Aphex in the USA did nothing to answer your reviewers comments about the wash of low band white noise when using the Overhang mode. The accusation that your magazine is biased by way of incompetence is clearly not credible nor true. They were given a chance to respond, so they tried to shoot you down.

Congratulations on having the guts to say it like it is, and don't become yet another 'Good News' magazine that is a slave of the advertisers.

**-Mike Barker, Hamilton, New Zealand.**

### More Sexism

You couldn't resist it could you? Just one issue after announcing the not-before-time axing of whatever "Dolly Roadbox" was, you throw it all away with your 'Manpower' review. Obviously Catriona Forcer was directed to review this male strip show to satisfy your editors twisted need for articles dealing with sex and gender. Yet again I am disgusted.

**-Sheila Yates, Glebe, NSW.**

*\*Piss off Shiela. Your continual carping on this issue doesn't wash. If you're so disgusted, why don't you cancel your subscription? Catriona Forcer chooses her own subject matter. -Editor.*

Great to see Mic level XLR conventions, but there is still plenty of confusion re. Line Level XLR wiring at different levels, 0db, 4db, 8db etc - especially with balanced units.

EG: ARX gear is Pin 3 hot, Drawmer is Pin 2 hot, most Japanese gear is Pin 2 hot, but some Pin 3. 'Studio FX' (hire) wire all their unbalanced stuff Pin 2 hot, but a lot of PA's are still Pin 3 hot.

**-Marshall Cullen, Damien Gerard Studio.**

*\*There is no standard. Today Pin 2 hot is slightly more common. We left it alone in the feature, and still got in trouble. See letter, opposite. -Ed*

### Very Disappointed?

I was most surprised- no, make that shocked - to read the 'Very Disappointed' letter in your May issue. I don't think my friend Colin Park would write such a letter - as he was at the Frankfurt Musik Messe and does know I did a short interview with him and took photo's of his booth.

My article on 'Messe wasn't published by this magazine (too controversial, I guess) - and only some of the photo's I took were used in the magazine. It was an editorial choice, not mine, what was used.

I probably more than anyone know what it costs to attend and exhibit at these shows, having done the NAMM show since 1984 and Frankfurt Messe since 1988 to name but a few.

I would like to congratulate companies like ARX, Australian Monitor, Jands, Fairlight, LSC and new comers like Circuit Tube for being brave enough to show a very proud Australian flag on the other side of the world - and show just what the Australian Audio and Lighting industry CAN do.

Believe it folks, you are up there with the very best!

**-Ray Bond, Te Deum EMS Pte Ltd, Singapore.**

*\*This stems from the 'Frankfurt Pictorial' in April. Colin Park wrote a rocket letter, which we ran in the last issue. Ray did indeed write a Frankfurt Report, which fell between deadline and final deadline, so the pictorial page was all that got a lookin. Of course it couldn't feature every Aussie there. For Aussie's vs. the World see our story this issue on our exporters. -Ed.*

With some amusement I perused Julius Grafton's article, 'Sweating For Mr. Barnes' in the April issue. Lately I've heard the term: 'sandwich stealing loaders' brandished with the same tongue-in-cheek sense of humour that you find on tours, and now wear the title with humour!

I would like to tell it the way it is, through the eyes of 'The Loader'.

Picture the punter, lunging through the girlies still gathered at the front of the stage at the conclusion of the gig, hanging out for drumsticks, picks, or a chance to meet the band. "Ay Dude" the pissed one yells out, "How do you get to do this roadie stuff?"

I ponder this as the DJ blasts us with 120dB and the Strobe flashes at the frequency that makes me want to go over and barf on his record collection. For the un-initiated there is a vast difference between the loader like the one writing this, and the 'sandwich devouring' type- who are usually supplied by the local CES. These are unlike your sensitive, new age 'local crew' as we like to be known. You can pick the difference!

Look for Fashion, with a capital PH! The industry cap, optional stylish hair (shaved at the sides, with a long ponytail), the black lanyard hung elegantly around the neck adorned with a collection of tour laminates, and the mini Mag Lite. The Bum Bag will have various tools of trade, like a shifter, approx. 20 keys (some which actually fit locks!), and a battered mobile phone. The guy will never use his real name.

The 'Sandwich Eliminator' is the type that gives us a bad reputation. I saw a thing resembling a black snowball with six arms and legs tumbling down a flight of stairs once.

I work in Brisbane and do most of my work with crew I've met on previous gigs.

When the time comes at the end of a load out, just preceding dawn, for the tour to move on, we stand steaming in the chilled morning air. A cold tinny and a quickly twisted smoke is offered. The guys give a warm hand shake, a grateful smile, and whether it's been a one nighter or a mini tour, it always makes me feel worthwhile when they say with deep emotion: "thanks heaps, ya Sandwich Stealing bastards, see you next time through!"

**-Darryl Hetherington, Aspley. (018) 151-248.**

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# EDITORIAL

## Home Shopping

The Music Trade, and to a lesser degree, the Pro Audio Market is awash with mail order houses in the USA. The trend isn't likely to catch on here just yet, we don't by nature buy much in this way. Home shopping is a growing market over there.

But a development in the land of hope and glory is worth watching. Watch out for ScanFone, a new technology company who have started a joint venture with Bell in Detroit and Washington. For US\$12 a month you rent a combination telephone, bar code scanner and creditcard slot which you plug into your phone socket. You then order goods from a catalogue, and pay the bill without raising your bloated body from your chair.

We talk to many in the trade, and feel concerned for the retailer of anything containing technology today. Unless these retailers can adapt quickly to technology they will fail - and indeed some will fail anyway.

At the other end of the totem pole is the distributor, who needs to keep the warehouse stock turning over about 3 times yearly. Technology is moving so quickly - these are exciting times to be alive, readers!

## Can We Make A Profit?

I'm not talking about the magazine business, I'm talking about our entire Entertainment Technology industry. Sound, Lighting, MI, Studio's, AV, Staging - these industries are inter-

twined, and characterised by the fact they are all part of a niche market - read: small. So by nature there is not a vast sum of money to be made by anyone. The biggest players maybe get a second hand corporate jet to tool around in across the USA, but that's about it. Our industry has plenty of common millionaires, but no real mega rich.

To the average Aussie, Profit is a bit of a dirty word. To the average American 6 year old, it is the meaning of life. So it came as no surprise to read the words of our very good friend, Anthony McLean in his swan song editorial in the issue of 'Live Sound' that the publishers killed before it hit the streets.

McLean said that the recent International Live Music conference in London was characterised by organised groups like the Concert Promoters Association, and even the International Association of Entertainment Lawyers. Guess what? No production related organisation - because one doesn't exist!

This means little to most of us, except that it is indicative of the concert production industry, which is headed, generally, down hill.

When the technology boom brought us constant beamwidth horns and high powered amplifiers, the concert production industry jumped on board and invested heavily. Some of the large US outfits went overboard and started building their own mixing consoles. The day of reckoning arrived in about 1990, and today you have returns on investment steadily diminishing, year in, year out.

No one in the world runs out and buys 100 composite speaker boxes in one go anymore.

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While returns diminish, technology marches ever forward. But our industry is characterised by resourceful, adaptable people, who find solutions in the face of adversity.

Hopefully all the cleverness we hold will drive us to become more aware of what is a profit and what is a loss. While you bone up on the latest advances, think about your balance sheet. Do you know where you are at, fiscally, right now? I bet you don't.

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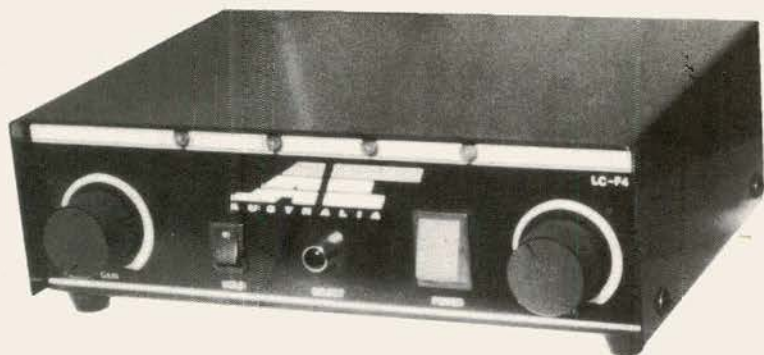
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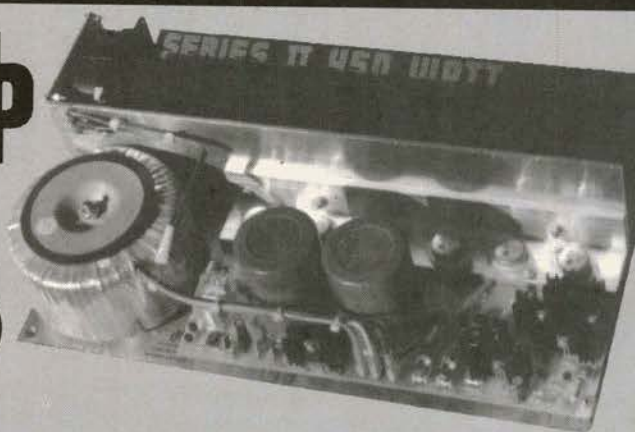


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Industry type on a USAir flight reports an amazing but true story from San Francisco recently: a USAir employee named Gay boarded the flight to find his seat already allocated to a paying customer. He settled a few rows back, but the flight was delayed. Extra passengers kept boarding, an agent came on to get non-paying customers off to make room. Stopping at the seat assigned to Mr Gay, the agent said: "Are you Gay?" Looking started, the guy nodded, and the agent told him to get off. The real Mr Gay hopped up and told the agent he had the wrong man - HE was Gay! At this point a guy across the aisle jumped up and said; "I'm gay too - you can't kick us all off!"

PA People have had a major re-structure with the departure of former Managing Director (and partner) Rod Riley. Circumspect about the move, Riley has no immediate plans, and no regrets. "It got to the point where someone had to go", he told us. With the company having bought his shares, it is thought new equity capital will be sought. PA People have captured the big share of concert production work for so-named 'spectaculars' like the Festival of Sydney. Contact Rod on (018) 408-419.

**OUT:** Broadcast Rep, Michael Guest left AWA, then Alistair Dewar (ex PA People) joined - in the same week as Rod Riley sold out of PA People.

**BABY NEWS:** (Love these) - Kevin Bishop of DB Concert Sound in Geelong, and wife Tanya, have a new Boy - Alex. Esteemed Recording Engineer Greg Henderson and partner Melea Atkinson have a new baby Girl.

**More Lighting Industry Cattery** - surely the bitchiest industry of them all. (NOT like the upper echelons of the Aussie Rock Industry, where disputes are settled with some biff - and then forgotten...) One lighting operative tells us a caption on our happy social page last issue was technically incorrect, and that - gasp - the guy in the pic ran a firm that went belly up in 1989 owing heaps of money to people - like the faxer himself. What - on purpose?

According to industry PR hack and living expert on restaurants Phil Tripp, 'VIVAZ' at 80 George Street Sydney is set to be the new industry trough and quaff HQ .. "where you won't slip over on the bathroom floor, or have to step over <name deleted> who's overdosed!"

**SEND GOSSIP.** Confidences respected.  
Fax to (02) 876-5715, or call (02) 876-2612.

## Tradeshaw Dates

APRS, London, JUNE 23, 25. PA

**Pro Audio & Lighting, Singapore, JULY 7 - 9**

Summer NAMM, Nashville, July 17 - 18. MI

**AES, Melbourne, AUGUST 24 - 26. PA**

**Australian International Music Show, Sydney, SEPTEMBER 9 - 12. MI**

PLASA, London, SEPTEMBER 12 - 15. LX, PA, SD

International Music Expo, New Zealand. 18 - 21 Sept. MI, PA, SD

NZ Broadcast & Audio, Oct 5-7. PA, SD, IT

AES, New York, OCTOBER 7 - 10. PA, SD

SMPTE, Los Angeles, OCT 30 - NOV 2. IT

LDI '93, Orlando, NOVEMBER 13 - 15. LX

COMDEX, Las Vegas, NOVEMBER 15 - 19.

**1994**

NAMM, Anaheim L.A., JANUARY 21 - 24 1994 MI

AES 96th, Amsterdam, FEB 27 - MAR 2, 1994 PA, SD

**Connections, SEPTEMBER, 1994 PA, LX, TH, SD, CO**

AES 97th, San Francisco NOV 10 - 13, 1994 PA, SD

**Descriptions used: (E & O.E.)**

CO: Contracting. SD: Studio. IT: Information Technology.

MI: Music Industry. LX: Lighting. TH: Theatre. PA: Professional Audio.

## ATS, High End WOW 'em!

If Denis Braham, head of Arena Technical Services, was trying to prove a point on May 19th, then he proved it. 400 professionals from the Lighting, Staging, AV, Conference and Hospitality industries actually turned up to be pitched at - and to witness a display unlike any other seen in Australia to date. If a bomb had of gone off in the venue, the few remaining people in these industries would have been busy!

The event, called 'The Preview' was a pitch for work for ATS, and also an active demonstration that High End Systems of Austin, Texas are now very much vendors of moving light product that if used properly, is capable of winning work previously the exclusive domain of Vari\*Lite and Pan Command.

To do this, ATS took over the Sydney Entertainment Centre (an associated company manage the centre) and rigged a devastatingly effective lighting rig, designed by ATS's Gary Brokenshire. Just running a lightshow alone would send an audience like this on a one way trip to the restrooms, so ATS with Highend Systems devised an integrated presentation that had the AV contingent visibly impressed. The event was scheduled for 6pm, when drinks were laid on in the

foyer. Seated inside under truss running diagonally to the main grid, the audience faced a pair of video screens that ran a short 'evolution of the species' type film - which gave way to a professional presenter with a short message about presentation, accompanied by some simple visual trickery.

Denis Braham took the stage to introduce the main event - and the lighting rig held attention for at least 10 minutes with the masterful Tim Grivas from Highend working a programme with Brokenshire.

A dance troupe then worked the stage, giving the presentation another perspective - and allowing the mass of Intellabeams, Emulators and Data Strobes every opportunity to pull off every look possible.

The display was over by 7.15, whereupon the impressed audience hit the bar. They stayed till the grog was turned off. Bravo ATS. -JG

*\*ATS utilised (aside from staff) Catherine Hough, Frank Calvi, Ian Robinson and were greatly assisted by GUVT's Brisbane office and Noel Bourne in running 'The Preview'. The sound system was an EV Manifold rig, with Mark IV Australia providing assistance. See also: 'Happy Social Shots' inside this issue.*

## Multiscan Moving Light Software - Aussie Made

Lance Douglas has created this, and several readers have called to say we must go see it working. We will. In the meantime, keep an eye open for it. Lightmoves PES in Victoria have an example working. Call them on (03) 819-4566.

## Adelaide: Osmond Move

From June 1st they are at: 142 - 150 Gray Street, Adelaide. Phone (08) 410-1111, Fax (08) 410-3322.

## Mitec for Spy V Spy

Graftons Sound say their 40:8 Mitec console with onboard gates and limiters is the FOH desk of choice for Spy Vs Spy at the moment!

## Around the Nation

○ **The PA People** did yet another 'spectacular', this being the generic name for a concert involving (a) an orchestra; and (b) some difficulty. This one was the Queensland Symphony Orchestra on a stage on Brisbane River. Ian Baldwin and Lex Price handled the gig. Doubtless operatives from Brisbane's ACP were lurking nearby to glean information! Also for PA People in this survey period was a gig on a beach:

Mark Sainsburg International Surfing Contest at Sydney's Avoca Beach. Fave grommet band Ratcat played through a Turbo rig, Ross Ford and Andrew Winslade handled things. Who's Mark Sainsburg??

○ **Graftons Sound** say they have just done The Greek Festival at various locations around Sydney. Chris Royal is known to cultivate a lot of ethnic festival work, the firm feature Jeff 'Fog' Stewart as sound engineer. Call them (02) 698-7777.

**Around the Nation** (continued)

○ **Fernandez Music** of Cairns did Wendy Matthews at Kuranda Amphitheatre. Well, they did followspot, anyway, so they CAN put the gig into this report. What people will do ... More appropriate was the recent Wild Side strip Review they, um, handled, where Doug Johnstone took 2.5 hours to do a 15 minute setup. He operated the PA and was seen to be drooling onto the mixing console. Do NOT buy a used console from this firm! Their phone number is 070 518-519. Call at your own risk.

○ **AUDEX** of Perth continue to slog away, probably getting amongst the best utilisation of their plant and machinery with continual, consistent work. This period they provided systems and people for; The Seekers and Wendy Matthews (not on the same bill!) with Meyer systems. Also Kissing Frogs is a stage show doing bumper biz in Perth town, Steve Crosby is the FOH personage, the rig is Meyer speakers again, with a TAC Bullet mixer. Rugby at the Waca was handled by Ray Godfrey through Turbo boxes. Weddings toured the West with a Martin PA, Lionel Hoskins did foldback and Tod Pearce, stage.

○ **More SURF GIGS:** Bose traditionally provide sound for the Bells Beach Surf Classic in Victoria, where winds of 40 knots blast in from Bass Straight, and sea spray puts test to the six towers of 802's. Des Williamson is the SA Bose person entrusted with setting up this gig, he is known for dropping things so it came as no surprise to hear he launched one the 802's from the cliff top in an un-authorised destructo test. HQ continued his retainer after learning the thing still worked OK. Williamson had the bizarre and unique gig of sound checking the system - from a surfboard! Several sharks were seen to reject the offering as it paddled around, sampling the audio before the contest. Williamson has now offered himself to researchers as a shark repellent. Hey wait on: **maybe** the **sharks** thought HE was...

○ **Not Quite The Same**, but SHOWCORP sent Peter Milne, Chris Murphy and Peter Neufeld to a remote beach near Warnambool for special effects and lighting for the 'Surf The Edge' TV special. These guys get the best gigs: Colin Baldwin and the 'B' team have just finished a 2 week 'Girlfriend' tour. Not sure about this. Ian Couch and the 'A' team were on Fraser Island looking after the Toyota Fishing Competition!

○ **Tropo Sound** (Broome) did Jane Rutter on Cable Beach (sigh ...sounds lovely!). They have updated amps to Aussie Monitor AM 1600's.

○ **DB Concert Sound** (Geelong) are busy - busy - busy with gigs like Boom Crash Opera. FOH engineer for Boom Crash Opera is Bruce Johnson hot from James Reyne's tour, Simon Stavenuiter is system engineer, and Gavin Hulme on monitors.

○ **NOVA** did some Bob Geldorf shows in Victoria, with their NC-4 system and a PM3000, courtesy of Troy Balance. Also following a theme this issue they did the Ironman (Uncle Toby's variety) gig, but BEST OF ALL was Wrestle Riot 2, where Wayne Skals (ex Motor Head and Tatts) got his Big Chance!



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## Weird & Wonderful

### Hire Co's: How They Charge You

Over the years I've come across some interesting Hire Rate Pricing Schemes, developing my software to handle them all hasn't been too easy ... let me tell you about some of them:

● **The Weekly rate that isn't!** This firm makes you take it for three weeks before the weekly rate kicks in - except if they think you're smart, then it's weekly from week one!

● **4 days that cost more than 7!** Yes, the daily rate is \$10, and the weekly rate \$30.

● **The everyone-gets-a-deal deal!** This is my favourite, because everyone thinks they win! The discount is applied to every hire!

● **Six days for 2 weeks!** Hire from Wednesday to Tuesday at this U.K. firm and pay 2 weeks. This is because the week is from Saturday to Saturday. Neat, eh?

● **One-and-a-half hires for one!** Common in the party hire trade, where a weekend is one hire, if the hire goes into the week then half is added. It only becomes 2 weeks hire once a second weekend is passed.

● **A Great Mixture Of Rates!** Some hire firms do Lighting, Sound, AV & Staging, where

different rate structures apply to each. A nightmare for sure. Then they allow a discount on the lights & sound, but not the AV & Staging! It CAN be done, I've seen it ....

● **The No-Rate scheme.** Yes, this is the one where it's The Competition LESS \$1. Then six months later you start selling your gear to stay afloat. Works for a while but then ...

● **Settlement Discount.** Of course it's added on, then taken off again when you pay within terms. Easy.

-Tim Grafton.

*\*Tim runs HirePoint, whose software is used by hire firm's here and G/S to run things.*

## ShowCAD & Me

Richie Mickan from BSS says:

I decided ShowCAD would let me pre-program our eight new Samurai's in the office, then alter Pan-Tilt parameters to suit the venue. I spent quite a few hours at home with the PC and a Trackspot, but once I read the manual the penny dropped. I realised it would be easy.

Over the next few days I built up a collection of scenes, movements, chasers and sequences in the office between work - I used Windows task

swapping to do normal things like spreadsheets and word processing.

At the gig I rigged then assigned names to scenes- the time saved was quite significant. The grid was raised for sightlines, I only needed to reposition the presets. I had 200 chasers using 20 presets for positions.

It saves time, it saves money.

\*Call Richie on (08) 352-8688.

## Our New GS3, & ScanC: Lightworks in Perth open the box:

A busy month, we've un-wrapped our 8 Golden Scan 3's and awesome MA ScanCommander. Anthony Johnson was then locked into the dark interior of the Metropolis Concert Club in Fremantle, to produce four minutes of lighting choreography that shook the crowd to its foundations over the two nights of its second birthday. The Black Sorrows were hot too.

All our lights, crews and trucks have been busy with Boom Crash, V Spy V, The Jets, Blazing Salads, Manpower Australia, Zep Boys and Dynissty. Still to come: Immortality; the Rave.

*Regards from Andrew, Brian, Neil, Chris and young Donovan. Call (09) 227-5255.*

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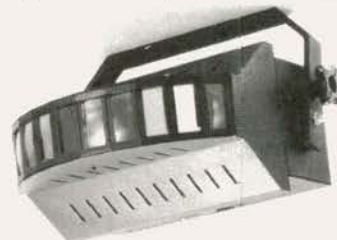
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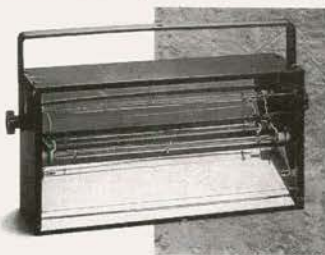
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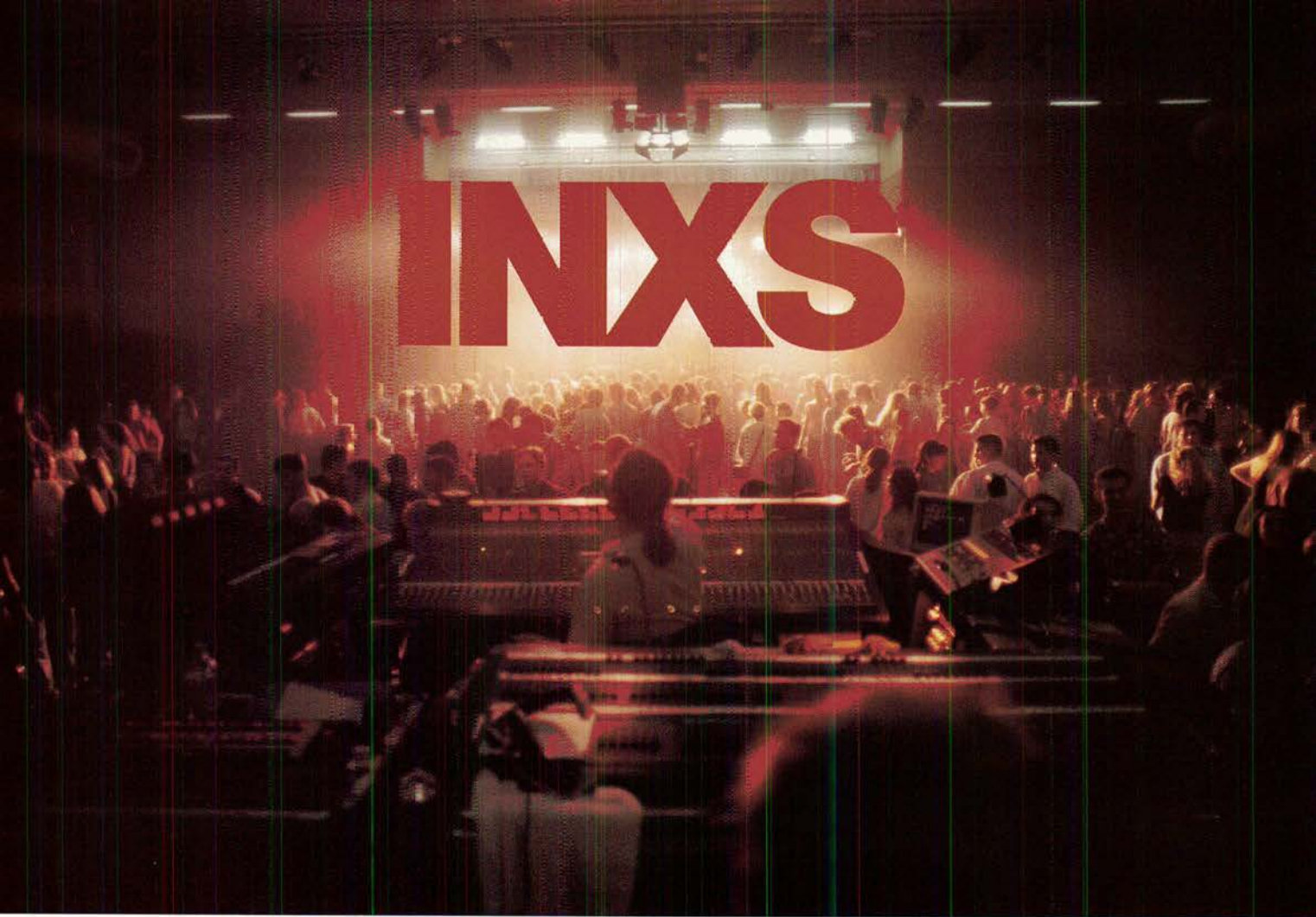
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Picture: Marty Williams

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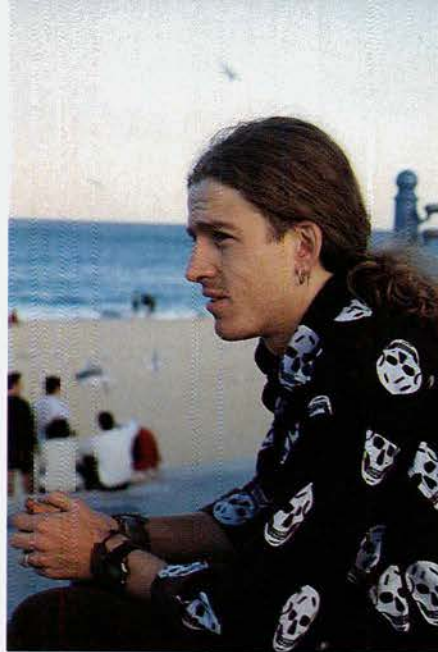
***By Catriona Forcer***

Over the last couple of years there has been a significant INXS backlash here in Australia which probably started when INXS headlined the controversial 'Concert for Life' (some refer to it as the 'Concert for Strife') in March 1992. There have been accusations in the press that INXS's own indulgences had cut the profit margin for what was supposed to be a charity fund raising performance. Listed over-indulgences included lighting and sound and when the bands management chose to ignore the criticisms, the knife was dug deeper.

In 1991 INXS toured Australia with the 'X Factor' tour which received fairly bad reviews in the popular press. Also, hire companies and local crew were dismayed by the lack of Australian personal and equipment on this tour. There were complaints that the INXS organisation were arrogant and held little regard for their home territory.

It seems that many people have forgotten that INXS have, by their world-wide popularity, set a path for a lot of Australian acts. They have proved to the international music scene that Australian bands can make it outside of their own country. Like the British press, it seems that the Australian media are all too keen to kick down a success. So when INXS announced that they were playing smaller 'pub' venues, many people were quick to say that it was because the band would have trouble selling out the larger venues. In a recent interview\*, Michael Hutchence had the chance to tell his side of the story.

"You see, to me INXS has always been a pub band. We had years of playing in that environment, of going out there and proving ourselves in a rough training ground. All we're doing now is reclaiming some of that



LD for Aussie leg only. Sean 'Motley' Hackett

excitement. It's fun for our fans, but it's also very important for us to prove to ourselves that we're not jaded and cynical yet."

"We've worked so hard over the past few years. Out of that, we've achieved a level of success that no other Australian band has achieved. I think the Australian backlash has been petty and ridiculous. Most of the time, they are like a pack of jealous lovers. You know 'You're never

here, we never see you, you don't like us anymore'. It's just bullshit, and it really annoys me."

*• Instead of English guys coming here with their Avos and their Celcos, I want to go there with my Jands Events!*

**Sean Motley Hackett.** The lighting design for the last INXS tour, the 'X Factor', was the result of a collaboration between Roy Bennett and John Featherstone. For the last few months it was rumoured that John

Featherstone would be designing this tour and, for a while, his presence was expected here in Australia. Unfortunately John was still tied up with Van Halen and so the lighting for the Australian leg of the world tour was left to local guy Sean 'Motley' Hackett.

Sean has worked for Jands for over seven years and has also worked for Vari\*lite Europe. He has had vast experience both as a lighting designer for acts such as Diesel and Noiseworks and as a crew member on many international tours.

"I've always wanted to be a lighting designer and I really want to work in this country for Australian bands," said Sean. "I want to tour the world but with Australian acts and I also want to do this with Australian products. Instead of English guys coming here with their Avos and their Celcos, I want to go there with my Jands Events. I am actually English. I have an English passport as well as Australian, and I have thought of moving back to England but it's just not the same."

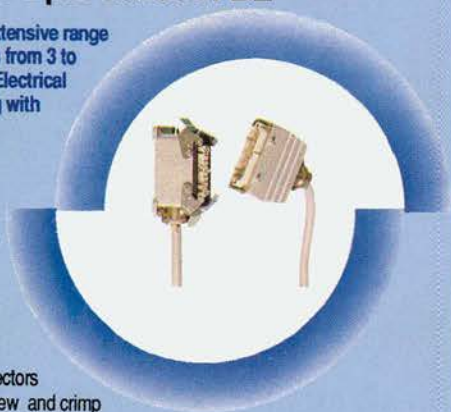
"I became involved in these shows because John Featherstone was too busy doing Van Halen and he needed somebody to do this. They asked around and three names were suggested and I happened to be the right person in the right place at the right time. I had just got back from Europe with Diesel and I was available. John sent me over an equipment list and said that he was after a rig that was really asymmetrical, as strange as possible and with as many shadows and weird angles I could get. I sent him back a list of colours and a plot which he said was fine. It just evolved from there, I did all the programming myself just basically off his sheet that explains what he would like the show to look like. Basically John sent me the drawing that he had sent the management of his concept for the American shows, all the writing he had sent them, the equipment list and said 'go for it!'. John gave me a lot of freedom, the only thing he added to my colour list was 156. The only other direction I've had was three sentences from the management - change that, don't like that and too pretty. I like pretty lights. It's not a box of Smarties, like Bobby Brown."

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"Basically the concept for this leg of the tour is a bit different to the overseas tour because the rooms we're playing in are all so different. We couldn't really come up with the plot and the concept that they want for overseas. They are still playing smaller venues overseas but in England and the USA the smaller venues are theatres so they have more height. So the concept over there will be hanging three layers of lighting, having lighting right up above the fly bars shooting down through to give like a sunlit effect. Under that there'll be a whole lot of other lighting and then under that again more floor lighting but all of the lighting between the fly bars and the floor will be 2Ks and 5Ks. There was talk of using 10Ks but I don't think that happened. They'll all be hung at different heights so it'll look like a TV set. In America they are using a backdrop which is made up of 18 inch strips about 8 inches apart in three layers. The first layer is sharks tooth, the second layer the scrim and the third a heavy cyc material. So when it's lit at different angles they'll be some weird, shimmering effects. But over here the rooms are all so small and dingy, I mean here a pub is a pub. In Europe and America a pub and a club is usually a theatre that has been converted into one. Over here it's a place with a 10ft trim! We haven't done a venue yet where we can fly points, everything has had to be ground support. There have been a couple of venues like this one (Selinas) where there are bars in the roof, the highest trim

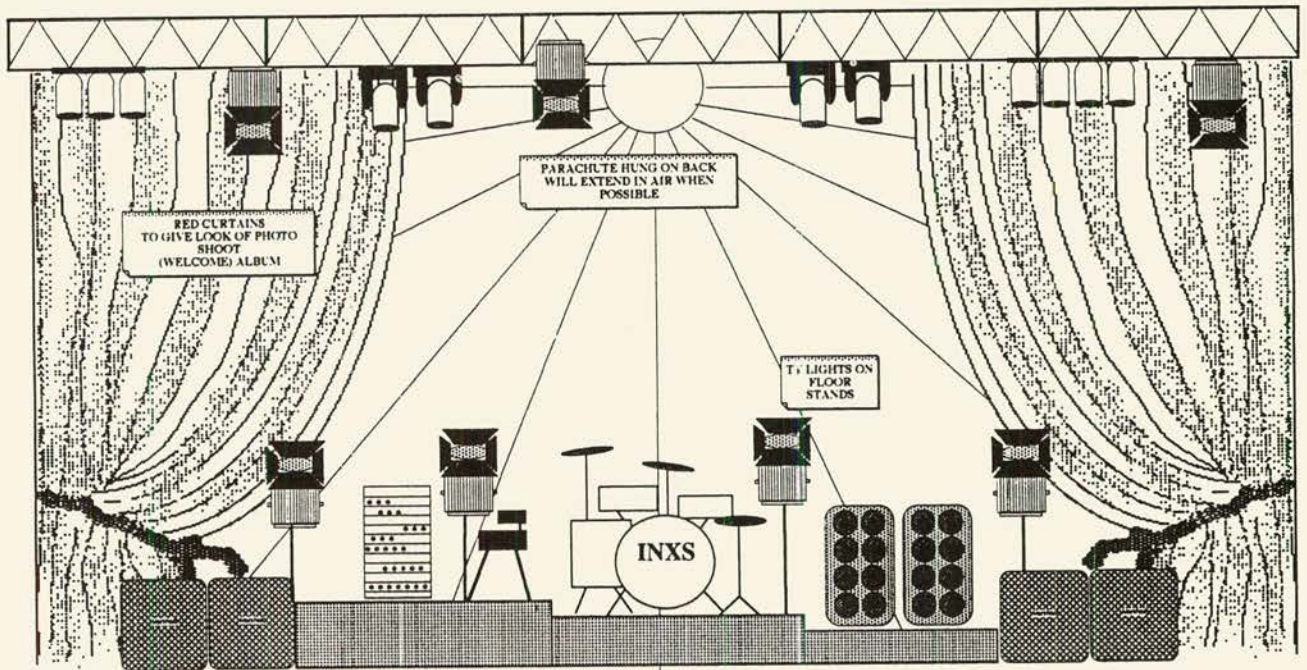
we've had so far has been 16ft and the lowest 8ft."

**INSANE.** "Friday night at the Jet Club in Dee Why was insane - every single light went in. We just got so annoyed trying to figure out what to do there, we thought 'fuck it, let's put everything in!' We put a generator outside and when the band arrived I welcomed them to my convection oven because that's pretty much what it was. The lights didn't even have time to happen there - they came on, the beam came out 6ft and hit something. That was probably one of the hardest venues to work in."

Fortunately Seans experience touring these clubs with other acts came in useful and he was not really phased by the problems. He admits to getting frustrated but then he remembers it's only 24 hours of his life.

"We've been doing things on this tour that I've never ever done before in these clubs," Sean told me. "Like psycho things. The amount of times we've put nearly the whole show up and then taken half of it down to re-adjust the supports so we can get more height and built case structures to put the ground support on. Crazy things I've never done before and I hope I'll never have to do again! It was meant to be INXS in the clubs with a stripped down show and it is stripped down compared to ten semi-trailers with half a semi-trailer of just wardrobe. But at the end of the day they still have their high standards and they can't bring that down. We're calling tonight's show 'Madison Square Selinas'. The hours have been long too, we've been going in at 9am and not leaving until 3am. It's basically concert hours in club conditions

*‘We've been doing things on this tour that I've never ever done before in these clubs. Like psycho things’*



	<p>PROPERTY OF SEAN MOTLEY RACKETT 40-42 CROWN ST. BUNY HILL SYDNEY N.S.W. 2018 AUSTRALIA PH. &amp; FAX. 813-318290</p>	<p><b>INXS</b> SET FOR AUSTRALIAN CLUB TOUR</p>	<p>DATE: _____ NOTES: _____ DRAWN: SEAN MOTLEY RACKETT</p>
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which is really hard. We've done three shows, day off, another three shows etc. all the way through."

The lighting rig consisted of ten V15s, four 5Ks (all with LSD colour changers on them), six 2Ks on the floor with 156 chocolate in them - each unit silhouetting a band member. All the 2Ks are on floor stands at variable heights to give an asymmetrical 'TV mess' look. The fourteen raylights have colourmags on them all on single channels and there are four 4way molefay with colour changers - two on the downstage edges for washing from stage left to stage right, all channelled asymmetrical, and two above the band, usually somewhere just off centre with one downstage and one right at the back.

There are also two White Lightning strobes linked together on the backdrop as well as two molefay duets behind the drumkit. The backdrop is a plain white cyc with two red curtains pulled back either side to give a theatre proscenium arch effect similar to the album cover.

**RIPPED:** "We tried using a ripped cyc because we wanted a stripped down look," Sean said. "I liked it and my concept, with what John had told me, was to have wires hanging out of everything and have no riser dressings. Just filth on stage, real messy and industrial but the band wanted it neater. So the stripped down in the raw look turned into stripped down in the raw with a polish and borders. Like I had trusses that weren't

even painted, they were scratched and messy."

Perhaps we're seeing the start of grunge lighting design, I suggested?

"Yeah, well Michael seems to be really into the grunge bands at the moment," replied Sean. "But he was also after something very stark and flat. I had to explain the V15s to him. I couldn't go up to him and say we had Vari\*lites as the band has a hang up about them - the amount they've had before and how much they cost. They didn't want a flickering, flashing, moving, standard light show. Like everybody, they wanted something totally different. It was the thing of 'we want a totally white light show' but I talked them out of that one."

The show starts in open white and basically you can't see the band for silhouettes. As the band didn't want too much colour, Sean has had to tone the show down to about two colours per song which he finds hard as he describes himself as a colour junkie. Most of the songs on the set list are upbeat with the exception of 'Mediate' and a new song called 'Full Moon'. There are a lot of numbers where you can't see the band perfectly but then we all know what INXS look like.

"For control I'm using a Jands Event which is switched over wide so it has 120 channels," said Sean. "The new software in the Event has a build record function in it which is like a Vari\*lite preset focus function. This means I can programme in my 10 cues for the Vari\*lite focus and all my other cues are built from that which every day I only have to touch up 10 cues. It has some

*• It was the thing of 'we want a totally white light show' but I talked them out of that one'*

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really nice timing software in there so you can do some really nice slow moves, cross fades and stuff like that. Although the band originally said they didn't want a bump and flash show, it's more of that than a cross fade show so the VL5s aren't getting to do all they can. It's the best desk I've ever used. In America and Europe they're not going to be using any Vari\*lites.

"The most frustrating thing about touring with Australian acts here is that everything is in the clubs with small budgets. So this has been a dream come true, I've had a budget to play with and the lighting still fits into eight feet of truck. That was another thing, it doesn't matter how much power you use it had to fit into under 10ft of truck."

I asked Sean if he got upset when Australian bands chose to use foreign crew once they hit the big time?

"I can understand bands picking someone like Roy Bennett as their lighting designer because we don't have anybody in this country who is that experienced at that level," he answered. "But I do think an Australian band should use Australian operators. I'm a colour junkie but if someone designed a full white show I can still hit a button at the right time and in the right place, their design is their design. It does frustrate a lot of people, infact Diesel is doing it right now in England. He's using an English crew through

Europe although that's purely financial because it costs so much money. They once took me to England for two weeks to do the Town & Country and a few gigs of about 14 lights and it must of cost them about \$9000. It was crazy and I told him that, I said 'leave me at home until you can afford it'.

"This time INXS have employed two Australian backline techs but whereas they used to have an Australian sound engineer, they now have Benji who is English. I don't know the politics behind all that. There certainly is annoyance in this country about them not employing Australians because there is a lot of talent here but what drive do you have when the biggest band in Australia employs Americans or English designers? I could slog my guts out for years with an act and then once they crack the American market, they could piss me off for somebody else. I don't generally think that American or English operators are better, I've seen some shit shows. I've worked on shows where they are doing the hundredth show of the tour and they still haven't got it right! A hundred show tours don't happen here."

Although Sean now has to leave the tour, the band have a 12 month work visa already approved for him so, if it is quiet in Australia during the next few months, he may give LSD a ring. John Featherstone is also keeping his eye out for operating work for Sean. Ideally, Sean would love the opportunity to work as a board operator for someone like Jonathan Smeeton who he

*.....what drive do you have when the biggest band in Australia employs Americans or English designers? I could slog my guts out for years with an act and then once they crack the American market, they could piss me off for somebody else"*

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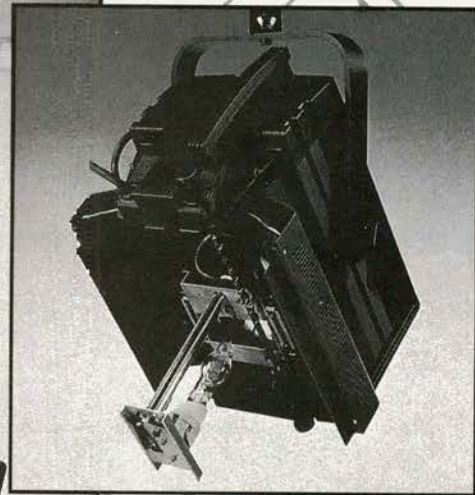


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- New optical design gives whiter light to give even higher apparent brightness.
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- Excellent access to profile lenses by top and bottom hinging covers.
- Version available with cranked fork, to allow high vertical angles of operation where fork underslung rather than top hung.

describes as one of his main inspirations.

"It's been a dream of mine since I was a little kid to be a lighting designer," said Sean. "You see shows like Bobby Brown which was pathetic but, because I'm Australian, a gig like that would be a dream to do. It's not like 'I live in England, I know these people and I'm in their face all the time and if I persist, by the time I'm 35 yrs I will be a big board operator'. It might never happen here, you're always on the gamble because geography is against you. The only band in Australia that can afford to do these shows employs Americans. I mean you see these idiots come over who couldn't light a toilet with an eight-lighter and you just get really, really frustrated."

**Front of house** sound engineer Benji Lefevre is well known in the business for his work with acts such as George Michael, Rolling Stones and more recently Keith Richards's solo tour in Europe and America.

"It was close to this being theatres and clubs so I'm already primed for this tour," said Benji. "When INXS played the Concert for Life last year, they had heard me do the Stones so they contacted me and asked me if I would do that event with a view to future work. I was on probation! We had a lot of fun and the way I work is I try give the band a lot input musically and arrangement wise as to how it looks and sounds from my perspective. It's really a very selfish thing but I have the best seat in the house and if other people enjoy the way I mix sound, it's a bonus for me. I'm not a technocrat, I couldn't take the board to pieces and fix it. There are a million people you can hire to do that. I like to actually use my imagination in the audio world and try make things larger than life. INXS really enjoyed someone coming at them and saying 'hey what is this, what about that blah, blah, blah?'. They kept in contact throughout the year and then asked me to do the pub tour. I mean, it's where we all started."

"We've used an older system purely because its configuration is more suited to these venues where you've got strange little balconies, nooks and crannies. With full range boxes you can't focus the different elements of the PA so well. I decided to use this modular system for that reason and it's worked out good. It's raw, it's loud and I think INXS write good songs and they are musicians of great ability, but I think they've always wanted to be considered as a rock band. I can keep the arrangements in mind but give it some balls and that's what we're looking at. We're all having fun doing it and they are there for a real laugh. It's a gas."

In Australia, the sound equipment was also supplied by Jands and included their modular system and a Yamaha PM3000 console. Also there were two effects racks with three AMS's, three SBX90's, a couple of graphics for inserts, some noise gates, some DBX900 rack noise gates and 900 rack limiters as well as BSS limiters for the vocals. In America and in Europe Benji will be using a Harrison HM5 console with an extender and mostly the same effects apart from the compressors. Also he will be using a DMP7 which will be midi-ed up to the effects machines to run all the sequence triggered applications from

the stage so he can preset levels, sounds and balances.

"Harrison is my preferred mixing environment," said Benji. "They are excellently built and maintained and as a road desk they are extremely versatile. I've used them for a long time so I know them inside out."

"The tour has been going very well. You can do anything and play anywhere really. If the band wants to play somewhere you can't say 'ooh, you can't do this because....' as that's just not true. You just have to say to the band it's going to be this or that and, if they're up for it, it's going to be fun. It's no good doing it unless it's fun."

"I find that the Australians really like their music and they like it in a hot and sweaty situation. That's really good. In a small venue the vibe is so essential and it's really refreshing to do these shows. I know the band are tickled pink. The great thing about the pubs is it's now not 'here you have a huge PA and you have to mix it', in a club you're projecting what's happening on stage much more, in audio terms, because you're actually hearing what's coming off the stage. In a stadium an acoustic drum kit is lost whereas in a club it already has its own sound."

I asked Benji if he had had any backlash being an English guy working for an Australian band in Australia?

"I think a lot of Australians feel sorry for themselves," he

replied. "It's the same for anybody, anywhere. I mean if you want the gig you have to go after it. You've got to pursue it with all your might, all your heart and all your passion. If you don't then you're not the person for the job. Peter Lothian has branched out on a couple of things overseas and people like him. I hear this thing about people getting stuck in Australia but what about the poor fuckers that get stuck in England! You only get stuck somewhere if you don't a) get a lucky break or b) you're not quite good enough. If you are good and follow it with passion you'll get through. Sounds pretty

arrogant, doesn't it?

"Proportionally, it's the same for a French band. How many huge French bands do you know? It's pretty much the same everywhere, it's just that there's more of it in England and America."

"It's fairly quiet in England at the moment. I think MTV have a lot to answer for. With the advent of MTV it made music go in a weird direction because people are so worried about what their videos look like and how they present themselves, they seem to forget and lose the urge to be really creative musically. Instead of making people take notice of them with their music, a lot of acts try make people take notice of them by their videos. I hate MTV!"

*• The only band in Australia that can afford to do these shows employs Americans. I mean you see these idiots come over who couldn't light a toilet with an eight-lighter and you just get really, really frustrated*

#### TOUR PERSONNEL

**Michael Long** Tour Manager, **John Thomson** Production Manager, **Jeff Pope** Security manager, **Benji Lefevre** FOH Engineer, **Sean 'Motley' Hackett** Lighting Operator, **Bernie Bernil** Monitor Engineer, **Ross Ferguson** Stage Manager/Guitars, **Dave Edwards** Guitars/Bass, **Michael Hcn** Keyboards/Boffin, **Toby Davis** Drums, **Mats Frankl** Sound Technician, **Craig Knight** Lighting Technician.

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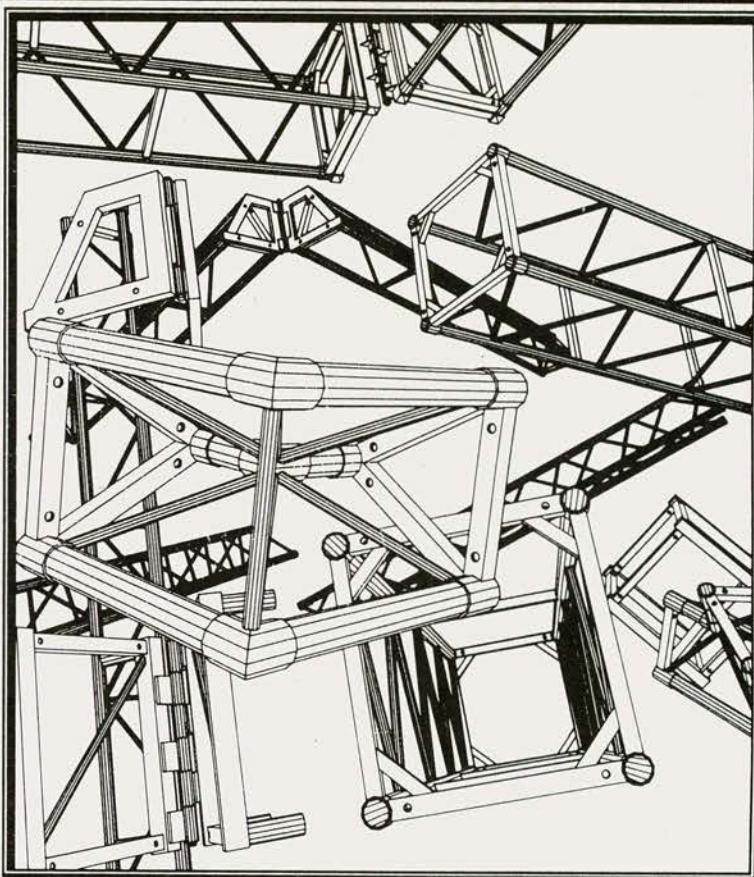
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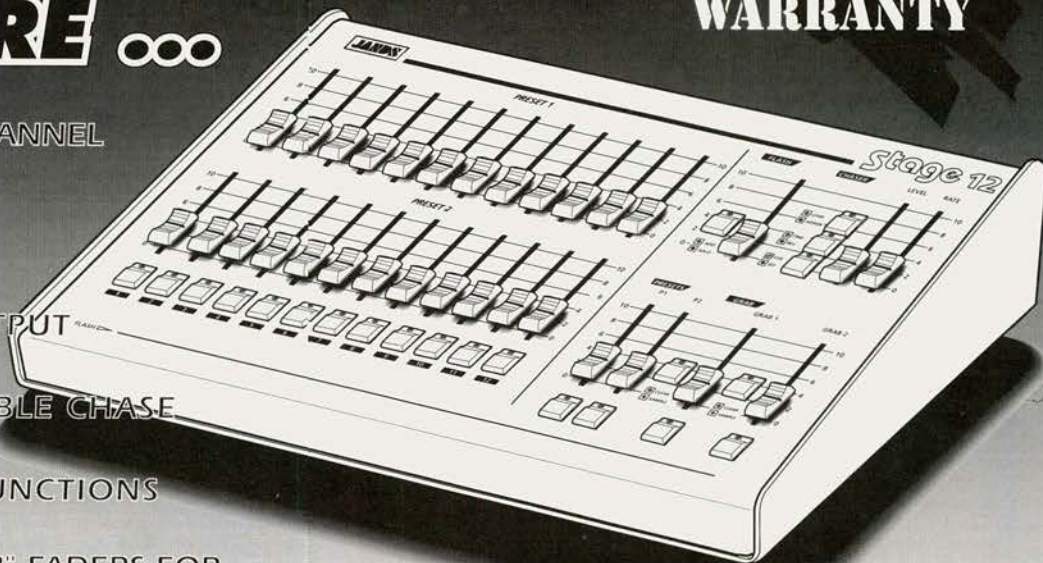
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# Joseph

## and The Amazing Technicolour Dreamcoat

By Catriona Forcer

The hit musical 'Joseph & The Amazing Technicolour Dreamcoat' has come a long way since its debut in 1967 in a school hall. Since then, its creators Andrew Lloyd Webber and Tim Rice have achieved world success with other musicals such as 'Jesus Christ Superstar'. Andrew and Tim sold the copyright of Joseph for 50 guineas each and in 1989 Andrew Lloyd Webber's company, The Really Useful Group, bought it back for one million pounds. Recently the musical was revived in London, where it is still running, and this year audiences in Melbourne and Brisbane have been flocking to see the touring production.

The original lighting designer for Joseph is Andrew Bridge from the UK who has numerous theatrical credits to his name - Aspects of Love, Five Guys Named Moe, Time, The Hunting of the Snark, Moby Dick, Phantom of the Opera and Andrew Lloyd Webber's new production Sunset



Boulevard. For ten years Andrew was the lighting designer for Shirley Basset in Concert (worldwide). In London, he was also the exclusive lighting consultant for 12 years for design company Imagination working on a wide variety of international presentations, industrial theatre and architectural projects.

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# Joseph

responsible for the technical side of staging Joseph in Australia. Most of the productions they work on are for Cameron Mackintosh Pty Ltd who at present have Phantom in Melbourne and recently a Les Miserables and Cats tour of Australia. Key Largo also work on The Really Useful Theatre Company Pty Ltd productions, of which Joseph is one, and future shows will include another Cats tour, a season of Les Mis in Singapore and a season of a small production called Five Guys Named Moe in Melbourne. Key Largo is headed by Technical Director, Mort Clark, and employs a Mechanical Manager, Richard Martin, who looks after all the scenery, sets and moving the shows. I met with Richard Pacholski, Electrical Manager, whose job it is to look after the lighting and electrical side of the productions as well as oversee the automation installations.

"This show is based on a production that was in Toronto, Canada," said Richard. "Infact it was on tour through Canada. It has also been at London's Palladium Theatre although that was a sit down version. We went over to Canada to see the tour and there I met Andy Bridge who I have worked with before. There were a few scenic elements that didn't quite work all that well in Canada and we're really lucky here because we can change things around. What problems other people have, we can rectify for Australia which makes our lives a bit easier but the main change is the revolve system. In Canada they didn't have a revolve. The lighting rig doesn't change too much, I can say to Andy things like 'there are quite a few awkward Profiles out the front, can I change them to Lekos?' so I have a bit of input. Again, with the truss we made a full truss system out the front, just a few changes like that which makes our life a bit easier on the road.

"We all went out to Canada to look at the different elements of the show - the set, scenery, costumes, sound and lighting. From that plans get formulated for an Australian design and once that gets rolling, Andy Bridge sees that and pumps out an Australian lighting plot. From there I do my equipment list and then we put the show out to tender to hire the equipment. We hire just about everything here - the sound system, the lighting- and the scenery is built at the Adelaide Festival Centre Trust Scenery Workshop who we use for just about all our shows. It's a very good workshop and there's lots of talent there. They also built the set electrics which were put together by Andrew Perri who is the Vari\*lite operator on the show.

"The show is a tried and tested package that we deliver in this



*Electrical Manager Richard Pacholski*

country. We don't have to go through that development stage. We can pick something up from overseas and refine it. We're very lucky because we are always towards the end. Generally, the overseas people are always very happy with what we deliver here."

Lighting wise, Richard believes he has hired the best of everything. The rig was hired from Greater Union Village Technology and put together by Paul Beck. It was very much a last minute build so the lighting equipment is brand new and includes the luminaries, effects and the looming. The Vari\*lites obviously come from Vari\*lite Australia Pty Ltd and the trussing was made by Concert Lighting Systems Pty Ltd who also supplied the chain motors. The control desk is a Light Palette 90 and, with the dimmers, is hired from Bytecraft.

"My overall view of it is that we've got the best of everything," said Richard. "The best scrollers (Rainbow), the best dimmers (Bytecraft) and the best touring gear - Lekos, Selecon Zoom Spots. We've five Par 56 Lightcurtains with Rainbow scrollers on them, quite a few Ministrips and a few white lightering cloud projectors. There are two rear stage follow spots and three out the front. It was up to me what control desk and dimmers were used. They do use the Light Palette over in America a lot and they've had a lot of problems. The Light Palette 90 came out a couple of years ago and had a lot of teething problems so I stayed away from it preferring Galaxys and Avabs. Now the Light Palette has settled down and is going very well, this is the first time we've used one. Infact I think it's the first one used in Australia and it's going really well. It makes life a lot easier in that I can bring in a disc from overseas and at least we've got the basic plot in the board."

Richard admits that it has been a bit of a squeeze fitting the show into Her Majesties Theatre in Sydney and a few changes had to be made. The intimate atmosphere of the theatre, compared to

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# Joseph

the arts centres of Melbourne and Brisbane, is beneficial to the audience but makes loading in very difficult as well as keeping the show running backstage.

"Size is the problem," Richard said. "We have fourteen semi-trailers and its a lot of equipment to bring in to a very small dock area and to store. It takes time for us to put it up especially with all the scenery and we can get very congested. Another problem we had was with the speaker towers. The sight lines are very wide here so the speaker towers had to be lifted off the ground. We also blacked some of the bricks and put in a proscenium arch. We did quite a few modifications to the grid to take the weight as we have a couple of very heavy items. We have a blue sliding wall which weighs about three tonnes. The rig has stayed pretty much the same from the proscenium back but we have changed the front of house position. So we've changed lens sizes in the circle front and on the ladders on the side. That's the only major grief we have with lighting going from venue to venue. All the Vari\*lites are on a long skinny ladder so we can fly them down for maintenance and we don't have to get up to work on them. The back up Artisan is positioned to the side of the stage as there is not a lot of room out front. We also had a lot more depth onstage in the arts centres.

"There are fifty kids in the show, twenty-five cast and twenty crew so it gets very busy backstage and there's not a lot of room. We are very self sufficient on tour, that's the good thing about the way we generally do our productions. As we take everything with us we don't have to rely on facilities in each theatre. I don't use any inhouse lighting at all, we hire the lot, I simply need 600 amps of power and away we go."

The stage is actually a false deck about eight inches high with a lot of steel work beneath it and this houses the revolves. One job that had to be done at Her Majesties was that the stage floor had to be levelled for the revolves.

Act 1 has an overhead screen in it for the whole of the act and a lot of images are projected onto that - gobos and Vari\*lites (VLA's). This screen flies in and then they pick up a couple of wires further upstage that clip onto the bottom tilting the screen so it sits at an angle. There is also the blue wall which is half way upstage and that slides up and down to allow the props to come through. It's a very busy prop show and act 1 is a very quick

moving part of the show. The screen is preset before the show. Act 2 is mainly the Pharaoh scene with a huge Sphinx arch that flies in, a huge face and Sphinx as well asand the change is done at interval. The final act is the Megamix where the sound system kicks in, the Vari\*lites drop down lower and there's lots of smoke onstage so the whole thing resembles a dance party. In all the show is roughly 230 lighting cues. The thing resembles a dance party. In all the show is roughly 230 lighting cues.

"This show has a very high running cost, what with hiring equipment like Vari\*lites, and you need full houses to keep it going," said Richard. "We're using six 48 way 2.5K Bytcraft Touring Rack dimmers because I think they have an excellent fade curve and reliability with these models. They are very good, we've had no problems at all so far on the tour. I took a bit of a gamble because this particular model as it hasn't been used much in Australia before. They've done a lot of changes recently with the dimmers and they suit theatre application very well. The noise levels are right down so they don't interfere with sound at all. We have a 300 amp supply to the dimmers and then another 300 amps that runs automation, chain motors and Vari\*lites."

Sound design is by Martin Levan Sound Design and engineered by System Sound, Melbourne.

## Behind The Scenes

Lighting Designer **Andrew Bridge**, Vari\*lite Designer **Richard Knight**, Electrical Manager **Richard Pacholskie**, Head Electrician **Ian Blackburn**, Board Operator **Hugh Carlton**, Vari\*lite Operator **Andrew Perri**, Automation Operator **Nick Newey**, Automation **APC Services Pty Ltd**, Automated Properties **Mothers Art Productions Pty Ltd**, Lighting Equipment **Greater Union Village Technology**, Lighting Control & Dimming **Bytcraft Pty Ltd**, Moving Lights **Vari\*lite Australia Pty Ltd**, Trussing **Concert Lighting Systems Pty Ltd**.

*The scene and mechanical elements of Joseph and the Amazing Technicolour Dreamcoat were constructed by the production staff of The Adelaide Festival Centre Trust.*



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# THE IDIOTS GUIDE TO LIVE SOUND MIXING

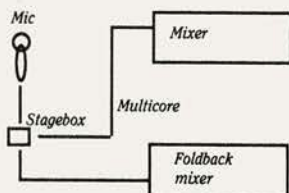


Nothing is more precious than the first time. Mandy stood at the console transfixed by the glowing VU meters, ignorant of the lecherous and leering stares of the main act's soundman. 'Me man, you girl' he thought, eyeing her up and down. 'And in one minute, you'll be putty in my hands because your band are about to start!' The lights went down, the drummer counted in the first song, and the amplifiers all drew a deep surge of current, ready to send 70v to the woofers, mids and horns in a mere nano-second.

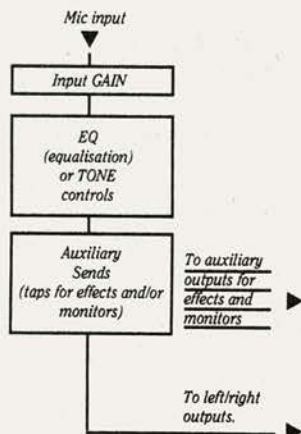
Feedback, distortion and chaos - uncertainty from the stage as the band tried to carry on regardless. All these things and more didn't happen - because Mandy used The Idiot's approach to mixing. She got logical! The soundman didn't get his chance to take over and humiliate her. He ashed his cigarette into the lighting trogs can of VB instead.

## GET LOGICAL.

Draw a map of how the sound flows from the stage. Do it now - get a pencil and some scrap paper. Do not deface your back issues of Connections, though!



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handle. This doesn't concern you now. You need to get your mind around the mixing console!

Time for another drawing - do it with me:

This is the signal flow plan. It is really dead easy. Here is your plan, the one Mandy (her real name) followed that fateful night at 10.30pm:

## GROUND ZERO

Remember these two words. Because you need a checklist before you begin. You need to prepare the mixing console BEFORE the band start playing. For this you need at least 2 minutes to familiarise yourself with the mixer - to LOOK at the input channel to SEE the signal path. Your scrutiny (scrute for short) can't stay at the left side of the beast, you also need to have a look at the master section too. More on this later.

2 minutes have passed. You have at least a basic idea that the thing is slightly wider than your reach, you are ready to make ready.

You've labelled each channel - because if you haven't, uncertainty about what is where will occur. This you do not need. The less than helpful Person Who Knows More Than You (if there is one around) isn't going to necessarily tell you to do this, so do it yourself. Carry masking tape and texta for this purpose. Be sure channel 1 is actually the sampler, lest it turn up somewhere else. No matter what anyone tells you, it is damn hard to FIND things that are plugged into the wrong channel.

Set EVERY channel you are using to this basic starting point:

- ◆ **Input gain:** 12 o'clock (centre).
- ◆ **Pad switch:** Out (or up)
- ◆ **EQ:** Set each control to 12 o'clock (off)
- ◆ **Auxiliary sends:** Set hard left (off)
- ◆ **Pre/Post switches:** In (or 'Pre')
- ◆ **Sub group switches:** Out (or off)
- ◆ **Stereo, or L/R switch:** In (or ON)
- ◆ **Balance control (or PAN):** Centred.
- ◆ **Fader:** Down - Off.

Now go looking for Mix Threatening things, like EQ switches that are switched OFF. You need these ON, so the EQ will work when you start using it.

Duncan Fry thinks some unhelpful people actually turn off the EQ to test neophyte engineers. Foil the bastards! Turn it ON!

The other really naff, horrid thing that

can trip you up is the goddam channel On/Off switch on some mixing consoles. This can actually hide itself as a Mic/Line switch, or worse still, a switch at the top that just says 'LINE'. This is quite a simple proposition - it cuts off the microphone input (the XLR/Cannon type) and switches over to the JACK (6.5mm socket). If engaged, you got NO MIC INPUT. It's as good as a mix killing proposition!

## MAKE SOUNDS NOW

You really need to establish how your sound is going to travel through the mixer, so the place to go now is the output end. This is the hardest section to master, so the first thing you'll do is IGNORE the subgroups. Yes, go direct to the left/right outputs. Use them. Forget about the subgroups.

You need to make some sound now, because the output can also have MUTES or On/Off switches - but usually not on the left/right masters, only on the subgroups. Run a signal into a channel you've prepared as per our recipe - worst case, use a mic and lead and say: (deep breath): 'Test On Two'. Congratulations, you're a sound engineer!

Getting an idea of how your input channels work is now pretty easy, because you've got them all set the same. Your test source, if it's a microphone, will produce the same result up on the stage as it does here at the mixer.

## READY TO CREATE A MIX?

Get the idea that you are mixing a cake. Too much bicarb or flour and your mix 'aint so good. Moderation is needed, even for idiots. *(continues over)*

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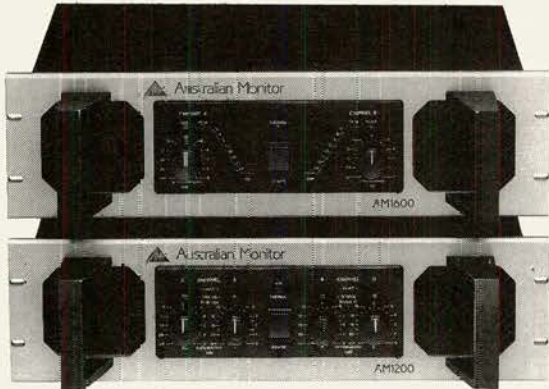
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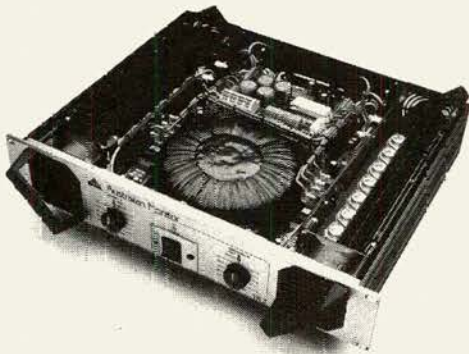
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# THE IDIOTS GUIDE TO LIVE SOUND MIXING

(from previous page)

You will now get told something that hopefully will stick in your mind forever more:

'Too Much EQ Is Bad For Your Health' (and the hearing enjoyment of your audience).

## ABOUT EQ

It's really nothing more than a tone control - but with some twists. Establish which are the actual cut and boost controls, and which are 'sweep' controls and on concert consoles, 'parametric' or 'Q' controls. Some really unhelpful mixing console designers use dual concentric (or double decker) rotary controls, with the cut/boost at the top, and the frequency selection (or 'sweep') at the bottom.

You've already centred the control at 12 o'clock, which in 98% of cases is neither cut or boost, so it's not doing anything right now. Notice the markings around the control - it should show the position you're now in as '0', with graduations to the left expressed as -3, -6, -9 etc, and to the right +3, +6, +9 etc. This is never uniform, different markings all mean the same thing. Cut is left, boost is right. You need to test the control to find out how it sounds. Use your test microphone to do this. You can do this using headphones - the PFL or CUE button on your test channel needs to be down (on), and the headphone gain turned up. It lives over at the master end of the desk.

The sweep control, or frequency adjustment, allocates the actual point at which you cut/boost. To get a handle on this, boost your chosen EQ control, talk into the mic and sweep (or adjust) the frequency adjustment. You'll hear where it's happening, so you can choose where to set the frequency adjustment. If confused, leave it centred at 12 o'clock - that's as good as anywhere!

In a perfect world, you get to check each input and adjust the EQ to suit. If you don't, start at Ground Zero. You can do worse!

## PEAKING, FLASHING AND CRASHING

Yo, sounds like a great night out, but we talk about overloading the poor mixer here. You need to be ready to act. Your chosen input channel is set to 12 o'clock at the input gain, and the PAD

is switched off, or out. This is just a big damping control, because some signals come really hot, like snare drums and some digital things, so hot in fact, that the gain control can't reduce them enough. The PEAK LED will flash, even though you've twisted the Gain control all the way to the left. This is where the PAD switch comes into play. Punch it in, and your signal is seriously hosed down. You'll need to bring back the gain to find it again.

A rule about input gain: presumably you are using your typical input as a test, and it is coming to you at the same level as it will live on stage later. If it's a vocal microphone, the person on the stage will need to bark into it as loudly as the singer might. You find the point at which your PEAK LED starts to flash - then turn the gain back a twitch. The occasional peaking flash is OK, just don't make a habit of it!

## GOT GAIN, GOT EQ .. TIME TO AUX OUT!

Refer to the drawing - and see the auxiliary controls are just a sideways tap from the signal chain. They lurk under such names as 'Effects', 'Monitors', or even 'Reverb' on some mixers. Happening, today minded console designers just call them 'AUX 1', 'AUX 2' and so on. If it's really happening, like a Ramsa or Venuell, it's also got an 'AUX-DIRECT' switch that routes the signal directly out of the channel via a jack on the back. But you don't need to know about this!

Your AUX controls are currently at '0', which is twisted hard left. They are off. Now figure out what the hell they are to do for you!

## AUX FOR FOLDBACK

Yes, if there is no on stage foldback mixing console (and if you are a beginner, chances are there is not) then you need to send some signal back to the stage for monitors. This comes from one or more of your AUX controls.

This is where you need to become partially aware of 'Pre' and 'Post'. These are simply Pre (before) channel Fader and Post (after) channel Fader. It usually also means Pre EQ and Post EQ too, and you now see if the AUX send you choose is set to POST, then the unlucky turkey on stage

will get a variable signal. Stage Monitors in this situation are much, much more effective if un-tainted by your EQ and gain changes.

The Rule: 'Monitors are PRE'.

So what will happen is that once you have the input gain established for your channel, you will be able to set the AUX controls for the monitors. Remember, PRE is pre EQ and pre fader - but NOT pre-input gain. Input gain is the first stop for the signal. If you increase/decrease gain, the AUX gain will alter too, be it PRE or POST. Remember the AUX controls have master controls at the master end of the board, best set to centre, or 12 o'clock to start with.

If however you are feeding an effects unit, you can use Pre OR Post auxiliary sends. The Idiot recommends at this time you avoid effects all together, because you are a beginner. The effects rack has the potential to bring you undone. Avoid it.

## GAIN STRUCTURE

It's just the biggest hassle. But if you follow The Idiots guide, it will be OK. The rule is: Every channel is operating just under PEAK. The PEAK LED's only flash occasionally, if at all.

Just a note about EQ here - if you add a heavy dose of EQ, you increase GAIN. The LED will start to flash. The LED is located right down just before your fader in the electrical chain, while the input gain control is right at the start of the chain. Add EQ, add gain. Simple.

The channel fader should be raised to about 3/4 on your test channel, which is preferably the one into which you have a microphone plugged in. At this time your master fader is down, or off. You can now slowly fade UP your master fader/s, to establish where they will sit to produce the right amount of noise.

It is a great idea to check the threshold of feedback on each individual channel before you have a captive audience. This way, you KNOW how far you can go.

Mandy pulled it off. You can too.

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# HOW TO RECORD IT!

**Bob Armstrong tells how to do it, from both sides of the process. Sometimes, the most obvious things are the most often overlooked!**

Just a little background on myself. I've been recording in this industry now for fifteen years! I think that means I'm an old hack. I am fundamentally a singer/songwriter with two albums out with my band The Navigators (please don't hold that against me).

I am currently the Producer/Co-Presenter of the Songwriter Program on 2SER-FM 107.3, in Sydney. Every Saturday at noon I present the show with Helen Kay, we feature all parts of our great industry - not just songwriters but everyone from Producers to Publishers to Engineers to the person who makes the tea for the guy who makes the A & R decisions for those faceless record companies we all like to whine about. The show is sponsored by A.P.R.A, BMG music publishing, and Actors Equity - a diverse but extremely important bunch of people.

I am also a director in one of those faceless record labels, ours being different because we care! Do I sound sincere enough? Ravenswood Records is our label and we distribute through Mushroom. So as you can imagine sound quality and reproduction is very important to me. We are always looking for the very best Engineers and Producers to record our acts. Also on the radio side of things the importance of quality recordings is self-evident. Hopefully over the next few months I can espouse the values and tricks I have learnt in recording by various means both here in Australia and overseas in the USA and Canada.

## HOW TO RELEASE A RECORDING

So you want to release a song you think will go straight to the top of the charts in Iceland!! Whack it straight down to tape and magically it transforms to Vinyl, Cassette and CD?

WRONG it's just not that simple. There are many ways, procedures to follow, rules to break, to get your masterpiece on the racks of your HMV's Brashes and Virgins etc. Increasingly in these harsh economic times the songwriter/musician has had to become a jack of all trades, engineer, producer and tea boy to enable his outpourings to be heard in this competitive market. During the course of these articles we will try to identify the role of some of these beasts, what is expected of the engineer/producer/musician and some of the tricks of the trade which hopefully will get a

few more engineers working in the business.

Because a lot of you people are fairly inexperienced I won't be going into too much techno talk most of which is just used to baffle the poor old musician anyway. Lets get away over the first hurdle and talk about the first stages of recordings then as the months go by we can touch the glorious heights of digital and sampling and and.....!!

But I get ahead of myself, first things first. In our industry there are many ways of recording and no one way is the right way, what's good for one engineer is not necessarily good for the other. Every Engineer and studio is obviously different or all the stuff coming out would sound the same, we wouldn't want that now would we? However saying that, the engineer/producer can achieve a particular type of sound that is known for him/her this can be a help or a hindrance in their careers. Take Stock Aitken and Waterman (please somebody take them) for instance, they can be identified by a type of sound and whether you like it or not they make plenty of the folding stuff, so that is obviously a help for them. However I can't imagine Nirvana or Iggy Pop choosing them as their engineer/producer. So their strength is also a hindrance to them as well. Talking to many well known engineers and producers this is their biggest fear to get lumped into one style of music never to escape! We all like to think we have a broad and varied musical tastes and engineers are normal people too I think. (slightly twisted)

## Lets start at the very beginning, a very good place to start!

(I can't get that Song writing out of my system) Let's see, I suppose the most basic is the cassette deck with the stereo mic. There are some extremely good models on the market Tascam, Teac, Yamaha just to name a few. The trouble with recording like this is with normal decks you only have two channels and no provision for overdubs or bounce down tracks. Of course you can still get reasonable quality recordings from this method. By recording with one stereo mic into two channels you have no individual control of instruments onto tape. This is where strategic baffling and instrument separation becomes very important. Also placement of said stereo



mic is very important, still you will be amazed at what you can achieve with such a simple recording method. Bands who are rehearsing material for future release will record a band rehearsal just to see how the song sits and sounds where they need to improve it and where they need to edit, would be engineers should pester their local bands when they are rehearsing. Good studios always have available tape decks in their p.a. system, go for it- rig up a couple of room mics and experiment! A basic cassette recording will also help the appointed engineer or producer get a feel for the artist and help to iron out any perceived sound difficulties i.e drums that need tuning or the perennial out-of-tune guitarist. (*Who must be told to TURN DOWN! -Ed*)

The next step up the recording rung and one we will spend a little time on is the four track master also made by Tascam, Yamaha, Sony etc. Now in my capacity as Producer for the Songwriter Program I have heard some outstanding 4-track demos, I have also heard some woe'ful ones, unfortunately the later seems to be the more prevalent. I think because an engineer thinks he has more than two tracks to work with that he must cram as many instruments on as possible, if that's your way of thinking well it'll probably end up sounding like a rumble in the bathtub! Really there should be no problem recording 5,6,7 tracks onto a four track recorder you just need a bit of planning.

Firstly write down what you exactly want to record say, Drums, Bass, Guitar, vocals and piano. First of all you should put down a click track (Alesis drum machine, keyboard sequencer or even a Casio if it keeps time well, make it a bit groovy so the drummer can

bounce of it.) Your master tape should be of at least Metal quality and not too long a C60 is sufficient anything longer and the tape quality suffers. You don't need a special four track master, even the garden variety type cassette is 4 track, you normally use two on the A side and two going the other way on the B side. Using a high bias or Metal tape will give you a bit more tops and bottom end.

On we go, lets assume you are recording live drums those beasts of ancient technology and you have put down a groovy click track on channel 4. You may decide to put a mic onto Snare, Hi-hats and kick drum, that's fine just remember to keep channel 4 free (click track) by means of the headset your drummer should be able to groove along with it and put down a first rate drum section. You will have to monitor by watching the VU meters unless you have a headset mixer of your own. Once the drums are down you can fiddle with your three band EQ on the desk, you may be tempted to add a little reverb or echo now but if I were you I would leave that to when everything is down, believe me it's easy to add an effect later on than to take it off. Now you have set your levels you can record channels 1,2,3 onto channel 4 (click track) this is what they call in the trade a bounce down. The click track has become obsolete (that's if the drummer has done his job) Remember! Get the levels right before you bounce down, however if you muck it up (and Murphy's law says you will) don't fret you still

have your original three drum tracks just do it again.

Now you have your drums on channel 4 now it's time for Mr Bassman to strut his stuff on channel 1. Mr Guitarist on channel 2 then yet another bounce down to channel three here again I mention levels, you must get the level between bass and guitar right at this stage, there ain't no turning back, you will still be able to alter levels between channel 3 and 4.

**"Bob- I've got a hit, mate, wait till you hear it!" On it went, and whammo! All we got was crash, thud - we had channels 2 & 4 of a multitrack cassette - on a normal cassette deck! (A Live, On-Air experience!)**

OK Vocals next, it's always good to keep the main vocals on a track to themselves as they are probably the most important, there's nothing worse than a recording with the vocals buried down among the guitar or even worse when they stand out like the proverbial bogs parts anatomy. You have an extra track to put down maybe some backing vocals or a few keys or lead instrument.

There you have it four tracks ready to be mixed down. In this way you have recorded 5,6,7 tracks, a whole band!!

Remember the more bouncing you do the more the noise to tape ratio goes up. Just keep that in mind, you'll notice the difference when you add them all in the melting pot, you'll say to your self, "Self! This track sounded a lot cleaner when we started all this, what's the problem?" And you'll be right. Of course if you are recording an acoustic song no problems either guitars panned left and right vocals centre and lead instrument anywhere you want: it. You'll find that some artists have even

released stuff they did on 4 track Michelle Shocked "Camp Fire Tapes" Billy Bragg and even our own Peter Wells "The Meaning Of Life"

Just a note of caution, when you have all four tracks recorded the thing ain't finished yet. As all of you are aware all playing cassette players in general use are two track recorders so before you can play your hit you have to mix it down once again to two tracks. Quite simple channel 1,2 on left and 3,4 on right. Please don't make the mistake of one poor budding engineer who rang me on the Songwriter Program and Said. "Bob I've got a hit here mate, wait till you hear it" Of course being a magnanimous type of guy I said "sure bring it in" Bring it in he did and we whacked it into the trusty old 2SER-FM Tascam cassette player and whammo all we got was thump-thump, clud-bash bash of the drums and a tweaky old guitar. Well of course he looked at me as if I had turned his masterpiece into a cacophony of noise. We were listening to channels 2 and 4 respectively, he had forgotten to mix his track down from four to two! I think I was more embarrassed than him as I had to explain to the many thousands of listeners what the heck that noise was, he just sat there shattered.

Anyway see you next month when we take the next step in our quest for the perfect recording.

*\*Bob Armstrong and the Navigators album 'Wild is the Way home' is out now on Ravenswood/Mushroom records and is available in all good record stores.*

*Bob can be heard every Saturday at noon on 2SER-FM 107.3 in Sydney.*

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## Niven Garland: Engineer

Niven Garland has taken full advantage of career opportunities. He has come to Australia from London and landed on his feet in a market place in which our local engineers find it difficult to work continuously. Niven blames many things for this situation including "no money, no work". He also finds the "Tall Poppy Syndrome" in Australia distasteful when it comes to both himself and his relationship with a few local engineers and studios.

At sixteen, he started at Lightning Records London, "in an extremely black reggae kind of area. I was like, to be honest, a smart guy compared to the packers and the football supporters type thing. At 17 he gained employment with Townhouse Studios London, commencing "as a tape librarian and then in post production compiling and editing albums on half inch

and U-Matic tape, operating on Sony Digital editing equipment.. Abbey Road had the same system, and I was one of two people in England who could use it. Suddenly there was a serious demand for this sort of work. Digital editing in an

early form like that, everyone was just "wow". But then I realised I didn't only want to be doing that. I was glad to have the grounding but it wasn't for me.

In ten years Niven has come a long way from Lightning Records store rooms and now at 26 years of age, has a number ONE in England with "Welcome". He believes that hard work and the learning curve with INXS has been invaluable. He utilises his contacts with "renowned English and International producers, and luckily travelling with INXS is able to bump into these guys and they say well call me and I say I WILL!".

Niven first visited our shores six years ago and worked for two years at Rhinoceros as an assistant where he made his first contact with INXS, as second assistant on "Kick".

Niven has mostly worked in Sydney while he has been here and: "bad maintenance is one thing I

can't deal with anymore, you can always get over the sound of a studio, get used to and compensate for it but if things aren't working, then why are you paying for it? What makes a studio happen for me is a lot of little things because when you're in a studio for months at a time, having your brand of tea and stuff like that, always helps. EMI-they're really good and helpful, professionals basically. Jim Taig's a nice guy and I think he's got the right idea. Now Rhino's gone, EMI has two choices, they can let it run along and get the work or they can make an effort, and I see Jim's making that effort".

Niven worked with Pearls & Swine at the old Megaphon Studios which he enjoyed but he hasn't worked there since the renovations. Niven continues, "I like the sound of the recording area in

Trackdown," where he worked on the demo for Hep Fidelity which was later recorded in the States. "For Post Production I use EMI. They have a system called "Sonic Solution" which is a Mac based editing hard disc recording

unit. I plan records for that room the system is so versatile".

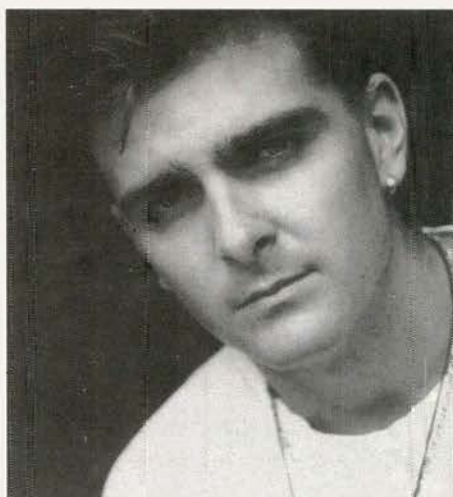
On the local market, apart from three albums with INXS, Niven tells me "I have fitted in two and a half albums with other artists. I've just finished Richard Clapton's "Distant Thunder" and I did a record with Mark Opitz and 1927".

Niven prefers to work on a project from conception and the writing stages, in relation to INXS, (he very often finds himself with Andrew Farriss and Michael Hutchence during a writing session or making plans over dinner) through to the end product, working with the musicians, producer Mark Opitz and even bringing in another mix engineer, for example Bob Clearmountain, for a special sound on a particular track.

Having just completed the latest INXS album, "the tape has just been put on the plane with the band" he is still feeling "that my feet aren't



## Bam Bam heads for the USA



Producer/Mixer Brendan Morley is about to head back to the USA, to work on various projects including Movie Scores/Soundtracks with Hans Zimmer. The facilities he will operate in will be Studio 56 and Ocean Way Studios, which are part of the Hans Zimmer Group. At the age of 25 years it is a credit to his abilities to be one of Australia's most highly respected Producer/Mixers, even though, (and I'm not sure why), he is affectionately known throughout the Australian recording industry as "Bam Bam".

Brendan started his career at Rhinoceros Studios in Sydney, in 1988, after completing a four year Diploma in Music Technology at the Queensland Conservatorium. This course involved both technical and musicianship training and the fact that only eight students are accepted annually, was obviously the first recognition of his talent.

At Rhino, Brendan worked as assistant engineer, with such acts as INXS, Midnight Oil, Ross Wilson and Mondo Rock and Ian Moss among others. His attitude and talent lead him to become In-House engineer within his first year, to go

on to work with Hans Zimmer on the "Green Card" film soundtrack and do his first production/programming job for INXS "By My Side" (12").

With these credentials in hand, Brendan set off to the US, and now has representation with Lippman Entertainment LA, returning to Australia in 1992, where he freelances under the banner of

Under New Management. Since his return he has worked on various projects with artists including Yothu Yindi, Radio Freedom and Vincent Stone.

Brendan likes to experiment with recording techniques and it is nothing to walk into one of his sessions and see suspended swinging microphones or guitar amps miked through fans. This youthful and fresh approach to music production has seen him work with and develop a number of local Sydney bands including, Central.

His favourite studios to work in, while on our shores, are Festival Studios-Sydney, because he "likes the drum sound and he loves the Neve desks". Megaphon Sound Recording Studios-Sydney as he feels it is a "really viby studio with a real grungy rock and roll atmosphere" and "M" at 301-Sydney for mixing because, "if it sounds good in M", Brendan states, "it will sound good on radio".

The future looks bright for Brendan and Connections wishes him all the best. We'll keep our eyes and ears open.

quite on the ground, I really like to be here in summer and I wish it was summer now so I could just take four months off" and Niven is not sure whether he is going to stay in Australia permanently or not. He also misses the mateship he had with his colleagues in England, something he feels is not available in Australia due to various rea-

sons including a lack of work and the "Tall Poppy Syndrome".

### NIVEN'S DO'S:

Get the song happening. Experiment. Get the right mic and placement. Keep guidetracks.

### NIVEN'S DON'TS:

Don't be half arsed, you have to work hard. Don't ever erase anything.

## National Studio Roundup

WHO & WHERE  
By Caroline Grafton

**Gotham Audio**, Warranwood Victoria, would like to announce the appointment of Tom Kehoe as General Manager. Tom has been having a well earned rest the last few months after spending 6 years as Music Production Manager at Metropolis Audio. Metropolis have been carrying out the maintenance and technical staffing of Gotham for the past 2 years- an arrangement which shall continue in the future. Gotham is a project, state-of-the-art facility, set on 5 acres of bushland with a swimming pool and 5 bedroom accommodation. In recent months Gotham has added a Sony PCM 3348 digital multi-track recorder to its already impressive equipment list including an SSL G Series console. *Contact Tom on (03) 879-9400.*

**Airmotion Studio**, St Peters NSW, is a new studio designed and now operating under the careful guidance of the Megaphon Management. Airmotion facilities include 24 track recording, 3 separate recording rooms, a range of Midi equipment including sequencers-samplers-synths-sound modules and full synchronisation to picture (U-Matic), DAT & 1/4". *Contact Kristen Wolek on (02) 550-3863.*

**Caama Music**, Alice Springs NT, are in the process of building an additional studio which will incorporate Television Production facilities. This new studio will enable Caama to broaden its client base as well as filling a gap in the Northern Territory recording production market. *Contact Stanley Satour on (089) 52-3744.*

**All Music Manufacturing**, St Peters NSW, have upgraded to the latest micro sound work station with 486 50MHz processing; SMPTE Chase/Lock; Version 2.1 Software; Plus Sony 7000 Series DAT with time code, memory start etc. All Music are a mastering and manufacturing facility. *Call Geoff Sturre on (02) 516-3249*

ARTIST	PRODUCER	ENGINEER/S	NOTES
<b>New South Wales</b>			
Ⓜ <b>Airmotion Studio</b> John Danials	Contact <b>Kristen Wolek</b> J.Danials/G.Dickerson	(02) 550-3863 Guy Dickerson	24 Track Album
Ⓜ <b>Albert Studios</b> Maybe Dolls Sinister Grin Moonshine Jug & String Band "Jim Beam" Jingle "Weetbix" Jingle	Contact <b>Bruce or Laesa</b> Pete Lorimar Sinister Grin/S.Sheridan John Brewster Bros/S.Sheridan Pat Aucton/Terry Hannagan Pat Aucton/Terry Hanagan	(02) 953-2544 Simon Sheridan Simon Sheridan Simon Sheridan N/A N/A	24,48 Track Single Demos Album Jingle Jingle
Ⓜ <b>All Music Manufacturing</b> Matt Perry Tan Midnight Oil Bruce Samazan Mindless	Contact <b>Geoff Sturre</b> Jeff Cripps GeorgeOoi/SamMelamec Nick Launay Westside Dave Thornley	(02) 557-1169 Paul Bryant/Geoff Sturre Geoff Sturre Paul Bryant Paul Bryant Paul Bryant	<b>Mastering</b> Dig.Remix Dig.Comp 12"Vinyl 12"Vinyl 7"Vinyl
Ⓜ <b>Bush Traks Recording Studio</b> Eye to Eye Gary Dennis Sean Lowry D.Highet/Ruth Miller/T.Tonkin Great Divide	Contact <b>Ruth Miller</b> Eye to Eye/D.Highet G.Dennis/D.Highet Sean Lowry Highet/Miller/Tonkin G.Dutton/H.Vann	(066) 89-1290 Dave Highet Dave Highet Dave Highet Dave Highet Dave Highet	24 Track Album Mix Demo Vocal Trks. 2 Jingles Album
Ⓜ <b>Charing Cross Studios</b> Wolfgang Electric Hippies Choirboys Glide	Contact <b>Gordon Hervey</b> Dorian West Electric Hippies Choirboys Paul Mc Kercher	(02) 387-8362 Gordon Hervey Martin White/Julian Slade Gordon Hervey Paul Mc Kercher/Julian Slade	16,24 Track Single Album Mix Demos Overdubs
Ⓜ <b>Damien Gerard Studios</b> Bush Dokta Jon Stevens Juice Blue Ruin	Contact <b>Elia Bell</b> Bush Dokta Jon Stevens/Stuart Frase Juice Marshall Cullen	(02) 660-8776 Russell Pilling Russell Pilling Mike Wood Marshall Cullen	16/32 Track EP Album Pre-Production Album
Ⓜ <b>Eastern Acoustic Recording Studios</b> Avidson Price Dave Carter The Curvettes Ian James Crawford Young Guns Housequake The Witchdoctors	Contact <b>David Best</b> D.Carter/D.Best/S.Pickett Dave Carter/Steven Pickett Steven Pickett/Brian Daly I J Crawford/David Best David Best/Brian Daly Housequake/D.Best/S.Pickett Steven Pickett/Brian Daly	(049) 62-1855 David Best David Best David Best David Best David Best David Best David Best	16 Track Single/EP Single/EP Single/EP Single/EP Single/EP Single/EP Single/EP
Ⓜ <b>Enrec Studios</b> Slim Newton Errol Gray Idols Kurri Festival Linda Newton&Clayton Crosbie Craz & Hungerford	Contact <b>Ed Matzenik</b> N/A N/A N/A N/A N/A N/A	(049) 36-1376 Steve Newton Steve Newton Steve Newton Steve Newton Steve Newton Steve Newton	32 Track Album Album Album Jingle Album Album
Ⓜ <b>The Giant Production House</b> Matt Finish Craig Smith Karaoke	Contact <b>Paul Dawkins</b> Peter Dawkins Paul Dawkins Paul&Peter Dawkins	(02) 555-8999 Paul Grant/Greg Henderson N/A N/A	36 Track Digital Album Mix Prog./Midi-Suite 2 Albums
Ⓜ <b>Hullabaloo Music</b> The Damnation Maui Band 2nd Nature Black Label Heaton/McGarvey Bill Younger SwarzkopfAwards	Contact <b>Glenn Heaton</b> Damnation Maui Band 2nd Nature Black Label Heaton/McGarvey Bill Younger Kirby Prods.	(02) 684-2039 Dave Cowling Glenn Heaton Glenn Heaton Glenn Heaton Glenn Heaton Dave Cowling Glenn Heaton	24 Track Demo Demo for USA Demo CD Traks. Corp.Song Demo AwardsCeremony
Ⓜ <b>Main Street Studios</b> Shanghai Mark Matthews Settlers Match James Junes Shot to Pieces	Contact <b>Rob Specogna</b> Shanghai Mark Mathews  James Junes Shot to Pieces/Rob Specogna	(042) 83-4515 Rob Specogna Rob Specogna  Rob Specogna Rob Specogna	16 Track Demo Live Album Album EP Album
Ⓜ <b>Megaphon Sound Recording Studio</b>	Contact <b>Guy Dickerson</b>	(02) 516 3917	24 Track

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# EX-TRACK

(...continued)

**Greg Henderson** and Melea Atkinson have given birth to a baby girl. Yet to be named, the new female in Greg's life was born at 2.00 pm on Wednesday, 19th May 1993. Congratulations from Caroline and everyone at Connections.

**Charing Cross**, Bronte NSW, have purchased and installed a pair of KRIX Studio Monitors, made in Adelaide, as an additional near-field monitor to the essential NS10's, with high power capacity. Gordon believes "the KRIX dispersion creates a modern clean stereo image similar to imported speakers and the low end responds down to 30Hz". Contact Gordon Hervey on (02) 387-8362.

**Under New Management**, Cremorne NSW, the team of producers and engineers has, as usual, been busy. **Tom Colley**, has recently completed work mixing the music

## NATIONAL TRACKING GUIDE

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ARTIST	PRODUCER	ENGINEER/S	NOTES
Box The Jesuit	David Price	David Price/John Vittorio	Album
Falling Joys	Paul McKercher	Paul McKercher	Album Mix
Jackson Code	Guy Dickerson	Guy Dickerson/Jason Blackwell	Album
Ⓢ <b>Rich Music Studios</b>	<b>Contact Elise Huntley</b>	<b>(02) 264-7734</b>	<b>24,32 Track</b>
Innuendo	Alex Svencis	Craig Portells/Peter Lees	Album
Alan Barnes	N/A	Greg Henderson/Jason Blackwell	Mixing
Tiny Tim	Martin Sharpe	Tom Kazas/Phil Monroe	Remix
Underground Lovers	Underground Lovers	Wayne Connolly/Jason Blackwell	Mixing
La Maid	Lindsay Jehan	Scott Christie	Mixing
The Choice	N/A	Matt Thomas/Fraser Stuart	Mixing
Helen Carter	N/A	Daniel Denholm/Fraser Stuart	Mixing
Living Daylights	Robie Porter	Guy Grey/Fraser Stuart	Rec.
Girlfriend	Pete Lonamay	Anthony Copping/Fraser Stuart	Single Mix
Bellissima	Daniel Denholm	D.Denholm/Fraser Stuart	Single Mix
Ⓢ <b>SAE Studios</b>	<b>Contact Tom Misner</b>	<b>(02) 211-3711</b>	<b>24 Track</b>
Willie&The Drought Breakers	Willie/O.Gaona	Oscar Gaona	CD Single
Pelican Jed	Jason de Wilde	Anthony Novak	EP
Paula Terry	Paula Terry	Jason de Wilde	Demo
Zac Scales	Zac Scales	Jason de Wilde	Demo
Ⓢ <b>Skyhigh Recording Studios</b>	<b>Contact Rob Taylor</b>	<b>(049) 50-1574</b>	<b>8,16,24 Track</b>
The Wash	Rob Taylor	Rob Taylor/Chris Greenhalg	EP
The Gadflies	The Gadflies	David Henderson	EP Mix
The Olive Branch	Olive Branch	Mark Roberts	EP Mix
12"Dance Mix-EM!	Sean Lowry	Rob Taylor	Re-Mix
Bugbears	Bugbears/Rob Taylor	Rob Taylor	EP
Arvidson-Price	Dave Carter	Dave Carter/Rob Taylor	Single

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**EX-TRACK**  
(...continued)

ARTIST	PRODUCER	ENGINEER/S	NOTES
Ⓢ <b>The Vault Cremorne</b> Anne Kirkpatrick Jackson Code Candy Harlots Ross Wilson/Rick Brewster Mark Moffatt	Contact Gina Karpman Mark Moffatt N/A Mark Moffatt N/A Mark Moffatt	(02)953-0332 Greg Henderson Tom Colley Greg Henderson Mark Moffatt Mark Moffatt	48 Track Album Mixing Singles Demos Own Project
Ⓢ <b>Tracking Station Studios</b> Pat Drummond Various Runaway Babe Candy Harlots Don Spencer	Contact Martin Cass Martin Cass Martin Reeve Ray Vanderby Mark Moffatt Anne Dennehy	(02) 281-8899 Steve Pomfrett Steve Pomfrett Steve Pomfrett Greg Henderson/Anthony McKenzie Anthony McKenzie	24 Track Album CDCorp. Album EP Album
Ⓢ <b>Trafalgar Recording Studios</b> Elegant Mane Craze	Contact Donna Fisher Elegant Mane C.Fisher	(02) 660 0385 Robin Gist C.Fisher	24 Track Demos Single
Ⓢ <b>Troy Horse Studios</b> S & M Groove Picture House Kaktus Mantras Lunarcide Harding Richards-Club Superstar	Contact Katie Blackman S & M Groove Dan Liverpool Bambi Tim Whitten Robert Goulet	(02) 557-3129 Colin Wright Colin Wright John Rafferty Bruce Waite Micky J Lewis	24 Track Album EP Album EP Double Album
<b>Northern Territory</b>			
Ⓢ <b>Caama Music</b> Blek Bela Mujik Monica Christian	Contact Stanley Satour Allan Murphy N/A	(089) 523744 Mark Manolis Stanley Satour	24 Track CDEP Album
<b>Queensland</b>			
Ⓢ <b>Grevillea Recording Studios</b> Jeff Usher Jazz Unit James Black Betty Beath Vox	Contact Malcolm Jacobson Jeff Usher James Black Betty Beath John Webber	(07) 262-8422 Bruce Jackson Malcolm Jacobson Rodney Jacobsen Malcolm Jacobson	24 Track Location recording Demos CD Rec.St.Marys Cath.
<b>Victoria</b>			
Ⓢ <b>Allan Eaton Studio Pty Ltd</b> Anthony Warlow Reckless Kelly	Contact Robin Gray A.Warlow YahooSerious	(03) 534-0752 Robin Gray Robin Gray	48 Track Album S'track
Ⓢ <b>Gotham Audio</b> John Farnham Lex & Rory Score	Contact Tom Kehoe Ross Fraser Frank Strangio	(03) 879-9400 Doug Brady/Spiro Doug Brady/Spiro	24,48 Track Album Film S'track
Ⓢ <b>Metropolis Audio</b> Have A Nice Day Juno Roxus Tiddas Stiff Kittens GMH "VR Commodore" Bobby Brown Bobby Brown	Contact Kerri Minchin Mark Deamley Craig Hameth/Ross Cockle Tony Cohen Stiff Kittens TPG/Keith Moore MCM MCM	(03) 696-2111 Mark Deamley Ross Cockle Tony Cohen Nigel Derricks Scott Heming/Rodney Lowe Doug Brady/Mat Thomas Doug Brady	48 Track Album SingleMix Album EP Launch Tennis Cert. Rec. Post Production
Ⓢ <b>Platinum Studios</b> Crowded House Slaves of Cool Hunters & Collectors Boys in Black Bass Culture Southern Sons Kate Ceberano Boom Crash Opera	Contact Gary Moorhead Crowded House Slaves of Cool Tony Cohen Matthew C' Connor N/A N/A Kate Ceberano Boom Crash Opera	(03) 827-7483 Bob Clearmountain/Chris Corr Chris corr Mike Letho Craig Portiel Mark Forrester Mike Letho Mark Forrester Rick Will/Kalju Tonuma	48 Track Album Mix Album Single EP Mix Single Re-Mix Singles Re-Mix Demos Single
Ⓢ <b>SBS Audio</b> Weddings Parties Anything Lewis & Young	Contact Richard Micallef N/A N/A	(03) 685-2525 N/A N/A	24 Track Comp.Album Album
Ⓢ <b>Sing Sing Studios</b> Chocolate Starfish Jeff(The R&B Man) Guryel Kathy Johnston	Contact Mark Wood N/A N/A N/A N/A	(03) 428-4622 Kaj Dahlstrom Kaj Dahlstrom Phil Butson Andy	24,48 Track Single Album Album Album

for the film "Black River". Tom has also been completing pre-production with "The Wolf Club" and as we go to press he is doing the final mix on the debut EP from "Exploding Daisies" which he produced and engineered.

According to Tom this EP has strong melodies and vocals. The end of May will see Tom engineering with "The Poor Boys" plus he will be mixing for "Jackson Code".

**Angelique Cooper**, having completed the innovative remixing of "Neil Murray", is currently co-producing a B-side for Midnight Oil. Angelique is about to commence production on two new projects, the first being a couple of tracks featuring "Paul Kelly and Christine Anu", and then the new "Tracey Arbon" CD.

**Brent Clark**, returned from the UK in the last week of May.

**Greg Henderson**, Engineer of the year, according to both ARIA and reader votes in the Australasian Music Industry Directory (see last issue of Connections), has nearly completed the "Anne Kirkpatrick" mixes and is working with "Matt Finish". The end of May saw Hendo working with the "Candy Harlots" and experiencing the joys of fatherhood.

**Ted Howard**, having made it back from India and went straight into the studio to work with "TC Cassidy", and is currently mixing with Buzz Bidstrup on some great new songs for "Gangajang". Shortly after this Ted will be engineering for "Lee Kernaghan's" new album.

**Chong Lim**, is touring around Australia working with the play "Bran Nu Dae", Chong returns to Melbourne mid-late June and will feature on "Debbie Byrnes" new album.

**Mark Moffat**, completes producing "Anne Kirkpatrick". He is about to commence an exciting project- "Candy Harlots".

**Brendan Morley**, has been engineering "Jimmy Barnes and Nathan Cavileri" and is currently working with "Tin Lids". Brendan has had to put his trip to the US back to complete a number of projects here- including "Radio Freedom". Recently Brendan also completed some remixing for "Vincent Stone".

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**Mark Ovenden**, has been and still is producing underscores for the new TV drama "Paradise Beach", which will air worldwide. In the future we should see Mark's production and programming skills feature on an album soon to be recorded by one of Australia's grooviest.

**Garth Porter**, has been writing an incredible number of songs, producing "TC Cassidy" and is now in pre-production for the new "Lee Kernaghan" album, which he will produce throughout June.

**Eddie Rayner**, having competed the "Split Enz" reformation tour of NZ, has just finished producing a CD by "Margot Smith" and will be working with "Tracey Yarad" over the next month or so.

**Kevin 'Caveman' Shirley**, is now staying on in Canada to do the final mixes of the "Rush" album, which he produced. After this we hope to see him back here for some local work. *For all enquires contact Gina Karpman on (02) 953-0332.*

**Studio 52**, Collingwood Victoria, those prolific producers of Nu-Music Sampler CD's, have finally launched Series 6. The launch functions which were held on 27th, 28th & 29th of May at various venues and Paul Higgins of 52 was impressed with the response and attendance. In the meantime, Paul tells me, we can all really look forward to the release of Metal Comp. CD "While My Guitar Gently Kills Your Mother" (sounds like a real fun album huh!). The release will be held on the 5th of June, in The Vault (Nos. 7, 8 & 9 Banana Alley) Melbourne, at an all age/ no alcohol/12 band line up gig (gee I'm glad I'm not doing stage). Entry fee will only be \$10.00 including a free CD. *Call Paul Higgins on (03) 417-7707.*

**Main Street Studios**, Corrimall NSW, are upgrading yet again with the installation of a digital editor as an extra service for their South Coast and visiting clientele. The system will be an Apple-Mac running Audio Media 2 in conjunction with Q Base. *Call Rob or Murray on (042) 83-4515.*

**The Giant Production House**, Balmain NSW, have expanded their Midi-Suite setup with the

## NATIONAL TRACKING GUIDE

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ARTIST	PRODUCER	ENGINEER/S	NOTES
Rondor Music	N/A	Trevor Reading	Demos
Ⓢ Studio 52	Contact Paul Higgins	(03) 417 7707	16, 24 Track
Jack Slam	Jack Slam/T.Carter	Trevor Carter	IndeEP
Julia Mayne	N/A	Trevor Carter	Demos
Mike Moloney	N/A	Trevor Carter	Demos
Carson Taylor	Barry Hills	Trevor Carter	RealAust.BluesVol
Rattlesnake	N/A	Paul Higgins	Demo
Darryl Edwards	D.Edwards	Trevor Carter- String Ensemble	20thCentury Music
Ⓢ Studio RBX	Contact Ross Burton	(03) 429-6199	16,24,32 Track
Andrew Stenford	Andrew Stenford	Mark McDougall	Album
Georgietta	Robert Severini	Mark McDougall	Album
Xanana	Louise Crow	Mark McDougall	Docc.PostProd.
Euphoria	Ean Sugarman	Tony Espie	Single
Max Walker	Martin Pullan	Martin Pullan	Talking Book
John Justin	John Justin	John Justin	Demos
Ross Burton	Ross Burton	Mark McDougall	Jingles
Chris Copping	Chris Copping	Mark McDougall	Jingles
<b>Western Australia</b>			
Ⓢ Planet Sound Studios	Contact John Villani	(09) 382-2211	24,32,48 Track
Allegiance	Allegiance/John Villani	Album Mix	
Mariko	Osamu Hosogai	John Villani/Les Williams	Album Mix
Ned Davies	Ned Davies/John Villani	CD Album	
Ⓢ Lost the Plot	Contact Kira Mead	(098) 41-8192	16 Track
Murphy's Lore	Warren Mead	Warren Mead	Single
Les Ralston	Warren Mead	Warren Mead	Single

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inclusion of a new Akai S-2800 Sampler, a microwave module and a 24 channel submixer for demos etc. Other keyboards include Wavestation and Roland D-50. *Call Paul Dawkins on (02) 555-8999.*

**Allan Eaton Studio Pty Ltd**, St. Kilda Victoria, Robin Gray, tells me that contrary to industry gossip his recent sessions with Anthony Warlow were "better than ever". Warlow is in fine voice and with Tommy Tycho as M.D. the album proved to be a "very exciting project". Robin also had a Yahoo Serious experience recording the Reckless Kelly film soundtrack. Robin found Yahoo to be a demanding producer, extremely involved in every aspect of the film from directing the cast to fine tuning every note of music. According to Robin, Yahoo was a "fabulous" person to work with. *Contact Robin on (03) 534-0752.*

**Enrec Studios**, Kurri Kurri NSW, have had their first Country Music release since their relocation last August, from Tamworth. Norm O'Hara Murphy's "Winds of Change" has been released on Festival. Ed and Steve also believe

that John Shelleys Idols CD Mix is the first chance they have had to show off the local Newcastle talent combined with Enrec quality. *Call Steve Newton or Ed Matzenik on (049) 36-1376.*

**Lost The Plot Studio**, Albany WA, have released on their own label, the "Kevin Gomm" album. Co-owners Kira and Warren Mead are pleased with the album results and hope this will put them in the running for more WA talent in both recording, producing and album releases. *Contact Kira on (098) 41-8192.*

**Paul Rich Studios**, Sydney NSW, have appointed Cathy Delandro as their new Studio Manager. Cathy has worked previously for Rhino, Paradise and Sony Records and after seven years of negotiation has finally accepted the position from the persistent Paul Rich. Paul who wishes to spend more time in the Rich Studio School will officially hand over control of the two studio facility to Cathy on 7th of June and we at Connections wish her all the best. *Contact Cathy or Elise on (02) 267-7651.*

**Damien Gerard Sound Studios**, Ultimo NSW, were the hosts to the

"Once Upon A Time" EP launch early in May. Once Upon A Time are on the Foghorn Label which is owned by Elia Bell and Marshall Cullen who are also the co-owners of DG's. The multi-talented Elia fronts Once Upon A Time as lead vocalist and also wrote/co-wrote all the material. Seeing the spangled Elia on stage was quite an event, as most people are used to seeing her in jeans and sweatshirts around the studio. *Contact Mandy on (02) 660-8776.*

**We don't publish in JULY (or January).  
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Everyone ... engineers, producers, studio users, owners of project studios through to international digital facilities ....

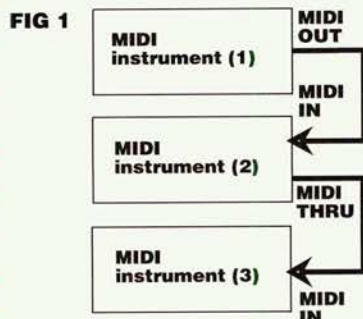
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## What is MIDI & how does it work?

### part two

MIDI THRU is similar to MIDI OUT, in that it does "speak" to the next instrument, however, it doesn't provide its own conversation, it merely "repeats" anything that is heard by the MIDI IN. For example, FIG 1, shows the flow of information through a possible set-up of three keyboards.



In this set-up, MIDI information is fed out of the MIDI OUT of keyboard number 1, and into the IN of keyboard number 2. It is also passed on to the IN of keyboard number 3, via the THRU of keyboard number 2. In this way, the information from keyboard number 1 can control both keyboards 2 and 3.

Such a combination of more than 2 instruments is referred to as a "MIDI system". Of course, without the MIDI THRU this set-up could not become a MIDI system, and therefore it is easy to understand the use of MIDI THRU in expanding a MIDI system.

#### (4) One-Way MIDI Conversation

MIDI information is sent from MIDI OUT to MIDI IN, or from MIDI THRU to MIDI IN. The information is always sent "one-way", so that the "Speaker" and the "listener" in a MIDI conversation remain the same, always! For example, a MIDI "keyboard controller" which has no sound of its own, or a MIDI "sound module" which has no keyboard, and so on, have fixed roles. They are either the "master", or the "slave". In this situation, the "speaker" is called the master, and the "listener" is the slave. FIG 2a shows the information from an electronic piano being sent to a synthesizer. In this case the piano is the master, and the synth is the slave.

However, in FIG 2b, the information is being sent from the synth to the piano, and so the roles are reversed. The synth is now the master, while the piano is the slave. Consequently, the connections are very important.

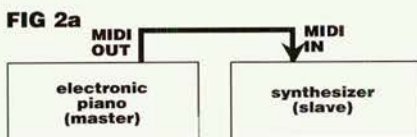
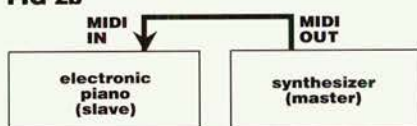


FIG 2a perform on this instrument



Furthermore, the master/slave relationship is not always one to one, as in the previous 2 diagrams. The number of slaves can be increased, 1:2 or 1:3, etc., as we saw in FIG 1 previously, where instrument 1 was the master, and was controlling 2 slaves, instruments 2 and 3.

As a result, even in very large MIDI systems, if you check that the flow of information is all one-way, and all correct, and the relationship between master and slaves is very clear, then the connections will pose no problems.

#### (5) Closer is Better

From the previous discussion, it would seem that we could construct a chain of instruments, one after the other, via a large series of MIDI THRU connections. However, in reality, a MIDI conversation involves some complicated "dialogue", and too many MIDI THRU connections can disrupt the conversation, making it progressively less easy to "understand". Consequently, the 4th or 5th instrument in a chain may receive incorrect data.

To avoid this situation, place the master and slave instruments as close together as possible. This does not mean the actual physical placement, but rather the number of MIDI connections between them. To simplify this procedure, a MIDI THRU Box, or OUTPUT Selector should be used.

MIDI THRU Boxes send MIDI information from the master to the slaves at the same time, so that each slave receives the information first hand (correctly). There are many kinds of MIDI devices, but remember, although perhaps the simplest, the THRU Box is the most necessary.

*(continues next issue)*

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Until now the nearest you've come to immediate track access is a conventional CD, burnt on something like a Yamaha MPDR - the drawback being the cost of 'burning' (recording) and the blank disc, at about \$60. MiniDisc is almost up to CD quality - certainly adequate for live work. In the USA right now, an MZ-1 recorder/player retails for about US\$750, with a 74 minute blank disc around US\$15. Extended into the Australian market, expect to pay \$1500 and \$25 respectively - less On The Street. Sony have not released local prices to date, but say the product will be with us in September.

Technically MiniDisc is pretty clever, a buffer stores up to 10 seconds of advance data (music) in memory, so if the thing is upset or hit by a drunken buffoon at a gig, it'll continue unflustered. It's developed as a Walkman concept, so tough travelling is a bonus! The device processes less data than conventional CD, and uses a 'psycho acoustic' circuit to fiddle the output to suit your ears. The response is said to be dead flat, 5Hz-20Hz. We can't wait to review one!

## AIMS '93 is near!

The Australian International Music Show blasts off between September 9-12, at Sydney's Darling Harbour. Plenty of new products, hot clinics and side events to make things interesting. Details can be had from the organisers, the Victorian Rock Foundation, phone (03) 696-2022.

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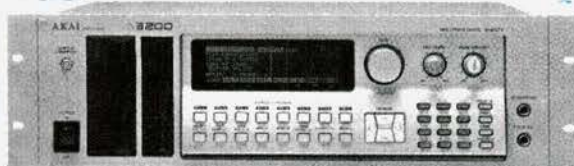


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32-voice • 16-bit A/D, 64 times oversampling • 18-bit D/A, 8 times oversampling • 2MB RAM, expandable to 16MB • DSP (chorus/flange, delay, pitch-shifting) • Internal mixer with variable efx send • multi-outs • resonant filter • APM • 5 CD-ROM DISKS included from East-West Invasion, Hollywood Edge and AKAI

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S01

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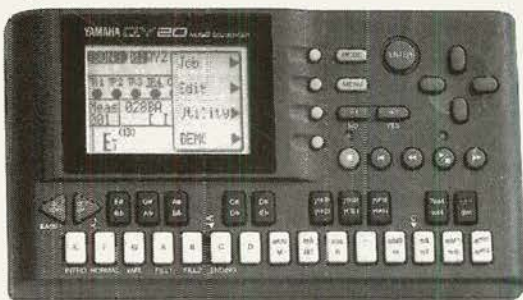
CIRCLE 117 ON READER SERVICE CARD

## PRODUCTS

### Yamaha's QY-20 Sequencer is C-Ute - at \$995

Yamaha have extended your music production options with the pocketable QY-20 music sequencer. All you need is a pair of headphones - then away you go. Naturally this device has MIDI input/output and of course a line out. In this way you can use it for a variety of meaningful purposes, even as a drum machine.

With tone generator, sequencer, and auto-accompaniment, QY-20 has 3 main function modes. 100 voices and 3 drum kits, an 8 part score recording/editing function, and reasonably easy control make this useful for pro or neophyte alike! (Look that one up!)



\*Comes with AWM tone generator, 28 note Polyphony, 16 multi-timbre parts, 100 preset voices and 100 drum voices.

Details- Yamaha 03 699-2388.

### Fostex 12 ch mixer/recorder



FOSTEX have the MC 102 Keyboard mixer - an innovative rack mount mixer with 12 inputs and a cassette recorder on board. The device occupies three rack units of space, and has 2 auxiliary sends.

More details from Syntec (02) 417-4700

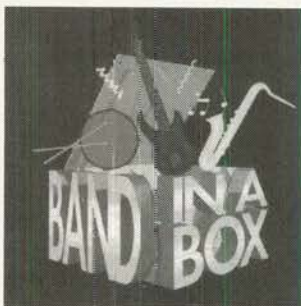
### SC-7 has 128 sounds, 6 drum sets- \$648



SC-7 will hang off your PC, Atari or your MAC, and give you a big boxfull of sounds - from a little device. 128, to be precise. Use for music, games, multimedia - or fun!

Details: Roland (02) 982-8266

For those of you who are shy with computers, (and come-on, admit it, many people are) join us and be wary. We looked with suspicion at the software pack from Roland, and the Sound Card our PC needed to generate the noises. Surprise - fitting a sound card is not beyond you, or indeed us here. With Band-In-A-Box installed, you can make music. It is best perhaps for young punters who can teach themselves chords and musical structure without any delay. At less than \$150 this is very keen software - and said to be useful for composers too!



## info freako

with Danny Dun

### Zen and the Art of Digital Audio

I picked up this great quote from a book the other day:

"Music and its emotion does not exist in chips but can be found only in the expression and creativity of the human mind."

Unfortunately in this sick world there are still those who DO NOT believe that electronic music is, in fact, "music". The mere mention of the word MIDI or DAT in a "conventional" music situation can trigger a rush of abuse. I believe these attitudes are generated by an ignorance of the processes involved in modern music creation. In an attempt to rectify this problem I thought I'd attack one of the most maligned and misunderstood areas of modern music, Digital Audio. This is the first in a series with topics to be covered including sampling, SCSI, and digital recording/editing, but first here is a short glossary of the terms commonly used in the world of digital audio.

### Analogue vs Digital:

Analogue electronics uses continuously varying voltages to represent an audio signal, for example: a level of 0 dBm might be represented as 0.775V. Digital circuits only use off's and on's to represent their information (your sounds!). These off's and on's can be considered as 0's and 1's respectively - and represent a binary number which describes the information (read audio level) at a particular point in time. eg 0100001101110111 could equal the above example. Digital systems can be found in many applications from your top of the range digital audio editing systems to the humble CD player and beyond.

### Crossfading:

Crossfading is a term used to describe a technique where the relative

(cont. over)

**You'll think you're playing an acoustic set.  
Your neighbors will think you died.**



**TD-7 PERCUSSION  
SOUND MODULE.  
512 16-BIT SOUNDS.  
32 KITS. BUILT-IN  
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TWO TRIGGERS.  
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**MDS-7 COMPACT  
DRUM STAND.  
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ANY WAY YOU  
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*For more info contact: Roland Corp. Aust. (02) 982 8266*

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## PRODUCTS & NEWS

○ **ENSONIQ** debut the TS10 Performance/Composition Synthesizer - the new flagship for the firm. The 32 note polyphonic TS-10 offers 6 megabytes of 16-bit waveform memory for a total of 254 different waveforms. It has 61 keys.

Features include HyperWave Mode, where users select up to 16 waveforms and crossfade, 2mb of sample RAM (expandable to 8mb), 73 effects, 24 track sequencer and more Ensoniq type trickery.

Available as this issue hits the street, the TS-10 sells for \$4,595 from Electric Factory dealerships. Call (03) 480-5988 for details.

○ **SOUNDWAV CDROM** has over 600MB of WAV (MS Windows) files, all original works, digitally recorded in a live recording studio. Rod Fewster from the attractively named South Pacific Radio says you wouldn't compose a top ten hit with it, but computer music jock musos in the USA make good money doing multimedia work with things like this. \$79.50 from Rod: (07) 204-5000.

○ **ROLAND** announce the SD-35 portable sequencer with built in sound source - comparable to the SC-55 and an SMF player in a single package. To play SMF song data, you just plug this device into an amp and whack in a song data disk - without any MIDI connection! Naturally, it conforms to MIDI and the Roland GS format, so you can do all the usual tricks with it. The audio input accepts mic or guitar, and it is allegedly 'Easy To Use'. (That's E.T.U. to you!) Call Roland: (02) 982-8266.

○ **.... AND ROLAND** also announce the Super JD Synthesizer Module, based on the JD-800. The new JD 990 is Rolands top-of-the-line module.

Compatible with all the sound libraries available for the JD and JV synthesizers, the 990 will process immense waves, the Roland-ers say. These include Oscillator Sync and Ring Modulation, TVF and TVA (with performance comparable to S-Series), and powerful multi-effects. Roland say these advantages make the JD-990's sound creation possibilities unbeatable by conventional synths that process PCM waves. Wave memory is 6mb for as many as 195 high resolution waves at 44.1kHz sampling. The JD-800 for example, has 3mb of memory.

The target users are those of you with K001, and Yamaha SY Series devices, all JD-800 and JV-80 users wanting a sound module with compatibility.

○ **MUSICIANS PLACEMENT** service in Sydney has moved to 24 Greystoke Street, Wheeler Heights NSW 2097. The new phone number is 02 971-4963. They say they DON'T manage bands - can't imagine why not - and they DO place muso's and arrange musical equipment insurance.

○ **M-ROCK** is the new name for Yamaha's band competition, the largest in the land. Hassle your Yamaha dealer NOW for an entry form for a heat in your state. If nothing else you'll get some large stage experience, and told to 'turn DOWN' by a professional!

## info freako

(cont. from prev. page)

levels of two signals played at the same time are changed due to some factor. Usually one sound is faded out whilst the complementary sound is faded in. eg Velocity Crossfading is used to describe the change in relative level of two samples on the same key responding to velocity messages. Eg: if you hit a key on a velocity sensitive keyboard one sample will play, hit it softly the other will play and if you apply velocity somewhere in between you will get a mixture of both the sounds. Positional Crossfading refers to the relative balance of two samples played on different parts of the keyboard with the position of the key determining the level of crossfade.

### Envelope:

This is simply the shape of the sound. A description of how the sound changes in level (volume). Usually envelopes allow the setting of attack (how long it takes to get to its maximum level), sustain (the level at which the sound is to be maintained), decay (how long it takes to get to the sustain level), release (how long it takes to die away to zero level after the key has been released).

### Filter:

A device that removes something from something else! In digital audio filters are either used to remove unwanted messages such as MIDI program change from a MIDI signal or to change the harmonic or overtone content of the sound. Using filters you can change the characteristic of the sound totally.

### Harmonics:

These are extra frequencies or overtones that exist in an audio signal. These add colour to the sound. eg. A trumpet sound has many harmonics and is quite harsh, while a flute has few harmonics and is quite mellow. This harmonic character can be changed using filters!

(Continued next issue)

\*Danny Dun is Digital Products Manager for Australis (Peavey & Akai)

## No JULY Issue!

We publish (on time) 10 months each year. No July, No January. 5 months on, one off. Sounds like we take a lot of holidays? Not quite - we do the filing.

**BUT:**

Subscribe and Save 25%! AND get "TERMINATIONS!" our fantastic JULY SUBSCRIBERS NEWSHEET! Mailed to all SUBSCRIBERS - ONLY! in July. Dangerous, Rude- & Rare!

For a paltry \$29.50 a year, you get this magazine RUSHED to you before anyone else. You save \$10! Just call (02) 876-3530 NOW! We do the rest! (Get it in before the end of JUNE to get Terminations!)

## End User Review

From Blind Lemon Pie (Dave Macken &amp; Bruce Waite)

## AKAI SO-1 SAMPLER



Post the invent, and prior to the advent of restrained and somewhat more tasteful use of sampling technology, recordings often suffered the embarrassment of the all too obvious sample sticking out of the mix like a part of a dog's anatomy. Eager sample spotters would rush to enlighten you with their knowledge of back catalogue sample origins. (Even though they were probably out of copyright anyway.) Considering the excitement surrounding samplers in those days it was hard not to get carried away, subsequently making the technology take over the music and therefore getting into a vicious circle with sample spotters.

Rushing to embrace and expand upon this new avenue, engineers, producers, and musicians left manufacturers for dead as they hurriedly tried to fulfil market needs with better units which would allow these types to use samples more, while making them sound less obvious in the mix. This led to the expansion of features, the expansion of polyphony

(i.e. number of sounds available at one time.), an increase in frequency response, the expansion of memory time and inevitably the expansion of the price tag. After a while, as this technology reached further down the market more and more users, especially musicians with four track tape machines, realised that they could achieve in their own home pretty much the same result that they'd been paying for in the then flourishing eight and sixteen track mid-priced studios. As it turned out these people with the most limited resources seemed to be the ones who forged ahead and the forced the market into its current state. Power to the people!

**SO-1:** The recent release of AKAI's "SO-1" 16bit rack mount sampler is indicative of this worldwide consumer demand for high sound quality, reasonably priced samplers. Incorporating technology and features from previous successful AKAI ranges, including the ability to load S-1000/S-1100 sound library disks, the new "SO-1" couldn't have been

released at a better time.

The first thing that we noticed from looking at the "SO-1" is that there isn't much to notice from the outside. Gone is the space station look for this model, with only 12 operation buttons and a Data Entry knob to contend with. Information is viewed using a simple three digit display and an array of cursor LED's, some of which double as the recording level indicator.

As the "SO-1" is a mono unit the record level and main volume are each set using two single rotary pots, there is also a high/low gain switch allowing successful Mic and Line level sampling. Sounds are stored on 3.5" Double Sided, High Density floppy disks and these High Density disks do seem to be increasingly favoured for their extra storage potential. The input, output and headphone sockets are all available on the front panel (a welcome inclusion) with the output socket also being duplicated on the rear panel. Alongside this extra output socket is a footswitch

### Music Technology writer needed! Any location in Australia!

It's not a big gig, but we need someone each month to help the editor with this section, and write some stories.

We've got a few interesting ideas, and need someone who **at least** has the following attributes:

1. Non alignment with distributors. Sorry, you need to be of independent mind!
2. Keyboard and preferably Mac literate if Sydney based. Some work on our system possible.
3. Definitely irrevocably knowledgeable regarding Music Technology, MIDI, and not opinionated or full of shit.
4. Able to write **non-boring material**. You don't need to be a graduate Journalist, just a real human.
5. If NOT resident in Sydney, you need a FAX machine in your house & a computer with basic MODEM. NOT around the corner, they MUST be IN YOUR HOUSE, under your control. We work desperate hours around deadline time - so will you.

If you exist, send Julius Grafton a short FAX - (02) 876-5715 -detailing your virtues, and your phone number. This is very part time, but could grow. Money? OK, if necessary. Pics? Gotta Camera? Not essential, but would help!

**We are very much an equal opportunity publishing house.**

## End User Review

From Blind Lemon Pie (Dave Macken & Bruce Waite)

jack for sampling and playback control as well as four, count them.... one, two, three, and the extra one, 5 pin MIDI connectors. AKAI have chosen to include an extra MIDI input socket thus giving the user MIDI input #1 and #2 as well as the usual MIDI out and thru connections. These MIDI inputs cannot be merged, although they can be selected from a switch on the front panel which could, for instance, give two totally different keyboard setups access to the sampler without the trouble of re-patching.

One of us knows a lot more about samplers than the other, so for the "ease of use test" we hid the instructions and gave the unit to our less experienced sample spotter. The good news here is that he got the unit going in under ten minutes. (Not bad for a guitarist, but he repeatedly had to be told to turn down!) After waiting only 27 seconds for the factory disk to load over 95% of the "SO-1's" 1 Meg/15.6 second memory (fixed 32kHz sample rate) we were ready to roll. There are 8 available sound banks with each one playable from its own key on the front panel and all parameters are accessed from a clearly labelled 7 by 4 front panel operation matrix that encompasses everything from sample editing to MIDI and disk functions. We can't stress enough how having the whole 26 editing functions silk screened onto the front panel makes this unit EASY, EASY, EASY.

To explain further there are seven vertical columns called TRIM, LOOP, LEVEL, PITCH, MIDI, SETUP and DISK, these are selected using the CURSOR RIGHT key. Each of these columns has three or four options selected using the CURSOR DOWN key. Current cursor position is acknowledged by viewing which column and which row are lit by their corresponding LED. The simplicity of this layout not only gives quick and direct enabling of editing functions but also emphasises the point that a lot of users don't actually require elaborate tone and waveform filters nor do they find it necessary to have complex key grouping assignments, waveform displays or variable sample rates. This is not to

say that end users are incapable of grasping expanded technology or that there is no longer a requirement for it, rather it is to say that units like the "SO-1" now provide a sensible combination of 16bit sound quality, affordability

*We hid the instructions and gave the unit to our less experienced sample spotter. The good news here is that he got the unit going in under ten minutes.*

*(Not bad for a guitarist, but he repeatedly had to be told to turn down!)*

and straight forward navigation.

So.....what does it sound like? Well while this new AKAI is a budget unit, and even though there is no specified frequency response the unit sounds like any other 16-bit AKAI sampler. Lending itself, once again, to rhythm and percussion loops in particular which probably explains why the advertising blurb targets D.J.'s as potential purchasers.

Just to be really sure of what we were comparing we decided to re-sample the factory disks. Firstly we listened carefully to the original disks and then we taped them in analogue on a DAT machine. Without paying much attention at all to our gain structure we quickly pressed record, pressed the chosen bank number button and in the time it takes to read this sentence we had sampled back from the DAT and were already re-looping. We then compared this to the original sound in the neighbouring bank and for all intent and purposes we had created two of the same thing.

Part of the reason why all this was so easy to achieve and complete is due to the fact that when setting up this machine the user can select from a disk of five already prepared programs. By selecting the suitable program, MIDI setup information such as Program No., MIDI Channel, Key Range, Constant Pitch and Transposition can be loaded and ready for new samples, this alone takes much of the labour out of the process of preparing patches or programs.

As far as true MIDI facilities are concerned the AKAI "SO-1" will receive Program

Changes on all or individual channels it will also respond to particular control changes, these being Pitchbending, Volume and Sustain. As with many other models of AKAI samplers sound information can be transferred from identical or other compatible storage devices using the Sample Dump system to enable down loading. A surprising omission that does have us baffled though is the units lack of good old Control Change No. 1: Modulation! We would be keen to hear from either the distributor or manufacturer as to the whereabouts of

this controller and whether it's living under an assumed name at a different address.

So before we spear off this month, and carefully avoiding phrases like "to sum it all up" and "in conclusion", we'd like to culminate the totality of this article (Rex Mossop rules) with the following thoughts on the AKAI "SO-1". For its price the "SO-1" is set to be a great contender in the ever growing budget sampler market, it sounds good, it looks good and for a modest investment the memory can be doubled. The inclusion of a sensible instruction manual complete with five pages of detailed application conversion tables makes it dead easy to achieve results with this unit.

*Thanks, once again, to TURRAMURRA MUSIC for the loan of the unit used for this review.*

### AKAI SO-1 SPECIFICATIONS

Sampling format : 16-bit linear encoding

Total sampling time : 15.625 seconds

Polyphony : 8 voices

Internal memory : 1 Megabyte

Sampling rate : 32kHz

Filter : 8 x over-sampling

Dimensions : 483 x 88.1 x 431

(W x H x D mm) = 2 rack units

Weight : 6.7 kgs

# THEATRE CREW PRODUCTION GUIDE

*A listing of Production Crews, the unsung heroes working behind the scenes in Theatre, Opera, and Dance productions around Australia..*

Production • Company • Venue • Crew	Production • Company • Venue • Crew	Production • Company • Venue • Crew
<b>A Man for All Seasons</b> <b>New Theatre</b> New Theatre Michael Schell(LD), John Foster(PD), Tom Bannerman(SSD), Sheelagh Gale(C), David Pross(C)	<b>High Society</b> <b>RQTC, STCSA, MTC</b> Canberra Theatre Karen Norris(LD), Heikki(LBO), John Mattheson(SD), David Greasley(SO), Mare Crimpton(SM)	<b>Richard III</b> <b>Bell Shakespeare Co</b> Nigel Levings(LD), Michael Scott-Mitchell(PD)
<b>A Masked Ball</b> <b>Australian Opera</b> Opera Theatre-Syd OH Nigel Levings(LD), Michael Stennett(PD), John Bunter(SSD)	<b>How to succeed in business</b> <b>Lyric Theatre, Qld PAC</b> Nigel Levings(LD), Rohan Trundie(LBO), Ron Barlow(SD), Paul Tilley(SO), Brian Thompson(SSD), Mark Baiten(SM)	<b>Road</b> <b>NIDA</b> NIDA Kate McKay(LD), Andrew Richards(LBO), Louisa Gordon(SD, SO), Genevieve Blanchette(SSD), Cathy Hastings(SM), Suzanne Peri-Chapman
<b>Aftershocks</b> <b>Company B</b> Belvoir Street Theatre Brian Thompson(SSD), Arabella Powell(SM)	<b>Into the Woods</b> <b>Sydney Theatre Co</b> Syd Op Hse, Drama Theatre Roger Barratt(LD), John Senluzuk(SSD), Michael Bader(SM), Josephine Hill(SM), Lana Lazaress(SBO), Louise Fisher(C), Andy Vass(C), Moz Lockwood(C)	<b>Romeo &amp; Juliet</b> <b>Bell Shakespeare Co</b> Nigel Levings(LD), Michael Scott-Mitchell(PD)
<b>Agamemnon</b> <b>IRAA Theatre</b> IRAA Theatre Renato Cuocolo(LD, SD, SSD), Simon Lourey(LBO,SO), Jorge Merjer(PD), Paul Monaghan(SM)	<b>Isn't it romantic</b> <b>Kent St Theatre</b> Michael Schell(LD), Dianne Kennedy(LBO), Neil Kennedy(SD), Wendy Hill(PD), Sarah Butler(SSD), John Foster(SM)	<b>Salome</b> <b>Australian Opera</b> Opera Theatre-Syd OH John Drummond Montgomery(LD), Kristian Fredrikson(SSD)
<b>Among the Butterflies</b> Cross Roads Alan Walpole(PD)	<b>Joseph &amp; The Amazing Technicolour Dreamcoat</b> <b>Qld Performing Arts Centre</b> Andy Bridge(LD), Hugh Carlton(LBO), Mark Leven(SD), Paul Hitchins(SO), Anneke Harrison(SM), Mike Hyde(MX), Ian Blackburn(LX)	<b>Scenes from an execution</b> <b>Company B</b> Belvoir Street Theatre(Upstairs) Catherine Milliken(SD), Jennie Tait(SSD), Loretta Busby(SM)
<b>And a Nightingale Sang</b> Qld PAC David Walters(LD), Geoff Kelly(LBO), Mark Blacker(SO), Bruce Bolton(SM)	<b>Kissing Frogs</b> Seymour Centre/Riverside Mark Howett(LD), Glen Steel(BO), Stacey Stanboulides(SD)	<b>Sth Tasmanian Dancing Elstedford</b> <b>Theatre Royal(TAS)</b> Damien Fuller(LD,LBO), Greg Thompson(LBO), Andy Nichols(C), Peter Williamson(C)
<b>Angels in America</b> <b>Syd Theatre Co</b> The Wharf Theatre Mark Shelton(LD), Kevin Blyth(LBO), Peter Eades(SD), Justine Thompson(SM), Barbara Durwood(SM) Brian Thompson(SSD)	<b>Lend Me a Tenor</b> Glen Street Theatre Mark Howett(LD), Richard Montgomery(LBO), Annette Alderson(SM), Graham Maclean(PD)	<b>Sky</b> <b>Q Theatre</b> Q Theatre Peter Holderness(LD,PD), Chris Day(LBO, SO)
<b>Barking Mad</b> <b>Chrissie Parrott Dance Co.</b> Perth Instit. Contemp Art Steve Wickham(LD), Mike Ninning(LBO), David Pye(SD), Lee Buddle(SD), Peter Bengtson(SD), John Patterson(SD), Davina Ware(SO,SM)), Per Jonsson(SSD), Katie(SSD), Sue Perry(SSD), Steve Campbell(C), Jerome Barfield(C), Kaarin Dombrowski(C), Paul Doyle(C)	<b>Les Liason Dangereuses</b> <b>Iron Cove Theatre Co</b> Balmain Town Hall James Armstrong(LD), Dina(SO), Annette Reid(PD), Peta Cruise(SM), Cecile busby(C)	<b>State of Bewilderment</b> Riverside/ Syd Op Hse Tim Boyd(LD), Liz Thompson(SM), Mark Wisler(SSD)
<b>Barmmaids</b> <b>Zootango Theatre Co.</b> State Theatre(TAS) Greg Thompson(LD), Don Hopkins(SD), Tanya bennett(SM,SO,LBO), In Cahoots(PD)	<b>Loaded Ute</b> <b>Sydney Theatre Co</b> On Tour Kevin blyth(LBO), John Senczuk(SSD), Michael Bader(SM), Josephine Hill(SM)	<b>State of Bewilderment</b> Riverside/ Syd Opera House Tim Boyd(LD), Liz Thompson(SM), Mark Wisler(SSD)
<b>Beauty &amp; The Beast</b> <b>Syd Dance Co.</b> The Metro Theatre John Rayment(LD), Don Gunn(LBO), CODA-Philip Murphy(SD), Leigh Williams(SO), Kristian Fredrikson(PD, SSD), Melinda Fendrow(SM), Mathew Serventy(C), Ian Ferguson(C)	<b>Madam Butterfly</b> <b>West Aust Opera</b> His Majesty's Theatre(WA) Donn Byrnes(LD), Jon Coenraats(LBO)	<b>Strictly No Balls Groom</b> <b>Old Nick Co.</b> Theatre Royal(TAS) Damien Fuller(LD,LBO), Craig Wellington(SD), Graeme Paine(PD), Sandy Campbell(C), Hemisphere Productions(Video design)
<b>Blossoms and Wrinkles</b> <b>One Extra</b> Belvoir St Theatre(Upstairs) Rory Dempster(LD), Annette Dale(LBO, SM), Mic Conway(SD), Lee Williams(SO)	<b>Madam Butterfly</b> <b>Australian Opera</b> Opera Theatre-Syd OH Roger Barratt(LD), Henry Boron(SSD), Michael Stennett(PD)	<b>Swell Party</b> Playhouse, Syd O.H. Mark Howett(LD), John Lewis(LBO), SOH Audio(SD)
<b>Brilliant Lies</b> <b>MTC/RQTC</b> Playhouse-VAC/Suncorp David Walters(LD), Dale Ferguson(PD)	<b>Macbeth</b> <b>State Opera of SA</b> Adelaide Festival Centre Don Byrnes(LD), Tito Cabbianco(PD,SSD), Albert Filoni(PD,SSD), Mandy Farner(SM)	<b>Synergy with Synergy</b> <b>Sydney Dance Co.</b> Lyric Theatre-QldPAC John Rayment(LD), Brian Thompson(PD)
<b>Brisbane Biennial Music Fest.</b> <b>Concert Hall-QLD PAC</b> Paul Hunter(LBO), Warwick Brooks(SD), Rick Cane(SO), Bruce Gentner(SO), Hugh Powell(SM)	<b>Macbeth Darned Sock Theatre</b> Virginia Boyle(PD), Bess Parker(SSD)	<b>Talley's Folly</b> <b>Glen Street Theatre</b> Glen Street Theatre Karen Norris(LD), Ian McPherson(SSD)
<b>Close to the Bone</b> <b>Q Theatre</b> Q Theatre Simon Lampton(LD), Chris Day(LBO), Monique Howett(SO,SM), Joe Hurst(PD, SSD), Joanne Close(C)	<b>Macbeth</b> <b>WA Opera</b> His Majesty's Theatre, Perth (WA) Donn Byrnes(LD), Jan Conraats(LBO)	<b>Tasdance</b> Greg Thompson(SM)/Rob Gravestock(SM)
<b>Death &amp; The Maiden</b> <b>Syd Theatre Co.</b> On Tour/SOH, MTC Nigel Levings(LD), Peter Eades(SD), Brian Thompson(SSD), Julie Lester(SM), Gerard McLaughlin(C)	<b>Madame Butterfly</b> <b>Australian Opera</b> Midsummer Night's Dream Nigel Levings(LD), Catherine Martin(SSD), Bill Marron(SSD)	<b>The Grace of Mary Trevors</b> <b>NIDA</b> NIDA Louise McRoberts(LD), Adrian Harris(LBO), Leonie Pixon(SO), Andrew Raymond(SSD), Sheryl Talmagel(SM)
<b>Die Meistersinger</b> <b>Australian Opera</b> Nigel Levings(LD), Reinhard heinrich(SSD), John Gunter(SSD)	<b>Oedipus Rex</b> <b>Lyric Opera of Qld</b> David Whitworth(LD), Peter Corrigan(PD), Cathy Dadd(SM)	<b>The Heartbreak Kid</b> <b>Ensemble</b> Ensemble Shane Stevens(LD), Vanessa Campbell(LBO,SO,SM), Judith Hoddinott(PD,SSD), Michael Salmon(C)
<b>Extraordinary Encounters ...</b> Belvoir St Theatre(Downstairs) Brian McCarty(LD,LBO,SO)	<b>One Woman's Song</b> <b>Royal QLD Theatre Co</b> Cremorne Theatre/QLD PAC Mark Howett(LD), Geoff Kelly(LBO), Warwick Brooks(SD), Mark Blacker(SO), Greg Clark(SSD), Creina Gehrke(SM)	<b>The New Rocky Horror Show</b> Her Majesty's Theatre (NSW) David Murray(LD), Peter Ratcliffe(SD), Rob "Sex God" Boumanis(SO)
<b>Gilgul</b> <b>Company B</b> Belvoir St Theatre(Upstairs) (NSW) Robert Lehrer(LD), Barry Kosky(SD), Peter Corrigan(SSD), Loretta Busby(LBO,SO,SM)	<b>Other Worlds</b> <b>NIDA</b> NIDA Kate McKay, Robyn Finchan(LBO), Marcus Verrall(SD,SO), Carson Andreas(SSD), B Phillips(SM)	<b>The Old Boy</b> <b>Ensemble</b> Ensemble Shane Stevens(LD), Kym Newell(LBO), Judith Hoddinott(PD,SSD), Andrew Simpson(SM), Michael Salmon(C)
<b>Gunjies</b> Belvoir St Theatre(Upstairs) Mark Howett(LD), Monique Howett(LBO), Monique Howett(SD), Mark Mitchell(C), Fiona Johnston(C), Barbara Williams(C)	<b>Other Worlds</b> <b>NIDA</b> NIDA Kate McKay(LD), Robyn Finchan(LBO), Marcus Verrall(SD,SO), Carson Andreas(SSD), Briony Phillips(SM), Derrin Brown(C)	<b>The Perfectionist</b> Marian Street Theatre Malcom White(LD, LD & LBO)
<b>Hamlet</b> <b>Bell Shakespeare Co</b> Theatre Royal Brett Grahams(LD), Michael Scott-Mitchell(PD)	<b>Out of order</b> Theatre Royal(TAS) Damien Fuller(LBO), Sandy Campbell(C)	<b>Tosca</b> <b>State Opera of SA</b> Adelaide Festival Centre Mark Henderson(LD), Ashley Martin-Davis(PD,SSD), Mandy Farner(SM)
<b>Hamlet</b> <b>WA Ballet</b> Kenneth Rayner(LD), Jan Conraats(LBO), WASO(SO), Andrew Carter(PD), Jennifer Dymond(SM), Davina Ware(C), Sam Hardcastle(C)	<b>Pericole</b> <b>Australian Opera</b> Opera Theatre-Syd OH Roger Barratt(LD), Angus Strathie(SSD), Inspiration(SSD)	<b>Triple Bill</b> <b>The Australian Ballet</b> Syd Op Hse, Opera Theatre Bill Akers(LD), Alynn Pratt(LBO), SOH Audio(SD), Neil McGarry(SO), Margaret Bourke(SM), Mimi Heman(FS), Simon Jenkins(FS), John Reynolds(FS), Phil Dunesky(SOH light super)
	<b>Punch me in The Stomach</b> Belvoir St Theatre(Upstairs) Grant Davis(LD), Loretta(SM,LBO,SO),	<b>Viva La Vida</b> <b>Handspan Theatre</b> Anthill At The Gasworks Phil Lethlean(LD), Mikkec Minster(LBO,SO,SM), Peter Jago(SD), Ken Evans(PD,SSD)
	<b>Radiance</b> <b>Company B</b> Belvoir Street Theatre(Upstairs) Fiona Johnstone(LD), Loretta Busby(SM,LB,SO)	<b>Vive</b> <b>Old Melbourne Gaol</b> Erez Gordon(LD, SSD), Asas Gordon(LO, SO), Angela O'Donnell(SSD, SM)
		<b>Who's Afraid of Virginia...</b> <b>New Carthage Theatre</b> Pilgrim Theatre Tom Bennerman(PD)
		<b>You can't take it with you</b> Kent St Theatre Pamela Whalan(PD), Peter Nowens(SSD), Garin Clark(SM)

**Abbreviations:** Lighting Designer- LD, Sound Designer- SD, Production Designer- PD, Lighting board Operator- LBO, Sound Operator- SO, Set designer- SSD, Stage Manager- SM, Crew- C

*Send us your crew listings, news and feedback.  
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# NETAA

In case some of you have missed the previous articles on NETAA (National Entertainment Technology Association of Australia), it is an association which is aimed at those people who work within or who have an interest in the entertainment industry in its various technical areas.

The association does not intend to be a showcase for manufacturers or sales companies within the industry although it does have many as corporate members, who will participate in such activities as trade shows and seminars. By attracting as many corporate members as possible we hope to maintain a non biased approach to products and their use within the industry.

Three of the big issues which seem to confront our industry at the present time would have to be training, standards and inter-industry support. A view held by many in NETAA is that in the future we hope to be able to assist those in the industry with just those problems.

Other than support functions

such as trade shows and newsletters many people have expressed a desire for seminars or workshops on various topics of interest to those within the industry. One topic already mentioned is 'distributed dimming' and its growing use in theatre and large events. I'm sure that with little thought it would be possible for any in the industry to think of many topics which would be of interest to the membership at large.

As with any industry the entertainment industry has many people who are trying to get a foot in the door with aspirations of earning a living (or getting rich) within the industry. Many of us can relate to the next question. "So mate. How do you get into this business?"

I think that I must have heard this question about a thousand times in the last 10 years. Most of the hopefuls think that like all other jobs you can go to T.A.F.E. and come out with a piece of paper that qualifies you to run the next ACDC tour.

At present there are very few courses available which are suitable for the entertainment industry and this of course means that very few people can ever hope to achieve some type of qualification. NETAA in the future hopes to have a hand in what is available and the standards that such courses should meet.

Anyone wishing to learn more about NETAA can write to the association at P.O. Box 517, KENSINGTON, N.S.W. 2033 or phone 697 4860.

-Mike Summons

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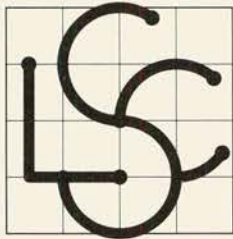
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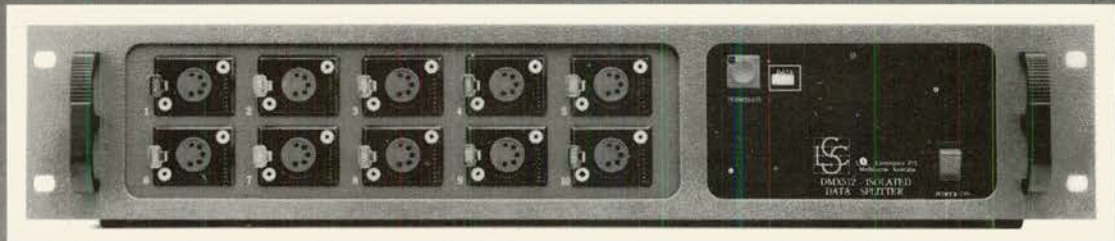
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## END USER REVIEW

From Blind Lemon Pie Studio: Dave Macken and Brace Waite



**DYNACORD and ZOOM.....** it's like a name from history and a retro-word from the eighties. Now, as we hurtle into the great winter of '93, the importers of both of these brands have presented us with their most recent contenders in the do-all digital multi-effect war zone! From "Dynacord" (now a "Mark IV Audio" company) we have the "DRP-15 Multi-Effects Processor" and from "Zoom" is the "9200 Advanced Reverberation Processor". Shortly we'll discuss the two units individually, although the reader should note that this is not intended as a "Ford versus Holden" style review, each unit is to be appraised on its own merits.

Whilst on this point, there is a comparison chart supplied with the "Dynacord" unit which sets out "Mark IV's" claims as to how the "DRP-15" rates against other leading models from manufacturers such as "Alesis", "Lexicon", "Roland" and "Yamaha". These charts are all well and good but it should be pointed out that one man's algorithm is another man's feature. To elaborate, manufacturer 'X' may list the ability to EQ an effect as an algorithm whilst manufacturer 'K' may choose to provide EQ as a permanent facility. So in this instance Product 'X' could boast having an extra algorithm whereas in reality Product 'K' may well have better EQ. Also one brand may have more options than another but this information may be of no use without knowing how many of these will run at the same time without affecting the audio quality. Bearing all this in mind we'll now take a look at this month's products and see just what's what.

**DYNACORD:** Starting with the "Dynacord" (it got here first), this unit boasts 100 pre-set factory programs and 128 user program areas into which many combinations of Reverb, Delay, Modulation, Pitch Shift and Distortion may be stored and equalised. The unit comes with jack

socket terminations for L and R Input/Output, independent Gain selection switches for In and Out, MIDI IN/OUT/THRU connectors, three jack sockets to allow various foot pedal operations and even a handy Ground Lift switch to help eliminate earth loops. Control and program evaluation on the "DRP-15" is by way of eight push buttons, a single rotary input level control connected to an 8-segment LED ramp, 10 single Led's denoting algorithms and current status, a three digit display for program numbers, a 32 character LCD, and there is a rotary data/scroll dial which doubles as the Enter button.

Available in the Reverb section are the usual 7 kinds of ambience, however, "Dynacord" have added the interesting option of "Easy" settings which diminish the number of parameters by eliminating or grouping those available in the "High Quality" section. The programs supplied performed to the usual expectations of their respective titles and at first led us to believe that the unit was very "toppy" but we soon realised that this was due mainly to the manufacturers choice of settings on the internal, fixed frequency two-band EQ. (Another pitfall in choosing reverbs from the shop floor!) After arriving at settings we preferred, we found that the "DRP-15" adds ambience to a quality comparable to other brands within its price range. Gated Reverb settings are aided by the ability to adjust both the gate Slope and Colour, and when setting parameters in the Edit mode there is always a handy bargraph available next to the numeric value so you can see how you're doing.

If there is one thing that stands out about this model it's not so much that it sounds good, it's that there are some really nifty attitudes to the operating system. We've already mentioned the

"Easy" settings and the handy bargraph display for values, now lets take a look at the Delay programs where not only can the user select from Long Delay, Delay Line 1>2, Delay+Reverb, and Pitch+Delay+Reverb but you can also have the delay times displayed in BPM (Beats Per Minute) instead of milliseconds. As well as this you can even display some delay times in feet, inches, metres or centimetres. The Pitch programs will allow two intervals to be set with fine control over two octaves, independent output levels for each sound, and another nifty function allows a choice between Fast Shift for instant harmonising or HQ Shift which takes a little longer while achieving a much higher resolution.

Flanging and Phasing etc are achieved using the Modulation Type programs with the three basic parameters Depth, Speed and Feedback being applied to one of fifteen options enabling what we found to be a quite satisfactory selection of bendy sound effects. The Distortion algorithm comes

with a range of just 0-10 and a one band filter between 1.0kHz and 7.0kHz and as with most digital effects it sounds nothing like a Marshall amp. It's not that Dynacord stuffed up in particular, it's just that manufacturers are flogging a dead horse when attempting to create digital distortion -nothing beats an analogue circuit to achieve real fuzz.

Pointing again to features rather than sound, the Data Scroll dial is a little ripper.... turn without pushing for small values, push and turn to leap forward in big steps and then push again to enter your value or recall the program....EASY! While talking of features, Dynacord also say in the introduction section of the manual that there is a Compressor con-

*+21dBu output  
means it can  
align live speaker  
arrays as well as  
functioning as a  
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# END USER REVIEW

From Blind Lemon Pie Studio: Dave Macken and Brace Waite

tained within the "DRP-15"..... this is a bit of a worry because the manual makes no further mention of this and we could find no parameters anywhere on board to support this claim. Even though we've never found a good compressor in a multi effect, we wonder whether this has been included in the comparison chart as a possible function and, if so, whether some one might get into a spot of bother over this. In essence you can select up to six effects to operate at the same time, varying numbers of effects

seem to be appearing on nearly every multi effect lately, there is the usual Reverbs, Chorus, Phaser, Flanging, Delays and there is Pitch Shifting with a choice of Fast or Quality settings. This unit also offers noise gates and EQ. Tone shaping is achieved with programmable, two-band, tunable filters and although they are not specified as either being Shelf or Peak types, they do sound good'n'smooth. The Gates also work well, although they only "Duck" the volume without actually muting the signal.

ity to enable full parameter access.

Data is very easy to enter using only the Data dial and the Page/Select buttons, and an added function is the three stage dial accelerator which very sensibly magnifies the increments in various pages. The 9200 also has a large array of facilities associated with MIDI and the internal operating characteristics which are far too complex to delve into here, needless to say the unit remembers just about every preference you could wish to install.



yield varying quantities of parameter adjustment - the "DRP-15" is very easy to learn and operate.

Audio quality leaves little to be desired and even with a lot of treble boost the unit was still impressively quiet. Studio users should not be disappointed by this unit however if your into live sound then make sure you check this out; the "Dynacord DRP-15" is capable of a +21dBu output; if you combine this with the very fast data entry setup and the many display modes relating to delay times it means the "Dynacord DRP-15" could well be a prime candidate for aligning live speaker arrays as well as functioning as a standard multi effect unit.

**DRP-15 INFO: CIRCLE 160 ON SERVICE CARD**

Factory programs from ZOOM are usually well adjusted and this unit is no exception, we were able very quickly to hear all points of this model's features. It is, we caution, necessary to keep a keen eye on the Architecture mode when changing programs because the sound does keep disappearing in one place and out another as this parameter changes. Speaking of Modes, this is where the 9200 is both weak and strong, considering that there are four operating modes, three types of "Effects Modules" (each containing between 8 and 14 possible choices) and then three possible ways of linking effects for "serial" or "parallel" uses the combinations can involve quite a bit of planning. This was great once we got the hang of the operating system and it didn't really take all that long but it would be no surprise if purchasers of this model end up with photocopy charts from the manual stuck to a wall near the 9200.

Unlike other ZOOM models the 9200 only accepts +4dB audio and this goes to back up the distributors claim that this unit is definitely aimed at the studio user. OH NO! YOU SAY..... another brand to contend with! Not a problem, this model is very capable in the sound department, Reverbs are available

up to 30 seconds long and manage a nice clear decay; depending on the mode selected, Delay times can reach to over 2 seconds and by chaining effects together this could be longer still! Modulation effects operate smoothly creating clear simulations of Chorus and Phasing as well as offering three different modulation wave shapes in the Flanger programs. Many different multi effects can be created and the ability to chain them in the order you yourself desire means that you do get to create what you want, however, this is one of those units that offers fewer parameter selections as you increase the complexity of the program you create. This in itself is not necessarily a pitfall because the unit is performing very complex tasks in these situations and, seeing as the 9200 is aimed at studios, it really is better to sacrifice facilities at this point rather than lowering the sound qual-

Between the normality of the 9200's effects types and the complexity of it's operating system, we've found the unit a little hard to adequately describe in this space. The quality is definitely there but to fully understand the many purposes it may be able to serve we really recommend interested parties take a good long look for themselves.

**ZOOM INFO: CIRCLE 159 ON SERVICE CARD**

**Distributors: Mark IV Audio (Australia) for Dynacord; call (02) 648-3455. Zoom is handled by Dynamic Music: (02) 939-1299.**

**ZOOM:** Now let's go on to have a gander at the ZOOM 9200 with its ominous sounding operating concept called "Program Architecture Configuration"! The 9200 needs this system to enable it to deal with its four independant XLR Inputs and Outputs. ZOOM have come up with a four layer system for the 9200 where the user can configure a selection of three types of "Effects Modules" within the the software to enable anything from a Stereo In/Out unit through to four independant Mono effects. Called "Areas", ZOOM have allowed 99 factory/99 user and 99 RAM/ROM memories to be dumped one at a time into an Active Buffer so you can compare edits against original programs.

There are four Function/Input buttons directly above the four 5 segment LED input meters. Doubling as input level selection and navigation buttons for the editing pages these team up with the eight edit buttons and the Data dial to allow the user to move through the ZOOM's many parameters. Data is viewed in a few ways; there is a 1 digit LED for showing current Architecture, a 2 digit LED for the program number and a nice bright and clear LCD display for all other information. The rear panel contains the eight XLR's for the four balanced inputs and the four unbalanced outs, added to these is simply a dial for LCD contrast and only a MIDI In/Out.

In general the 9200 has the same effects that

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**CIRCLE 121 ON SERVICE CARD**

# Getting The Design Process Organised

By Glenn Leembruggen and David Connor, from Elecoustics, Consulting Electro-Acousticians.

"What do you *really* want to use it for?"  
I know it's a stupid question because the answer often seems obvious, but it's amazing how many times the answers to this question changes the design.

"What's the sound system going to be used for?"

"For amplifying things."

"What sort of things?"

"Music."

"What sort of music?"

"Oh, I dunno. You know ... like they have down at the ...", and he or she describes a disco.

So you put in a disco system that's capable of 105 dB SPL linear RMS, that's designed to handle a peak to average ratio of 8 dB (recorded music), and five months later get a phone call. "This system of yours has blown up the last three weekends in a row. I can't afford to keep replacing the diaphragms. Do something!"

When you get there you find out that the local thrash band has been thrashing your 'disco' system with 20dB top end boost on the snare (which has a peak to average ratio of 30 dB). The diaphragms have blown. So you tweak the limiter, offer to double the number of horns and on the way back to the office mutter something to yourself about where the hell are you going to stick the extra horn so that it doesn't disturb the sound field (the simple answer to that is that it *will*!) and that it would have been a lot easier to do it this way in the first place.

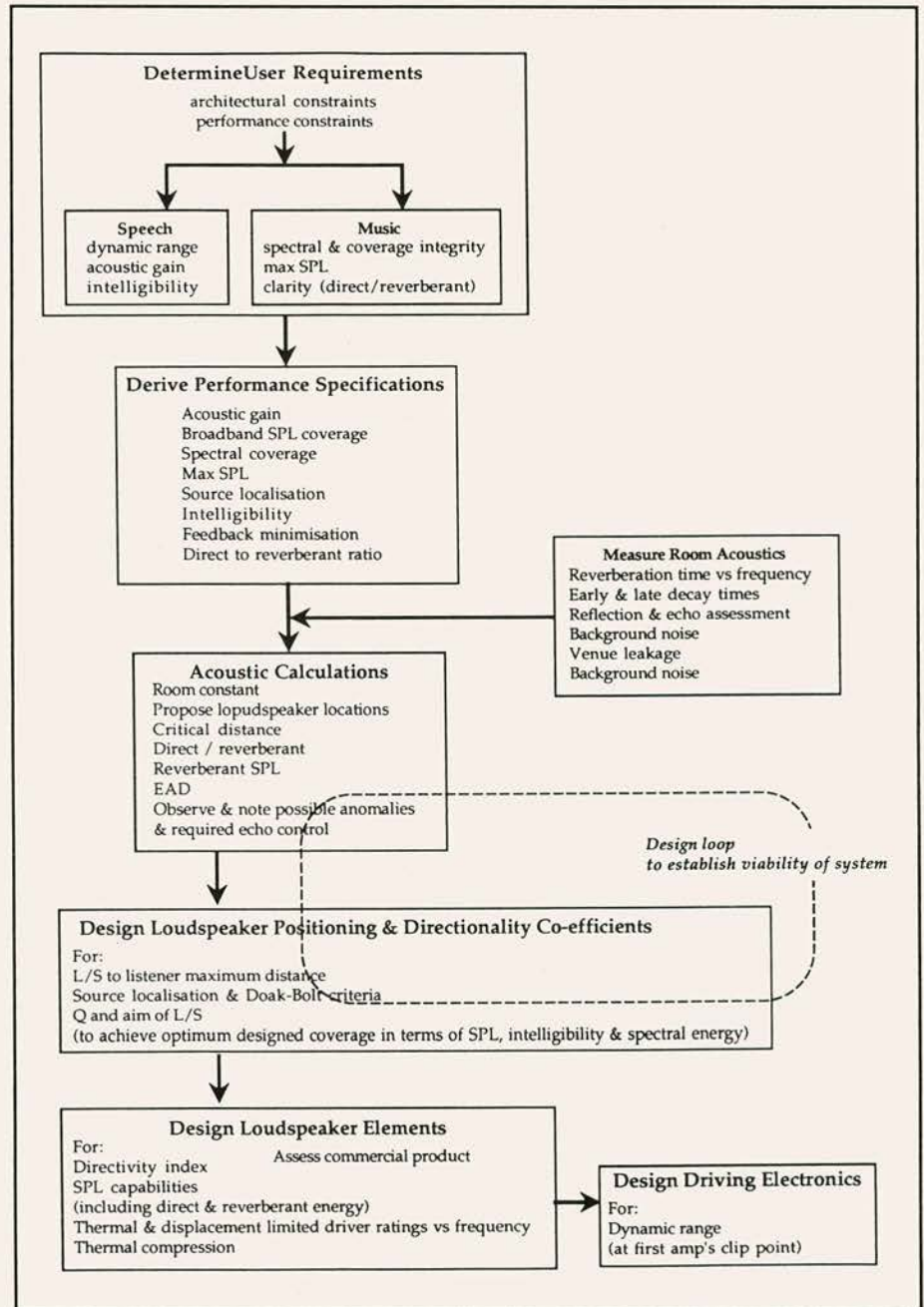
It would have been a lot easier to know what they wanted to do with the sound system in the first place!

And architects! Architects need to be told that the sort of acoustic gains required for a speech system don't allow you to stick a 200mm speaker in the ceiling and get away with it. For a start, acoustic gain has very little to do with how far you can push up the fader on the console. Acoustic gain has to do with how loud it goes in the audience's ears.

The last point about what people want is that the old 'give them the lot' is now very expensive. 'Very loud' is expensive; dynamic range is expensive; 'very good coverage' is expensive, and 'very loud' with 'very good coverage' is *very* expensive.

## The Anatomy of Design

The diagram shows the skeletal make up of a how to design a sound system to work *with* an auditorium's acoustics. The first box is about giving people what they want- **Determine User Requirements** is not so stupid. Apart from the chance to actually deliver the goods, it gives you a chance to do a better job. This month



we'll look at the first box ... **Determine User Requirements** in regard to speech systems.

## Architectural Constraints

The thing to notice about architectural constraints is that there are some, and that they don't go away very quickly. Architects have control over the aesthetics of the auditorium and quite often the sound system has to fit in with these constraints. The constraints that normally affect your sound quality are the positioning and size of the loudspeaker system and the auditorium's acoustics. The colour and appearance can quite often be dealt with satisfactorily.

While it's all very good for the architect or

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## SOUND ETC

venue manager to relegate the 24 bins a side to beneath the stage and in the wings, it won't help the audience and in the end *that* won't help the manager (audiences are expecting a lot higher sound quality these days).

There are some sums you can do to explain to the management what the effect of critically positioning 24 bins in the wings will be. These sums are derived from the Performance Specifications which are in turn derived from the User Requirements.

At this stage of the design, all you need to know are all the architectural constraints as far as positioning and size is concerned. The arguments come later ... after the acoustic measurements and calculations.

### Performance Constraints

The first question is speech or music? The performance goals are very different for these two types of systems.

Speech performance specifications draw very heavily on the performer being understood. Music draws very heavily on wrapping the audience in an environment. These two are not mutually exclusive, but unless you *really* need the sound system to be able to satisfy

both, just go with what the user wants ... it'll be a lot easier and cheaper.

Speech and music reproduction have different engineering priorities. There are certain trade-offs which are more appropriate for either speech or music. And here they come.

### Intelligibility

Speech systems require high intelligibility. The way this is achieved is by setting the direct to reverberant ratio with the loudspeaker design. An example is that in an auditorium with a reverb time of 1.5 seconds, and a listener position with a direct to reverberant ratio of -10dB, the loss of intelligibility will be 14%, which is on the limit of acceptability. This does not include the effect of reflections which arrive more than 50msec after the direct signal which will further degrade the intelligibility.

Music is not so critical, although a music system with a high clarity index will sound great, but may suffer in its frequency response coverage and expense.

Continued next issue ... AUGUST.

*Every venue is different.  
Architecturally, acoustically.*

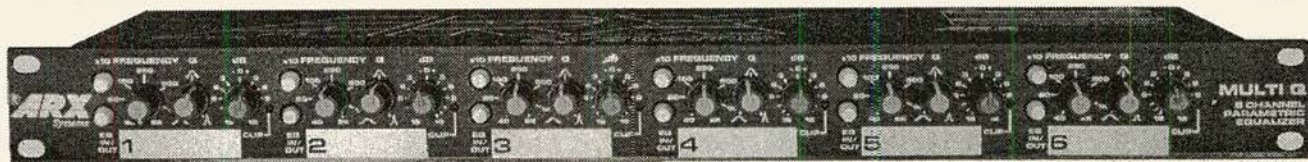
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## How to make Parametric EQ ads interesting



At last, here's a fresh approach to parametric equalizers from those great folks at ARX. No, no - don't turn that page - this really is something new!

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However, if you insert a lead into the out put of Channel 3, say, the signal stops there and you get a 3 band EQ. You can start again at Channel 4 and get another 3 band EQ the same way.

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## Peter Kemp

### *Voice Control of Lighting.*

This is a subject which seems to be growing in possibilities at present. I recently viewed two voice control lighting systems, one being for the control of dimmers and the other being for the control of automated studio lighting (manufactured by De Sisti Lighting Italy). Interesting enough both systems have been instigated by the Broadcast Studio area.

People have been waiting a long time for the most natural form of communication, being speech, to make machines respond. The technology for this has matured greatly and is now common in such things as telephone information lines, phone banking etc.

**The first system** mentioned, provides you with hands-free remote control over a radio link using speech recognition. Basically the system consists of a PC and interface to your lighting system. The voice is taken from the operator to the recogniser across an RF link. The PC then interprets the results of the speech to give a DMX stream, which can be added to the output of any DMX desk as a rigger's control.

At present only basic control such as allowing one or more lights to be turned on or off, and fader up or down, are possible with the system, however it would be quite straight forward to connect it to the remote control input of the desk and give access to the desk's memory.

A number of people have questioned the advantages of such a system, but one must consider that it offers remote operation with both hands free, so you could be hanging on to rigging, holding a plot or even keeping hold of you desperately needed coffee (or equivalent) at the same time. Total geographic freedom within the working area, without having to worry about trailing wires or where the infra-red receiver is.

This system is still in it's early development/experimenting stages, but I am sure will develop into something we can all utilize in years to come.

**The second system** discussed is a finished product that is fully operational, with particular advantages for its market nitch.

This system is actually an add on part to an automated control system for studio luminaries. In this instance voice is used for the activation of automated movement, controlling horizontal travel on rails, vertical travel by a telescopic tool (telescopic, pantograph etc), rotation on horizontal plane (pan), rotation on vertical plane (tilt), lamp positioning (focus), barndoor position (individual control of 4 leaves) and barndoor rotation operation. It is very simple to operate, you call the fixture number to the address, you can then tell it to pan, tilt, move right, move left, lower focus, barndoor rotation and barndoor movement.

As I mentioned voice control is an add-on for this system as naturally all of the commands can be carried out from the console (computer) via mouse or by inputting the desired values in numerical format, however with the voice control you can be in command from anywhere within the studio with a radio controlled microphone. Imagine the LD can walk into a studio, fit a small radio controlled microphone and from that point on he can take control of all movement (and other tasks yet to be defined, which naturally must include dimming) of the studio luminaries.

Well this once again provides us with more technology and possibilities regarding the automation of many tasks that we have so diligently carried out manually.

*\*Peter Kemp is the boss at Coemar DeSisti Australia.*

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## MUNCHY

## Bytes . . . .

Well, in the words of one immortal cricket commentator, "it's all happening here" .. and overseas. That L'Oreal party we referred to last month turned out to be one of the greatest extravaganzas ever mounted in this country.

There were cocktails in the car park with Australian themes, and a 1,000 square metre tent on the main overseas passenger terminal wharf at Sydney's Circular Quay to seat over 800 dinner guests. Lighting for the event included 16 Bytesize 12 channel dimmer packs with two control systems fed from 250kVA and 300kVA generators. Then there was the Opera House with another two generators, HMI's on the sails and lighting through the Concert Hall foyers. In a word - fantastic!

The long awaited opening of the Lyon Opera House in France took place on 14th May. Telecast live across France it was a huge success. Opera de Lyon, which is the biggest theatre development in France since the Opera de la Bastille back in 1988, is now the most

modern technically advanced theatre in France, and proudly boasts Bytecraft's State flying control system.

Architecturally, Opera de Lyon is an impressive structure. Among the many innovations is the use of an all black auditorium with the punters faces lit by fibre optics, (when seated? -Ed) a sight Bytecraft's European Marketing Manager, Patrick Bravard will have experienced by the time we all read this. The building is topped by a huge glass roof which provides a view across old Lyon. The final contingent of Bytecraft's commissioning team, Andrew Parker and Mike Munday, have now returned to Australia after several months in Lyon.

Still on the international scene, Bytecraft has now delivered their *State* central control system to the Hong Kong Cultural Centre and provided initial training for the Centre staff. Installation is well advanced with remaining control equipment to be shipped from Australia shortly.

During mid May, Strand's architectural guru John Richards, spent some time in Australia. With Johns visit came a wealth of international information.

Few faces continue to arrive at Bytecraft and

we are particularly pleased to welcome Joy Ogley to our Melbourne office and Shirley Jensen to Sydney.

Both ladies have extensive and varied backgrounds in the entertainment industry. Joy spent a time directing shipboard entertainment followed by a period, also directing entertainment in a castle in Scotland. (Interjection from the editor: didn't castle sports cease in the 1700's?)

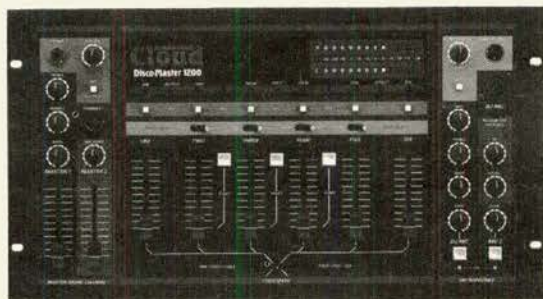
Shirley, as the daughter of an undertaker, should have no trouble straightening out David and Andy in Bytecraft's Sydney office. Shirley's 'hands on' experience, including a stint at Strand and a time with Howard Eaton in London coupled with work on many shows including the Phantom of the Opera, will help extend customer service from the Lidcombe office.

Finally a correction to Bytecraft's telephone number listed at the bottom of the column last month. The editor accepts that he placed the Fax number there instead, and he has written this number 100 times on the blackboard: (03) 587-2555.

**\*Bytecraft are the sole Strand agents for Aus, and also build high tech control.**

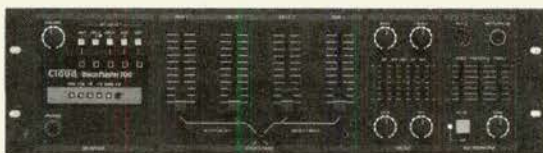
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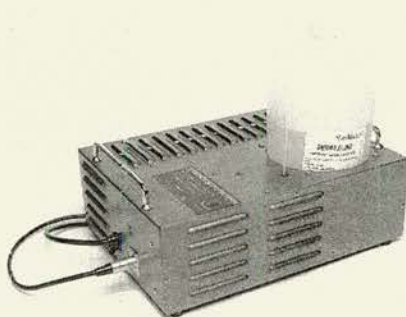
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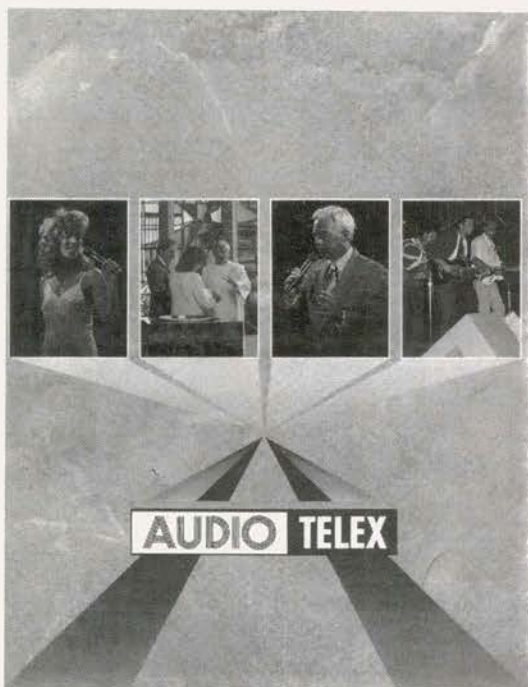
## AUDIO TELEX CATALOGUE

For more years than we can recall, Audio Telex have been releasing a glossy catalogue of the highest production values. As a publishing house we look upon the Audio Telex catalogue with envy, it is a four colour, gloss production of 32 pages. EVERY photograph works - this alone is something you can't do cheaply.

The firm are headquartered in Sydney, with offices in most states. They distribute audio products for contracting and live PA applications, building amplifiers and small mixers in their

Silverwater factory. Hans Overeem is the designer of these Australian made products.

Telex and Chiayo make up the bulk of the products on offer, Chiayo of course is another name for Eleco, probably the most common wireless microphone system brand in Australia. More recently the firm represents Symetrix and Sabine from the USA, upmarket audio for broadcast, PA and studio. Soundsphere, Switchcraft and Goldline are also represented, the catalogue features outdoor horns, paging systems, switchers - and more. Call *Audio Telex* for a copy - (02) 647-1411 or 903) 562-8566.



## PATCHBAY

○ **Visitors** to NSCA in Orlando recently had cause to shake off the jetlag and have a laugh at reception - the signage was great. For example:

**On Site Registration:** *I Belong here if: My consultant just told me I can't do a spreadsheet on my Nintendo; I need to get away from the boss for a while; I need to get away from employees for a while; I found a free pass to this show in my proctologist's office" - and so on!*

○ **Chris Royal** from Graftons Sound says replacing radio mic clips is a hassle, so heat a Shure clip with a heatshrink gun - then put the mic into it. When cool - a large mic clip!

○ **Designer Sound** have been busy installing away, using Bose Modeler software to help design systems for various Church and School systems in Victoria. They use Bose and JBL speakers, Inkel mixers, Eleco Wireless and Shure mics. Aside from PA, the firm do AV too, with Sony data projectors, motorised screens, and Philips TV screens. Call Hilary Evans (03) 543-3206.

○ **OMNIMOUNT** now have brackets to suit a wide variety of speakers. Stockists include AR Audio (NSW), Resource Group, Audio Oz, AD Astra (Vic), Nartronics (SA) and Audio Source (WA). Call Designer Sound: (03) 543-3206.

## BOSE DEBUT PANARAY

With a great deal of style and flair, Bose recently revealed their new Pan Array system to press and contractors - with ex-patriate David Bell flown in to do the honours. Pan Array is an impossibly small array of 5 drivers - the 502A Controlled Array; with a complimentary subwoofer (502B) and 502C Controller.

"The design parameters were: 120° x 90° vertical dispersion, and 110dB average at 25m - that is a 500 seat auditorium", said David at the launch. With five 4.5" Bose drivers, the 502A measures a trifling 597mm tall, 146mm wide, and 171mm deep, tipping the scales at 6.8kg.

Performance criteria for the 502A sees it deliver 130Hz to 15kHz, with 150 watts the nominal amplifier contribution required. 1200w peaks are no problem, according to Bose. The 502B subwoofer has a new 12" (300mm) woofer, the cabinet is said to filter distortion. It operates in the 55 - 150Hz area, and accepts 450w IEC continuous power for 115dB average output. The IEC test sees power applied continuously for 100 hours - and at the end the speakers must have no visible or measurable degradation.

The 502C controller is a stereo device, allowing use of 502A cabinets alone, or in 2 way mode with the 502B subwoofer. The 502A cabinet comes in a new plastic formulation that allows painting, where decor demands a change of appearance!

Rigging is via a series of brackets that cater to just about every possibility - hung, wall or ceiling mounted.

Prices are around \$1250 for the 502A, \$2500 for the 502B subwoofer, and \$750 for the 502C controller, retail including sales tax.

*Bose expert David Bell, back home to demo Panaray, looking serious!*



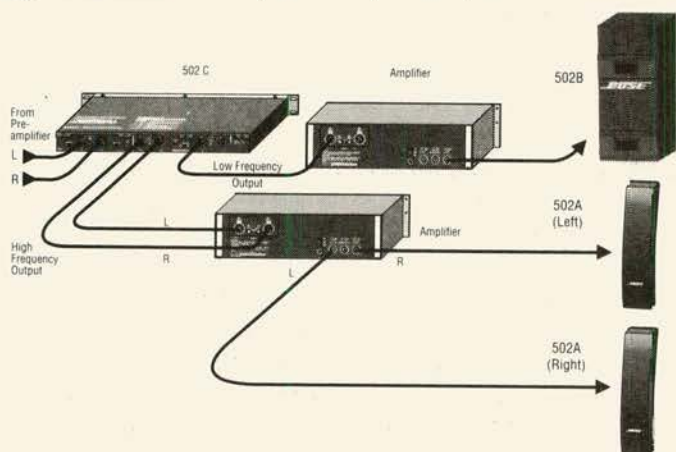
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Basic Panaray System (below). A voice-only system doesn't require the 502B subwoofer, or second power amplifier.



News from **CONTRACTORS** and **SUPPLIERS** is very welcome! Please remember our Deadline is the 15th of the month. We don't publish in July (or January), so get your news in by July 15 for the August issue. If unsure about format, feel free to call Caroline or Julius Grafton, (02) 876-2612. Fax: (02) 876-5715. Postal address: PO Box 439 Epping NSW 2121

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**CIRCLE 164 ON READER SERVICE CARD FOR MORE INFO.**

# EXPORTERS GO IT ALONE

*It's not widely known, but Australian Sound & Lighting Manufacturers are building markets around the world - and local end users benefit from quality improvements. Julius Grafton surveyed the major players to find out how things are in 1993.*

The New York trade commissioners office was on the third floor of a typical 30's style New York building on 5th Avenue. The trade commissioner wasn't available, but his envoy reluctantly agreed to hand over the merchandise on loan. "You'll need to sign this", he said, "and accept responsibility for replacement in case of loss or damage". The Aussie exporter gathered up the goods and left - The Australian Government had provided it's first and last assistance.

The year was 1987, and the goods had a name: Kevin; the Koala - a full sized, very stuffed rendition of the real thing. This was to be the beginning - and the end - of Government help for a new export venture called Australian Monitor. Earlier that same year the firm had tried to attract investment from the huge M.I.C. programme - a form of tax friendly loan capital that was virtually thrown at anything resembling vaguely high tech in the mid 1980's. One M.I.C. firm honcho laughed before hanging up - he thought the concept of export was amusing.

Today Australian Monitor are but part of a growing group of Aussie exporters in the sound and lighting industry. Alcatel are the largest, of course, and ship 80% of their products offshore, since starting export in 1955. "Because Alcatel was part of a worldwide group it made entry into the world market a lot easier", said Scott Lucas, "however our dealings with Austrade are minimal".

L.S.C. Electronics have been steadily growing exports since first shipping to Singapore in 1985. "We have only used Austrade for providing credit references on potential overseas customers. They tried to do some market surveying but succumbed when they realised the market was too specialised for their so called 'experts'", said Alan Graham. "We adopted a policy a few years back not to expect any favours from Governments. To gain assistance you have to bend and conform to suit their rules and guidelines".

Also in the lighting game are Dyalite, who started selling lighting control to Selecon in New Zealand back in 1988, and today have growing markets for architectural dimmers in Asia. Guy Holden says Dyalite currently exhibit at tradeshow like Plaza in England, and

Pro Audio & Light in Singapore. Tradeshow are, it seems, a major part of the equation.

Jands Electronics exported more than one million dollars worth of lighting consoles this year, equal to 10% of their sales. Director Paul Mulholland says they did benefit from an R & D grant to develop the Event, "which enabled us to spend the money to develop a world class product, where much of the value is in the software." Jands say they subsidised their exports with imports initially, the firm import and distribute manufactured products, and in some cases today use this to offset exchange variations, particularly from the UK. "A.C. Lighting, our European master distributor, are our best international customer", said Paul Mulholland.

If it seems our export successes favour lighting product, then you need to look at ARX Systems from Melbourne. The firm tout themselves as 'three old hippies', which disguises the fact they ship 75% of their output offshore. "The pro audio market is so specialised - not consumer items like guitars or keyboards. It's so specialised that no-one from outside our industry has any idea what we make!" said ARX Director Duncan Fry. ARX sell noise gates and EQ's, limiters and D.I. boxes to all corners of the world: "Our slogan is: Made in Australia, Sold around the World - and that's pretty much the truth of it", said Duncan Fry.

Australian Monitor now have sales to 34 countries, impressive as they export power amplifiers, and in most places cannot compete on cost. Export Consultant Hymie Meyerson travels around the world as many as four times each year, "many trips, many exhibitions, many air - train - car hours of travelling. For our first step we took a risk and shipped by air without payment, due to time constraints", he said. "Our first customer was Radio Tukku Oy in Finland, in 1987".

Bytecraft in Melbourne have has Austrade carry out "a number of assignments", according to Patrick Bravard. "They have performed excellently in most cases". Exporting hurdles include overseas terms of payment, according to Patrick, a point echoed by many others surveyed for this story.

Quality is the big issue, all these firms have

been exporting since around 1988 - and they have all increased sales through the recession. Being at the other end of the world is an initial deterrent to potential customers, who insist on immediate action if anything goes wrong with a product. Naturally all our firms strive for 100% perfection in their exported product, and this flows on to benefit the local market. "We don't build separate products for export, if we start having hassles in Perth then we know New York will be on the line within a few days", one spokesperson told us. "We airfreight all our shipments, and if something goes wrong it's an expensive and long trip back on a Jumbo".

Virtually all our survey firms have hassles convincing local suppliers to 'go the extra mile' for quality, especially in metalwork and screen printing. Jands invested \$1.5m in metalwork plant to bring the problems under control, while "our suppliers don't care as long as we pay them on time", says LSC's Alan Graham. "Who says accountants are sensitive?"

One solid response came from our survey - these firms see no value in combining under an industry umbrella to exhibit at overseas trade shows, like the UK and Italian industry groups do. All the above firms invest heavily in multiple tradeshow.

The last word comes from Duncan Fry, who says ARX's first Japanese distributor summed up the reaction of most of the world: "You have given me a great surprise - I did not know there were any companies in Australia who made this equipment!"

## WHAT THEY SELL:

**Dyalite:** Architectural dimmers  
**Bytecraft:** Theatre dimmers & control  
**LSC:** Lighting consoles and dimmers  
**Jands:** Lighting consoles  
**ARX:** Audio processing, DI's, some amps  
**Australian Monitor:** amplifiers  
**Alcatel:** 'XL' style audio connectors

*Other exporters in our region include Selecon New Zealand, and Fairlight. Showcraft colour scrollers are also starting to sell in Asia.*

# Connections

## National Classifieds

### EQUIPMENT FOR SALE

**1K Fresnels** including lamps \$250, barndoors to suit Fresnels \$60. 1K Profiles \$250. 2K Profiles \$400. Pallas 4 \$1100. Grafton Lighting (02) 698 7777.

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Acoustic 870 PA system, self powered 300 watt 6 channel mixer with separate foldback levels per channel, 5 band graphic equaliser, 2 fully enclosed bins with 2 x 12inch speakers, tweeters and horns. \$1300 (03) 459 9029.

Altec studio monitors, 15 inch speaker with Mantaray horns and crossover. Plywood boxes. \$1800. (03) 885 1191.

Amplifier balancing box, \$350 (02) 337 2504 or (02) 264 7734.

ARX amp 600 watt . \$800. (03) 509 1659.

ARX amplifier 1200 watt. \$1100. (03) 509 1659.

ARX parametric equaliser, brand new. Cost \$1035. Will sell for \$665. (03) 853 8284.

Astro Spider \$500. Astro Disco in case \$1000. Astro Sphera \$500. Strom Trooper \$750. Grafton Lighting (02) 698 7777.

### EQUIPMENT FOR SALE

Australian Monitor AM-1000 amp. \$1700 Jands 210 Amp \$1200. Jands 920 \$920. Grafton Sound (02) 698 7777.

Australian Monitor AM1600, ex-rental, 3 to 4 years old. Bargain \$2200 each. Be quick, be early! Grafton Sound (02) 698 7777.

Australian Monitor F-600 \$3000 a pair. Grafton Sound (02) 698 7777.

Australian monitor AM1600, top condition. \$2000 (02) 686 1384.

Belden Multicore 30m, 20 channel with stage box. Quality connectors, numbered and heatshrunk. New. \$1250. CC'S Light & Sound 008 803 064.

BGW 75cc professional power amplifier. \$750. (049) 29 1525bh. (049) 63 6357ah.

Bose 302 subs (4), good condition. \$2000 each. Topstage Productions (06) 280 5710.

Bose 802s \$1400 a pair. Grafton Sound (02) 698 7777. Canare Multicore, 32 way, 15m Cannon ARX foldback split. Quality cable. new \$650. CC'S Light & Sound 008 803 064.

Carol radio microphones, (4), diversity system, good condition. \$1050 (02) 899 6727.

### EQUIPMENT FOR SALE

Clay Packy 4 head disco effect. Worth over \$3500. Will sell for \$800. Phone Mick (03)770 1405.

Clay Packy disco light. 12 lens, 3 axis \$700. Mick (03)770 1405.

Cosmo, 16 globe disco light. \$500. Phone Mick (03)770 1405.

Crown DC300A. Excellent condition \$850. TEAC 2-track ree-to-reel. Neds Repair. make an offer. Call Norm (06) 280 5710 or 018 627 105.

Crown Micortech DC100 amp. \$600. Grafton Sound 890 Bourke St, Waterloo (02) 698 7777.

Emiar amplifier, 200 watt x 200 watt. \$590. Phone Jeff (03) 436 7005.

EV Entertainer 100M Mixer/amp. \$1800 Ross 4 Channel 100 watt mixer/amp \$300. Grafton Sound (02) 698 7777.

Ex-rental Lighting equipment. CID follow spots. \$1500. Grafton Lighting Waterloo (02) 698 7777.

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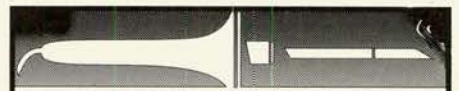
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ICE 10 way switch panel. \$200. Phone Mick (03)770 1405.

Jands ESP 36 lighting console. Analog and digital outputs. New in carton. \$2900. CC'S Light & Sound 008 803 064.

Jands Instinct 48 with freightcase. Excellent Condition. \$4500. Topstage Productions (06) 280 5710.

Jands Instinct 60 excellent condition \$6000. Topstage Productions (06) 280 5710.

Jands M600 Power amplifier with fans, brand new \$900, Yamaha PB1 preamp \$300 negotiable. (08) 362 6447.

Korner Smoke Machine \$900. Fog juice \$15/litre. Grafton Lighting (02) 698 7777.

Le Maitre smoke machine with remote \$400. Phone Mick (03)770 1405.

## EQUIPMENT FOR SALE

Liberty PB-300 portable sound system. 2 way speaker system and 75 watt amplifier internal. Rechargeable battery and AC operation. \$780. CC'S Light & Sound 008 803 064.

Marshall 50 watt valve amplifier, great sound, very good condition. \$800 (08) 379 5334.

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Marshall Artist 30 watts valve head, with Marshall speaker box, plus Ibanez distortion & flange pedals. \$750, can separate. (08) 398 4747.

Microphone Boom Stands. New with clip \$65. Grafton Sound (02) 698 7777.

Mitec Performer Series of mixing consoles have landed. Standard formats 16Ch/2/2. \$5000. 28Ch into 4/2/2. \$8000. 32Ch inot 8/2/2. \$9000. All formats have 5 Auxs, MIDI effects controller, 2 Masters L/R or can be used as a matric or extra sub group. These consoles have too amny features to list here. Call Chris or Andy

## EQUIPMENT FOR SALE

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# Duncan Fry

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## High Voltage Rock 'n Roll

I was away doing a two week country mini-tour, through the backblocks and with a couple of snow gigs thrown in for good measure. As usual on these things we were running late. Dick, the tour manager, used to fret so much that we nicknamed him 'the Road Worrier'. Although he was a likeable enough guy, he suffered from the short-sightedness that affects all tour managers, never allowing enough time for the crew to sleep and/or eat. Plus, he could never work out why it took a heavily laden 7 ton truck longer to get places than he did cruising around in his V8 Commodore.

He had worked out approximate times and distances from gig to gig by using a map only, and arranged the schedule on the worksheet accordingly. Trouble was on this particular gig, what had seemed quite a short distance as the crow flies on the map had certainly turned out to be short, but mostly vertical, through a whole chain of mountains. Very few things go up the side of a mountain slower than an overloaded truck, and what with the obligatory stops for hamburgers and leaks, our arrival at the gig had been several hours later than planned.

I had my trusty helper Jim with me, and the band had Phil, a lighting guy with his own rig who also did stage. Since we were in such a rush I got Phil to run out some power cables and speaker leads for us while he was setting up the lighting, and we put the stage gear up for him as we organized the PA.

Now, I don't want to say anything bad about lighting guys, because some of them are almost human, (Just kidding - no more letters from Ian Messner, please!) but this guy's knowledge of the correct AC power lead wiring was non-existent. Each night he would be wiring up his lights, and there would be sparks and crackles coming from the connections, and I'd hear him saying "Ouch - shit - Ow!" and so on as he plugged on (Pun intended). Still, as long as he confined himself to lights and I didn't have to touch them, I didn't worry.

The support act for this gig was a reggae band. Not what you'd normally expect in a country town, but this business can always surprise you. It was led by a black guy in full rastafarian getup - dreadlocks, striped African robe and knitted beanie. He did none of the work, but simply roamed around the place while we set the system up, getting in the way and saying "Yah, mon," in a strong Jamaican accent and generally giving us all the shits.

Our band had a Yamaha CP-80 (even bigger than a CP-70) piano which we had to lug everywhere. They liked it because it sounded just like a concert grand piano. Unfortunately, it weighed just about the same as a concert grand! No kidding, the thing weighed 250 kilos; I know because it was stenciled on its 2 cases! It was no fun lugging that up 4 flights of stairs.

Anyway, Ron Rasta from the support band was raring to go, and hanging round the stage ready for his soundcheck. As soon as he heard some taped music coming out of the wedges, he rushed up to the lead vocal microphone, put his mouth around it and started to say "Check, mon...." in his strongest Trenchtown accent. A crackling sound ripped through the PA, his dreadlocks stood on end, and he leaped away from the microphone as if he'd been hit in the forehead with a sledgehammer.

"Aaaah, shit, the fuckin' thing's live, aaah, me mouth" he screamed, staggering around the stage clutching his lips. No longer did he sound like Bob Marley's twin brother, though. Now he had one of the broadest Aussie accents you've ever heard!

I ran down to the amp rack, turned them all down and shut the power off, not

wishing to kill the guy even though he was a real pain. I looked at the lead running from the wall to the FOH amps. It had a tag on the side of it that read: 'Sparkies Concert Lighting.' Shit. In the rush to set up, Phil the lighting guy had used one of his own leads to power up the PA system. I didn't dare have a look inside the plug to see what the wiring looked like, but just yanked it out and threw it in the corner, then went looking for my super heavy duty special yellow power lead. I found it nestling in the lighting rig somewhere, retrieved it and got on with the soundcheck.

Ron Rasta was much subdued after his practical demonstration of troubleshooting grounding problems, and we never heard him say "Yah, mon" again. Nearly having your mouth arc welded shut tends to really focus the mind. Of course we all knew that it should have been the Phil the lighting guy who had the near death experience, so later that evening Jim and I gave him some helpful advice on wiring techniques, which colour lead goes to which pin, and why the green one is very important if you want to stay alive.

Then we shut him up in a roadcase while we went off to have some tea.



## Dr LIGHT

### IMPORTANT

I would be interested in hearing from anybody who may have any comments, facts or suggestions on the topic of safety testing for electrical apparatus used in the entertainment industry.

As many readers may be aware, it is now mandatory, in Queensland to test all electrical apparatus ie. leads, extension cords etc. in line with occupational health and safety legislation. In discussion with a number of hire and production companies in Queensland I have picked up on several comments regarding "out of state" hire and production companies, who do not have to comply with this type of legislation in their home states, having an unfair advantage over local Queensland companies. Electrical testing is not cheap and must be performed on a regular basis with each item being tagged with an approval tag, listing: date tested, expiration date and inspectors identification.

I wonder whether inspectors or health and safety officers will start clamping down on these out of 'towners and only hassle local operators?

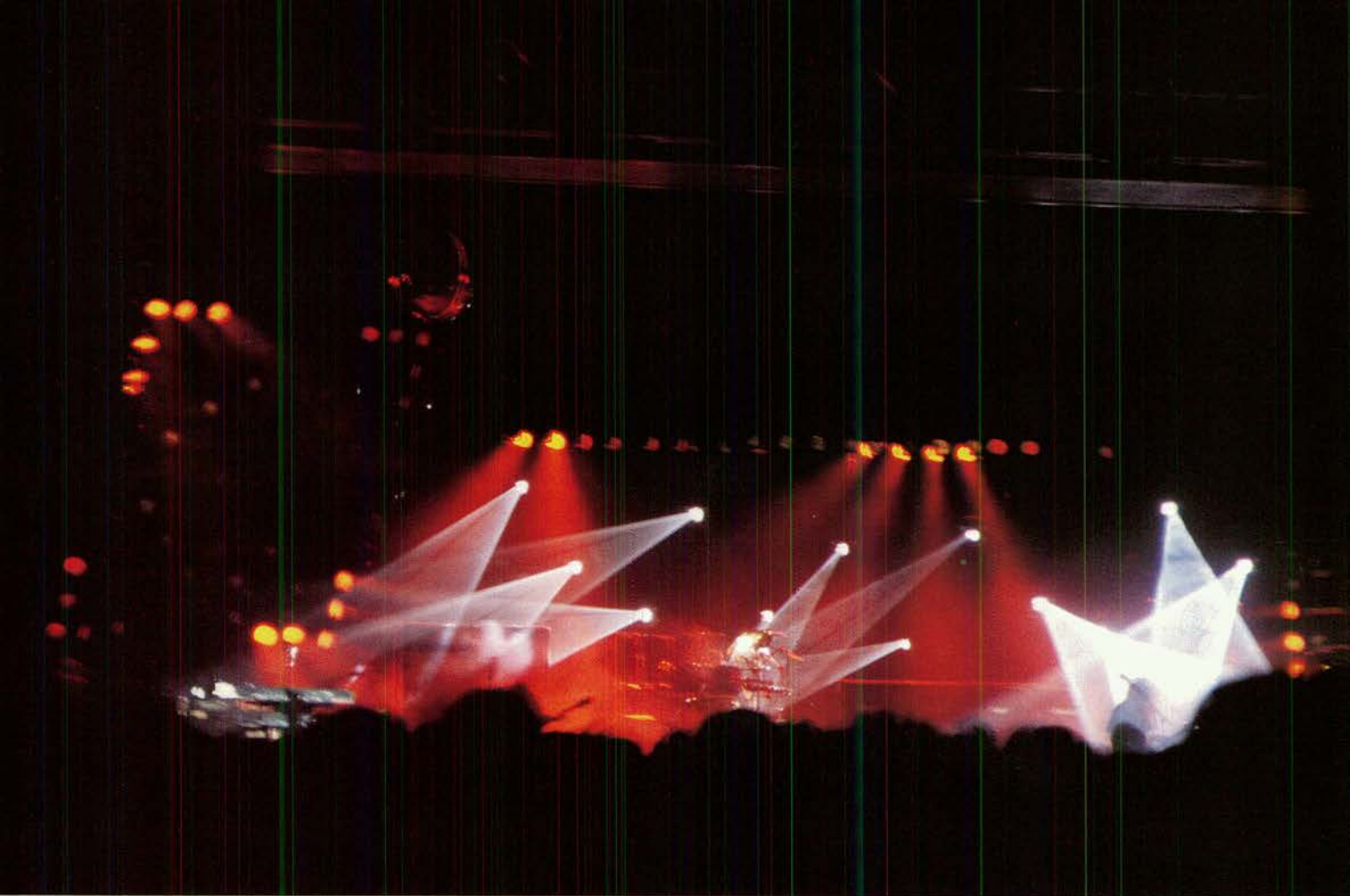
### WHERE ARE THEY?

Having just received my brand new Strand Catalogue (enclosed in the April '93 edition of Lighting and Sound International), I set about, in a quiet moment, to thumb through and look at all the new goodies, including some very tasty looking merchandising- wow!- Strand Tracksuits, T-shirts, books etc. The thing that was most confusing was the International Distribution Network Directory- no listing for Australia. An oversight? or perhaps is there something else going on. (*Oh Meoww. The lighting industry in Australia is unique in its level of pettiness. You lighting people obviously have nothing better to do than dump on each other. -Ed*)

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DR. LITE IS MIKE TANNER FROM JANDS.



Pictures: Catriona Forcer

# *Faith No More*

Lighting designer Chaz Martin originates from England where, in 1985, he was swept away to America by REM and there he decided to stay. He continued working for REM up until 1989 but unfortunately they haven't toured since then. Chaz also works for a company called Bandit Lites who are based in Knoxville, Tennessee and it was they who got Chaz the job of lighting designer for Faith No More about two years ago.

This tour actually started in May 1992 although they began supporting Guns'n'Roses and came on stage in the afternoon when no lighting was required. Consequently Chaz did not need to join the tour until September.

I'm sure a lot of you have noticed the unusual lighting rig which is featured in the bands video for their latest hit 'Easy'. The rig consists of three main pieces - one truss, the big pod and a smaller pod on the other side of the stage.



Lighting designer Chaz Martin

The large pod to one side of the stage was rectangular in shape and held an impressive 144 par cans which totally dominated the look of the show. Interesting patterns within the rectangular shape were regularly lit up. The main piece of trussing across the stage held 48 par cans as well as 12 Intellabeams hung from it by metal chains of varying lengths.

"I got the idea for hanging the Intellabeams off chains from the album cover where they have meat hanging," explained Chaz. "I do stuff purely to be different and no other reason. I don't know if it's good lighting or not. Nobody has said it's shit yet. I run the show with an Avo QM500 which I link to an Intellabeam controller. The two Sydney shows are the only ones in Australia like this as, because of different size venues, there are three different plots. There are approximately 280 par cans as well as the Intellabeams. The show isn't difficult to put up but height can sometimes be a problem - it looks better when it's higher. It only has five lighting points on the system. It's quite a simple rig. The company that I work for in the States have all Avo control although I like Celco desks. I don't know, I like Celco desks but I'm used to Avo desks. Anything that has the capabilities I'm happy using, even with Jands their boards seem pretty good too. Jands have supplied all the equipment here except for the Intellabeams. The Jands crew - Brian, Kyle and Paul - have been brilliant and I'd like them to get a mention."

Chaz has found the Intellabeams fairly reliable for a moving light. "I originally chose them because of budget," Chaz told me. "Also, because they are hanging on chains, it would have been impossible to use Vari\*lites or Morpheus lights because they would swing around too much. The chains themselves don't move - it's not a high tech show. Basically the show is chaos. Sometimes I don't like that but they're not the kind of band for big theatrical looks. They sort of stick to songs but they change stuff about a lot of the time. With REM I never really programmed for a show because they would always change stuff around. I'd programme songs but it doesn't look so good if you get maybe five songs which all have Intellabeams and then six songs without but it's the way it goes and I don't really worry."

All shows on the Australian tour were sold out and New Zealand was the next stop. A tour of Asia had been planned but was recently cancelled so, after a week at home, the tour travels to Europe for two months for the summer festival season.

**SOUND:** Front of house sound engineer was Greg Bess who has worked with bands such as Slayer, Everything But The Girl and an American tour with The Hoodco Gurus. The sound console he was using was a Midas XL3 40 channel and the PA was a Jands/Clair S4 system, 24 x S4's in all. Sixteen subs were also bought in for The Hordern Pavillion. Greg tours with his own effects rack which gives him a needed consistency and all the effects are done on TCM5000's. Gates and limiters are Brooke Siren.

*When asked how Greg found the sound check in the Hordern Pavillion he replied that there was no such thing as the band had given sound checks up a long time ago.*

"They are a difficult band to mix the sound for," admitted Greg. "They are not a band you can set something for and sit back and leave it. You have to add dynamics in there that don't necessarily come off the stage and, depending on the night, they could be a little bit more consistent. It depends on what mood they are in and the crowd reaction."

When asked how Greg found the sound check in the Hordern Pavillion he replied that there was no such thing as the band had given sound checks up a long time ago. He also said that the building sounded like what you'd expect a barn to sound like.

Although Greg was using a Midas XL3 console, first on his list of consoles is an ATI Paragon and he also likes a Soundcraft Europa desk which he has recently started using.

"For the majority of the tour we have had a Gamble EX56 which has got its quirks but it's a nice desk," said Greg. *(Like no VCA's. - Ed)* "The main problem I have on this tour is the fight of stage volume verses clarity on stage and being able to mix at a reasonable

level while still getting some feel out of the music. *(Sorry, but haven't we all heard THIS before? -Ed)* It's not a thing where you can push everything up to zero and watch people running out of the venue with their fingers in their ears."

After touring with Slayer and then Faith No More, I asked Greg if his ears were still intact. Fortunately he had had them checked a week before this leg of the tour and they were fine. ●

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# The Gig Review That Wasn't. Sir Bob Stiffs it

*Catriona Forcer tried and tried and tried - and got jilted. She now exposes the truth behind the glamour..*

Some people are under the impression that my job can be pretty glamorous and I have to admit it can have it's moments. Yes, I was flown to the States to see one of the first U2 'Zoo TV' shows and I did visit Milan for only one night just to see Prince. But it's not usually like that. OK, I do get to see a lot of bands for free but many of them I wouldn't chose to see.

Often you are left hanging around stage doors, sometimes for hours on end, while appropriate passes are arranged or because security will offer no help whatsoever. I was once made to wait two and a half hours in the freezing snow to get into Roger Waters concert. It wasn't until I commandeered someone's mobile phone to call production that I got in and, what's worse, I had to stay the whole show.

The most difficult part of my work is making contact with the appropriate crew to arrange my visit.

**Rule No.1-** Don't go through publicity or press people, go straight to the crew member you want to talk too. Normally which lighting designer is doing what show and where he/she can be contacted. There are various people in this business who are very helpful in supplying information and I often rely on their support.

But every now and again a gig comes up where I draw a blank. The most recent **Bob Geldorf & The Happy Clubsters** show here in Sydney was one of those occasions. Fuelled by the snide comments about the tour heard on radio, I began to have an uneasy feeling about this tour particularly when the planned show at the State Theatre was cancelled and the Rose, Shamrock & Thistle Hotel was announced as the new venue. What! Sir Bob playing at the pub round the corner. How times have changed. Still, the possibility of a good story was there.

Tracking down the lighting designer was no easy feat. Triple J who were doing promo were of no help and so I rang the venue. Now the problem I come up against the most is people thinking I'm some over-aged groupie desperate to molest and band or crew member I can lay my hands on. I remember once being handed an 'access all areas' pass for a Barry Manilow concert and then receiving a lecture on how it won't get me into the star's dressing room. I mean please, I may look desperate but surely not that much.

Or, if I'm not a groupie, and working at the show, I must be with catering. Isn't that the only place for females on tour? The security staff for the Beach Boys concert here in Sydney had a great deal of difficulty wrapping their brain cells around the fact that I had work to do that didn't involve the kitchen. The young lady at the Rose, Shamrock & Thistle was determined not to release any names that could be of any help to me as I would no doubt seek these people to lavish them with sexual favours (or maybe lasagne!)

Next, I decided to ring a few people 'in the industry' to see if they had access to this top

secret information. After a while I was given the name of a head electrician at some venue the band had already played who was able to tell me who the hire company was on the tour. He also told me in no uncertain terms what he thought of the lighting plot. Eventually the hire company gave me the names I required but not a contact number.

The gigs were on a Saturday and Sunday so I just had to wait until the first day until I contacted the crew. So, on Saturday afternoon I abandoned my domestic chores and headed for The Rose, Shamrock and Thistle to introduce myself. Surprise! The lighting designer was held up in Melbourne, where there was a plane strike and he wouldn't be arriving until late afternoon. After marvelling at the size of the stage in the gig and pondering on how they were going to fit four people on it, I left a copy of the magazine and my card with someone from the hire company who promised to pass it on. Saturday evening passed with not even a little tinkle from my phone. It was then that insecurity began to set in and I wondered if I was being

avoided. Experience has taught me that this usually happens when a tour is going badly.

By Sunday afternoon I had regained my self worth and off I went again to the gig. Luck was finally on my side and I managed to find the lighting designer and, as a bonus, a sound engineer too! Somewhere in my distant past I thought I had met this lighting designer and I asked him if this was so. He looked me up and down, and then replied "I wouldn't have forgotten if we had". Ahem, I thought, here we go.

He still hadn't seen the magazine I had left the day before so, after forcing it upon him, he duly began to read the Hot House Flowers article - starting from the end! He said he didn't mind an interview but he couldn't think of anything good to say about the tour

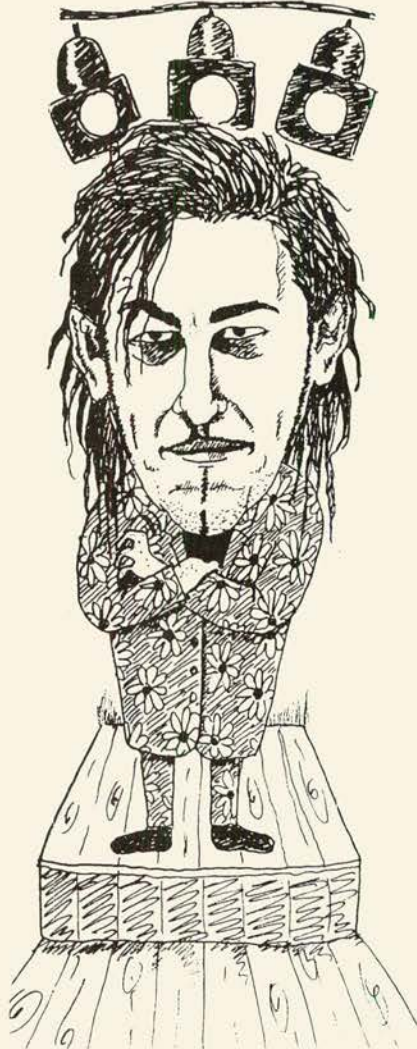
so far except that the band were terrific (job security and all that, I think). He said he wanted time to think of something positive to say and, as he already had a meeting lined up with some TV crew (apparently at Bob Geldorf's request, a gig had been arranged at a rural Queensland Bachelor and Spinster Ball which the TV crew were going to film. Honestly, the lengths some bands will go to, to get an audience!) I decided to postpone the interview until later in the afternoon. As I only lived around the corner this was no hassle for me. The lighting designer promised to either phone me or pop round when he was free of the TV people.

Well, you've guessed it, I'm still waiting. Now could it be that he still hasn't thought of anything positive to say about the tour? Did my frequent mention of my husband deter him? Perhaps there was too much embarrassment at having to play such a small venue? Now we'll never know. We'll just have to draw our own conclusions.

So please, if in future I try to arrange an interview with you remember these three points:

- 1) **Don't** ask me for a **seafood platter**.
- 2) **Don't** talk to my **tits** instead of my **face**.
- 3) **Don't** leave me waiting by the phone like an **abandoned teenager!**

*"If I'm not a groupie, then I must be with catering. Will I lavish them with sexual favours - or lasagne?"*



# Great Mistakes

## Life On The Road: One Big Series Of Events .... like the 30 bikers at the gig....

I started running a PA more out of coincidence than anything else. It was 1983 and gigs were still a-plenty, the band I was in had been practising for god knows how long and since we'd got a few gigs and I had a few bucks tucked away ..... well... it seemed like a good idea at the time! Dateline: 6 weeks later.. Band broke up, guitarist stuck with van and frontloaded PA.

It just so happened that I hired my van to a local, smalltime, "booking agent" and he suggested that seeing as I didn't charge much (or know much) that I should hire my PA out to small venue bands. So I did!

Well after reading some of your other readers stories of life's little misfortunes on "tha' road", I thought they might like to share some of the situations that myself, and a few other notables, got involved in over the years. By the way, I know it's amazing, but that particular booking agent that got me started actually went on to become someone that not one of your readers would ever remember.

After working towards a truck and a separate foldback desk it was now time to hit "tha' road" and stop doing all the city gigs. While working

in city gigs only offered the usual drunken non-eventful blues between blokes, life on the highway presented all sorts of new problems to conquer.

Like the time we pulled up to the bowser at a servo outside Wagga. Filled the tank up no worries then went inside for toasted sangers with the crew. Well we were halfway through being served when about thirty bikers came into the place, one came up to our lighting trog and said "How's it hangin" or something and then asked if we were working in town that night. The lady behind the counter just stopped serving as if she was used to waiting for people like this to interrupt her day with customer surveys. We told them where we were working and with some smart comment about Japanese trucks they left, saying that they would see us later at the gig.

"Later" was the key word; the bikers showed up halfway through the main set and boy were they pissed. They stormed in saying that they didn't have to pay because they knew the roadies and the local bouncer explained that he couldn't really argue with them. Well, with the scene set for real trouble the tour manager

simply explained to the bikers that everyone else paid and so they should too! With that the bikers paid and then shouted us drinks.

Then there was the time we got the flat front tyre. You'll never guess where it happened. We'd been working the now five man crew, at a gig just outside of a popular snow resort. (Boy it was tough loading in the snow..) After packing up the day before and then not having to do an "overnighter", we were to have had a good nights sleep, drive to town and fuel up and then cruise back to the city with plenty of time to spare. That was until the rubber gave way, I couldn't believe it, you won't believe it, of all the places it could have happened and we had to be parked in a service station next to the mechanics workshop. SHIT... So...without needing to hitch a ride in any elaborate situation and without getting involved with the local law we got through it. With only the help of the crew and the mechanics, and aided by our brand new, not a retread, no story in that one, spare tyre we were on our way with only 12 minutes lost. I guess it's just one of those

*(continued on Page 81)*

## APOGEE ARTIST SYSTEM 8000

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Circle 150 On Reader Service Card for more information

Chapter 3: Directivity and Angular Coverage of Loudspeakers (*continued*)

*The Importance of Flat Power Response (continued)*

The rising DI of most good radial horns is accomplished through a narrowing of the vertical pattern with frequency, while the horizontal pattern remains fairly constant, as shown in Figure 3-8A (below). Such a horn can give excellent horizontal coverage, and since it is "self equalising" through it's rising DI, there may be no need at all for external equalisation. The smooth-running horizontal and vertical coverage angles of a Bi-radial, as shown at B, will always require power response HF boosting.

DI and Q can be calculated from polar data by integration using the following equation:

$$DI = 10 \log \left[ \frac{2}{\int_0^\pi (P_\theta)^2 \sin\theta d\theta} \right]$$

$P_\theta$  is taken as unity, and  $q$  is in  $10^\circ$  increments. The integral is solved for a value of DI in the horizontal plane and a value in the vertical plane. The resulting DI and Q for the radiator are given as:

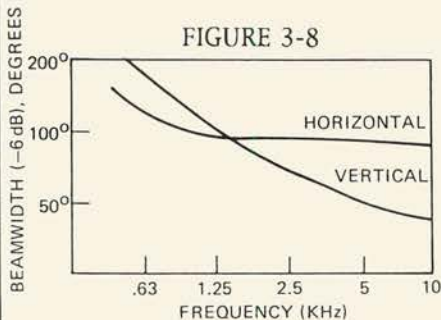
$$DI = DI_{h/2} + DI_{v/2}$$

$$Q = \sqrt{Q_n \cdot Q_v}$$

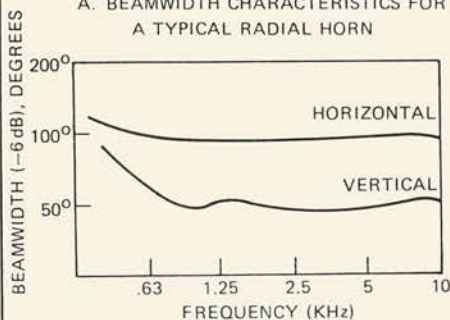
We now take the 1-watt, 1-meter rating of the device and break it down into three terms, as shown below:

$$dB-SPL (1-W, 1-m) = 109 + DI + 10 \log (eff)$$

Written in this way, the rating consists of three parts: 109dB, the SPL produced by one acoustic watt at a distance of 1 meter radiating omnidirectionally;  $10 \log (eff)$ , a term expressing the level loss due to the efficiency or less than unity; and DI.



A. BEAMWIDTH CHARACTERISTICS FOR A TYPICAL RADIAL HORN



B. BEAMWIDTH CHARACTERISTICS FOR A 40° x 90° BIRADIAL HORN

*Measurement of Directional Characteristics*

Polar plots and isobar plots require that the radiator being measured be rotated about several of it's axes and the response recorded. Bandwidth plots may be taken directly from this data.

(Note: There are slight variations of this method, and of course all commonly used methods are only approximations in that they make use of limited polar data.)

The method shown in Figure 3-9 uses a reverberant to perform the integration described in the foregoing equation. In this measurement method, the microphone is located well into the reverberant field of the room (placing the microphone behind the loudspeaker is a good way to ensure this). The second pressure level in the room is given by:

$$dB-SPL = 94 + 20 \log \left[ \frac{4\rho_0 cW}{R} \right]^{1/2}$$

where  $\rho_0 c$  is the acoustical impedance of air ( $415 Nsec/m^3$ ),  $R$  is the room constant,  $m^2$ , and  $W$  the acoustical power output in watts. this equation may be rewritten:

$$dB-SPL = 94 + 10 \log (1660) - 10 \log R + 10 \log (eff)$$

All the terms on the right side of the equation are known except the  $10 \log (eff)$  term. We will not have to solve for it, as we will soon see.

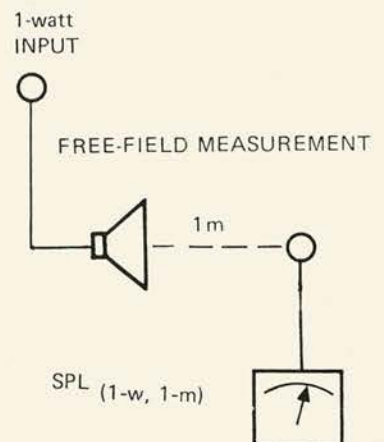
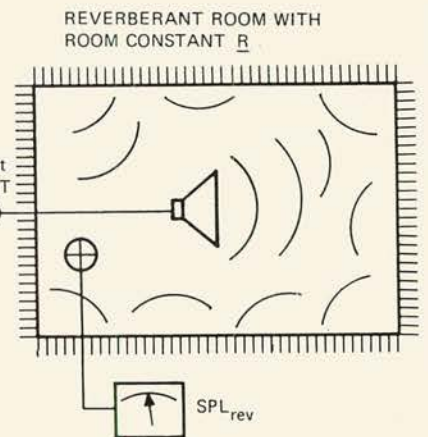


FIGURE 3-9

(Continues)



## What is DMX-512?

### ADVANTAGES OF DMX512: (continued)

(3) Softpatching. One of the bugbears of lighting systems in the past has been the laborious task of patching. Two types of patching systems have generally been and still are used in analog systems. These are the hot-patch which is done at the mains or 240 Volt end of things and pin-patching where the analog signal out of the desk can be routed to the desired dimmer(s) by the use of a pin patch board.

One of the offshoots of digital systems is that a feature known as softpatching has become feasible. Since we already have our control signal in a digital format which is easily handled by a computer and with DMX512 we have the capability to send levels to any number of dimmers up to 512 with no cost or hardware increase, softpatching becomes an easy task. What softpatching provides is the ability to connect a desk channel to any number or combination of dimmers. The "soft" in softpatching comes from the fact that these connections can be easily changed at the operator's whim.

I don't really intend to cover all the benefits of softpatching in this discussion but if anyone is interested please feel free to contact me for further details.

### PROBLEMS WHEN USING DMX512

OK so what you're probably thinking is "This is great I get all these channels down the equivalent size of a microphone cable and all these great features" but wait a minute where's the catch? Fortunately in the case of DMX512 there is not a big price to pay but it still obeys the golden rule - there's no such thing as a free lunch!

So what are the possible pitfalls when using DMX512?

Possibly the least understood problem that is encountered when using DMX512 is that special precautions must be taken when interconnecting equipment. DMX512 uses some very fast electronic signals and these signals are very particular about the type of cable they are given to travel along. They get more particular as the length of the cable is increased.

The first and foremost trap to avoid is not to use low quality cable for DMX512 signals. The common thing to do is to use microphone cable and over short distances, although we will never recommend it, this should work fine. However if you value your show and the desk and dimmers are separated by more than several metres then invest in a good quality data cable. Don't forget that with the old analog systems you were prepared to invest thousand of dollars in a multicore so why skimp on a good quality DMX512 cable?

If you are using a fairly long multicore and by that I mean over say 50 metres then it is wise to use what is called a terminator (more affectionately known at LSC as a "Schwarzenegger"). A terminator is merely a resistor connected across the end of the line. It is needed to prevent reflections on the line which would confuse the dimmers.

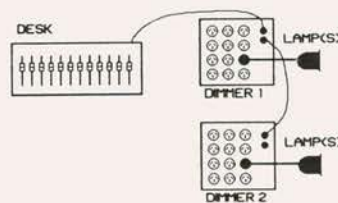
Drawing a simple parallel again, consider a swimming pool. If you drop a stone into the centre of the pool ripples will start moving toward the edge of the pool. You will probably have noticed that after the ripple or wave reaches the wall of the pool it turns around and starts heading back toward the centre of the pool.

The same occurs in the DMX cable. When the signal reaches the end of the cable, if it has no where to go then it will turn around and head back up the cable. This is very confusing to the dimmers since the reflection will interfere with the real signal and the dimmers do not know which one to believe.

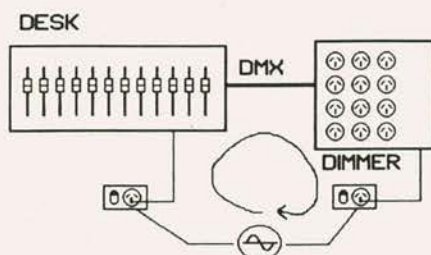
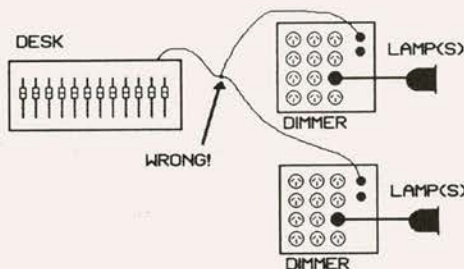
A terminator eliminates this problem by soaking up the signal when it reaches the end of the cable thus preventing reflections.

Extending this idea a little further, what the signal really wants to see once it leaves the desk (transmitter) is one continuous piece of cable. The terminator fools the signal into believing that the cable goes forever.

Here the signal coming along the cable will see a difference at the junction of the two legs and will complain bitterly by giving a reflection from this point back up the line. A better way to run the cabling for this is as shown here; first to one dimmer and then to the second not forgetting your terminator at the end of the line. DMX512 is specified to 1km. so there will be few occasions that will violate this. If a longer cable run is required, then a repeater should be used.



**EARTH LOOPS** - Earth loops are again a very little understood problem and are generally associated with audio equipment. This problem arises when both the dimmers and the desk have their common signal tied to the mains earth. If the earth potential differs at the two points where the respective equipment is plugged in, large earth currents flow between these points via the common wire in your DMX512 cable. This again creates havoc for the digital signals and error can be introduced.



(Continues)

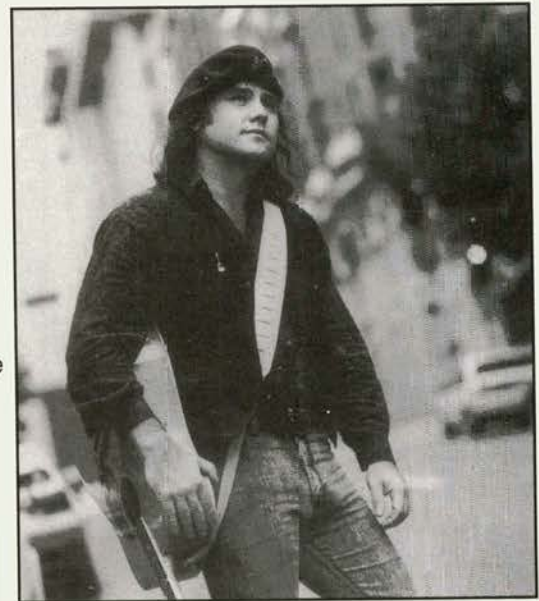




It's Elia (L) from Damien Gerrards, doin' her cther gig, while Mark Keegan (a) and Sue from GUVT rang after the ATS extravaganza at Sydney's Entertainment Centre.



Tony Hunt (L) at Gerrards, Ray O'Sullivan (a) at the Ent. Cent, likewise was John McKissock (below). Nostalgia sho' of our new writer, Bob Arms'rong (R),- was it in the days when men wore two pairs of socks?



Our Catriona Forcer (L) with Peter McKenzie from Lightmoves, at the Ent. Centre. 'Whose THAT?' She's asking!



Harry M. (above R) asks Denis (ATS) Braham: "What AM I looking at?"

Lisa Adams from ATS (left)

Old Sound-thing 'Ziggy' (right) with younger wife-of-another soundthing, Ruth McKinnon.



Richard Steele of High End Systems at the ATS gig.



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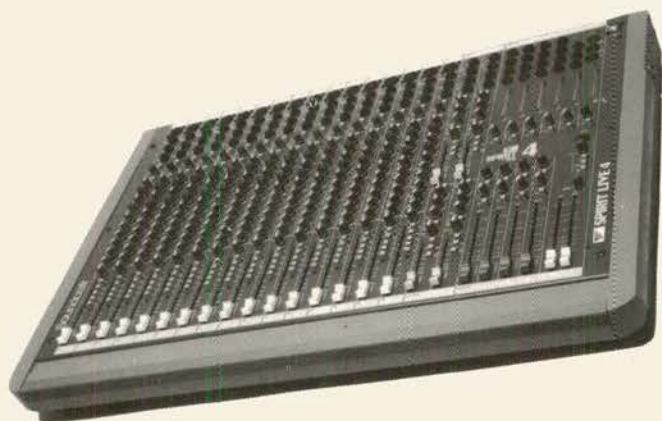
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Spirit Live 16ch \$4,495	Vienna Monitor 32/16, 40/16
Spirit Live 24ch \$6,995	Europa Concert Consoles
8 ch expander, Live \$2,495	
Live 4, 14ch \$4,995	Spirit Monitor <b>SPECIAL</b>
Live 4, 20ch \$7,495	16:8 with wedge send:
Live 4, 28ch \$9,995	\$7,495 (save \$1500)
Live 4, 36ch \$12,495	24:8 with wedge send:
8 ch expander, Live 4 \$2,695	\$9,495 (save \$2000)

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# Buyers Guide

## Welcome!

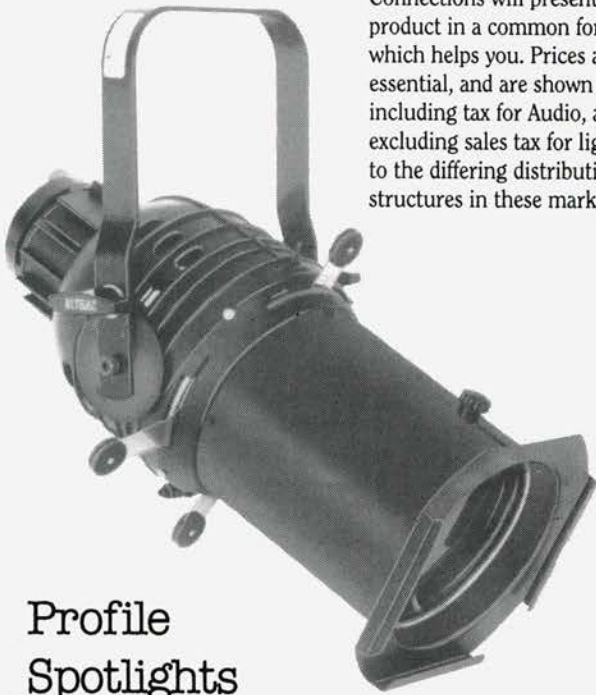
Our new Buyers Guide section will track available products in the Sound & Lighting markets with the help of those who distribute. What we will endeavour to do is put you on the right track when purchasing or specifying these products.

### COMING UP:

<b>August</b>	Studio Mixing Consoles	Moving Lights
<b>September</b>	Microphones	Lighting Control
<b>October</b>	Amplifiers	Dimmers

Music Technology products will be added soon, the programme will run for 12 months then be updated. Every issue will carry a Buyers Guide - added value for you, the reader.

Who needs a Year Book? Connections will present every product in a common format, which helps you. Prices are essential, and are shown as Retail including tax for Audio, and List excluding sales tax for lighting, due to the differing distribution structures in these markets.



## Profile Spotlights

This market has been through a restructuring of sorts in recent times, with the current lineup looking stable. CCT are missing, we haven't heard from anyone representing this major range in Australia since Jands relinquished the line. That's not to say someone isn't handling it, rather we just haven't heard from them! Where are you, CCT?

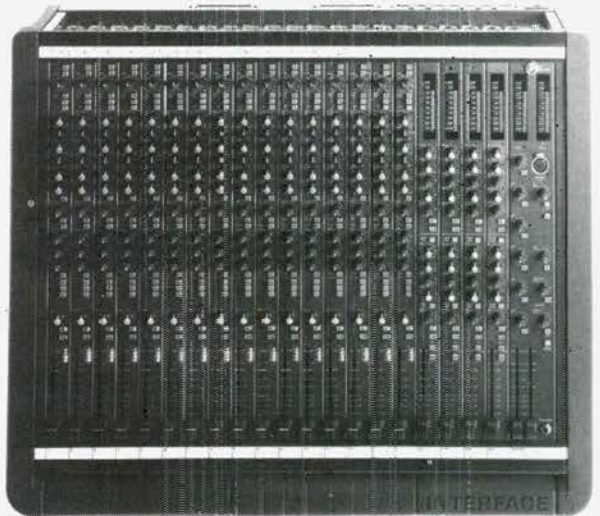
When we first contacted the Distributors the question of LUX was debated, we decided because different manufacturers use differing measurements (ie: centre of beam, 10m out, at lens etc) we'd leave this out. For what it's worth, Prolite are an Australian manufacturer, Selecon a New Zealand manufacturer, and the balance imported.

### Be In The Buyers Guide

Distributors should use our Fax/Form, which details the common parameters for each Buyers Guide. If we haven't sent you one the month before the guide, call us - our fax may have goofed!

**COMING UP:** August: Studio Mixing Consoles, Moving Lights  
September: Microphones, Lighting Control  
October: Amplifiers, Dimmers.

Contact Julius Grafton, (02) 876-2612, Fax (02) 876-3530



## Live Sound Mixing Consoles

Is choice a bad thing? The myriad of types on offer here indicate if anything this market sector is tight and tough. Missing are several notable types, either through lack of current representation or distributor indifference. Prices are Australian Retail including tax, and here is where you need to do some research, because the 'Street Price' is a moveable feast, based on (a) availability, (b) margins and (c) retailer morality. As a general rule, getting 20% off retail isn't too hard - but we didn't say that!

Features not shown: metering, cues, mute groups, returns - the more recent offerings are rich in stereo return channels. Size and weight come into it too, you wouldn't buy anything without listening to it first, would you? Look for noise with facers open, EQ accuracy and warranty duration vs. service centre location. Mixers have a LOT of moving parts, and a lot of connections, so expect some teething hassles no matter what you buy. Just like a computer system, right?

### AUSTRALIAN DISTRIBUTORS:

**Mackie:** Australian Audio Supplies, (018) 432-910. **Ramsa:** Ramsaudio Aust, (02) 477-7377. **ART:** Dynamic Music (02) 939-1299. **ROSS:** C.M.I. (03) 315-2244. **DOD:** C.M.I. (03) 315-2244. **Soundcraft:** Jands (02) 516-3622. **Yamaha:** Yamana Aust (03) 699-2388. **Mark IV:** Mark IV Aust (02) 648-3455. **Soundtech:** Electric Factory (03) 484-6708. **Phonic:** CMC (02) 905-2511. **Peavey:** Australis (02) 938-3466. **Mitec:** Australian Monitor (02) 816-3544. **Inkel:** Magra Systems 417-1111.



# Buyers Guide

## Live Sound Mixing Consoles

### Under \$5000

Product Name	# ch.	# sub groups	# aux sends	# EQ per ch.	# sweep EQ's per ch.	Fader length	Outputs Balanced?	Matrix	Price retail	Ex stock? Yes/No
MACKIE 1202	12	-	2	2	-	Rotary	Yes, 6.5mm	-	\$1,149	Yes
MACKIE CR 1604 ✓	16	4	7	3	-	40mm	Yes, 6.5mm	-	\$3,095	Yes
ART Phantom 1608	8 + 8	4	8	4	-	100mm	XLR, 6.5mm	-	\$3,250	Yes
ART Phantom 2408	16 + 8	4	8	4	-	100mm	XLR, 6.5mm	-	\$3,795	Yes
ART Phantom 3208	24 + 8	4	8	4	-	100mm	XLR, 6.5mm	-	\$3,995	Yes
ROSS RCS-802	8	-	3	3	-	60mm	XLR, 6.5mm	-	\$869	Yes
ROSS RCS-1202	12	-	3	3	-	60mm	XLR, 6.5mm	-	\$1,169	Yes
ROSS RCS-1602	16	-	3	3	-	60mm	XLR, 6.5mm	-	\$1,469	Yes
ROSS RCS-2402	24	-	3	3	-	60mm	XLR, 6.5mm	-	\$2,099	Yes
ROSS Minimix	16	-	4	2	-	60mm	No, 6.5mm	-	\$1,779	Yes
ROSS RCS-1402 ✓	14	-	3	3	-	Rotary	No, 6.5mm	-	\$1,149	July
DOD DM-822XL or rack	8	-	3	3	-	60mm	Yes, 6.5mm	-	\$1,249	Yes
DOD DM-1222XL or rack	12	-	3	3	-	60mm	Yes, 6.5mm	-	\$1,629	Yes
DOD DM-1642	16	2	6	3	-	60mm	Yes XLR	-	\$2,999	Yes
Soundcraft Folio 10	10	2	2	3	1	60mm	Yes, 6.5mm	-	\$1,495	Yes
Soundcraft Folio 12	12	2	2	3	1	60mm	Yes, 6.5mm	-	\$1,795	Yes
Soundcraft Folio 12 rack	12	2	2	3	1	60mm	Yes, 6.5mm	-	\$1,495	Yes
Soundcraft Spirit Live 8 (& rack)	8	3	4	3	2	100mm	Yes, XLR	-	\$2,695	Yes
Soundcraft Spirit Live 16	16	3	4	3	2	100mm	Yes, XLR	-	\$4,495	Yes
Soundcraft Spirit Live 8 expand	8	-	4	3	2	100mm	Bus	-	\$2,495	Yes
Spirit Live Four, 14 ✓	14	4	5	3	2	100mm	Yes, XLR	-	\$4,995	Yes
Yamaha AM602	6	-	2	2	-	50mm	No	-	\$549	Yes
Yamaha AM802	10	-	3	2	-	50mm	No	-	\$899	Yes
Yamaha MV802 rack	8	-	2	-	-	Rotary	Yes	-	\$995	Yes
Yamaha MV1602 rack	18	-	4	3	-	75mm	Yes	-	\$1,995	Yes
Yamaha MC803	8	3	3	3	1	75mm	Yes, XLR	-	\$1,895	Yes
Yamaha MC1203	12	3	3	3	1	75mm	Yes, XLR	-	\$2,495	Yes
Yamaha MC1603	16	3	3	3	1	75mm	Yes, XLR	-	\$2,995	Yes
Yamaha MC2403	24	3	3	3	1	75mm	Yes, XLR	-	\$3,495	Yes
Yamaha DMP-11 Digital ✓	8	-	2	3	3	75mm	Yes	-	\$3,995	Yes
Mark IV EV BK842	8	-	3	3	1	100mm	Yes, XLR	-	\$2,695	Yes
Mark IV EV BK1242	12	-	3	3	1	100mm	Yes, XLR	-	\$3,295	Yes
Mark IV EV BK1642	16	-	3	3	1	100mm	Yes, XLR	-	\$3,695	Yes
Mark IV EV BK2442 ✓	24	-	3	3	1	100mm	Yes, XLR	-	\$4,695	Yes
Soundtech ST1220	12	2	3	3	1	60mm	Yes, XLR	-	\$1,799	Yes
Soundtech ST1620	16	2	3	3	1	60mm	Yes, XLR	-	\$2,099	Yes
Soundtracs Solo Rack ✓	12	-	6	4	2	100mm	Yes, XLR	-	\$4,495	Yes
Ramsa WR-S4412 ✓	12	4	4 inc direct	3	1	100mm	Yes, XLR	-	\$3,990	Yes
Inkel MX 1400	10	4	2	2	-	75mm	Yes, XLR	-	\$1,400	Yes
Inkel MX 1410	14	4	2	3	1	75mm	Yes, XLR	-	\$2,100	Yes
Inkel MX 1810	18	4	2	3	1	75mm	Yes, XLR	-	\$2,500	Yes
Phonic PMC 802A	8	-	3	3	1	70mm	Yes, XLR	-	\$1,295	Yes
Phonic PMC 1202A	12	-	3	3	1	70mm	Yes, XLR	-	\$1,695	Yes
Phonic PMC 1602A	16	-	3	3	1	70mm	Yes, XLR	-	\$1,995	Yes
Phonic PMC 2402A	24	-	3	3	1	70mm	Yes, XLR	-	\$2,795	Yes
Phonic PMC 802B	8	-	3	3	-	70mm	Yes, XLR	-	\$895	August 93
Phonic PMC 1202B	12	-	3	3	-	70mm	Yes, XLR	-	\$1,195	August 93
Phonic PMC 1602B	16	-	3	3	-	70mm	Yes, XLR	-	\$1,495	August 93
Phonic PMC 2402B	24	-	3	3	-	70mm	Yes, XLR	-	\$1,995	August 93
Phonic M1642	16	4	6	3	1	70mm	Yes, XLR	-	\$3,295	August 93
Phonic M2442	24	4	6	3	1	70mm	Yes, XLR	-	\$3,995	August 93
Peavey MD 111 - 12	12	-	6	3	1	100mm	No	-	\$3,195	Yes
Peavey MD 111B - 12	12	-	6	3	1	100mm	Yes	-	\$3,395	Yes
Peavey MD 111 - 16	16	-	6	3	1	100mm	No	-	\$3,795	Yes
Peavey MD 111B - 16	16	-	6	3	1	100mm	Yes	-	\$3,995	Yes
Peavey SRC 1600 ✓	16	4	6	3	1	100mm	Yes	-	\$4,795	Yes
Peavey Unity 1000 - 8	8	-	2	3	-	60mm	No	-	\$1,129	Yes

✓: Range continues; above \$5000



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# Buyers Guide

## Live Sound Mixing Consoles

### Under \$5000

Product Name	# ch.	# sub groups	# aux sends	# EQ per ch.	# sweep EQ's per ch.	Fader length	Outputs Balanced?	Matrix	Price retail	Ex stock? Yes/No
Peavey Unity 1000 - 12	12	-	2	3	-	60mm	No	-	\$1,449	Yes
Peavey Unity 2000 - 12	12	-	4	3	-	60mm	No	-	\$1,769	Yes
Peavey Unity 2000 - 126	16	-	4	3	-	60mm	No	-	\$2,295	Yes
Mitec M Series	8	-	2	4	-	60mm	Yes, XLR	-	\$1,460	Yes
Mitec M Series	16	-	2	4	-	60mm	Yes, XLR	-	\$2,339	Yes
Mitec Road Series	8	-	2	4	-	60mm	Yes, XLR	-	\$1,885	Yes
Mitec Road Series	16	-	2	4	-	60mm	Yes, XLR	-	\$2,780	Yes
Mitec Stage Server Monitor ✓	16	Monitor desk	8	4	2	60/100mm	Yes, XLR	-	\$4,480	Yes

✓: Range continues; above \$5000

### Over \$5000

Mitec Stage Server Monitor	24	Monitor desk	8	4	2	60/100mm	Yes, XLR	-	\$6,600	Yes
Mitec Performer 16	16	4+2+2	5	4	2	100m	Yes, XLR	Option	\$5,200	Yes
Mitec Performer 24	24	4+2+2	5	4	2	100m	Yes, XLR	Option	\$8,100	Yes
Mitec Performer 32	32	4+2+2	5	4	2	100m	Yes, XLR	Option	\$9,000	Yes
Mitec Performer expander	8	Expander	5	4	2	100m	Bus	(Expander)	\$3,000	Yes
Mitec EVENT 24	24	8+2+2	8	4	2	100mm	Yes, XLR	Option	\$17,000	Yes
Mitec EVENT 32	32	8+2+2	8	4	2	100mm	Yes, XLR	Option	\$20,000	Yes
Mitec EVENT 40	40	8+2+2	8	4	2	100mm	Yes, XLR	Option	\$25,000	Yes
Mitec EVENT 48	48	8+2+2	8	4	2	100mm	Yes, XLR	Option	\$28,000	Yes
Peavey SRC 2400	24	4	6	3	1	100mm	Yes	-	\$6,295	Yes
Peavey Mark VIII 24	24	8	8	4	4	100mm	Yes	-	\$24,995	No
Peavey Mark VIII 36	36	8	8	4	4	100mm	Yes	-	\$29,995	No
Mackie 8 bus	16, 24, 32	8	6	4	2	100mm	Yes, XLR	2 x 8	\$8 - \$12,000	No
Ross RCS-2482	28	4	8	4	2	100mm	Yes, XLR	-	\$5,299	Sept 93
Ramsa WR-S4416	16	4	4 & direct out	3	1	100mm	Yes, XLR	-	\$5,590	Yes
Ramsa WR-S4424	24	4	4 & direct out	3	1	100mm	Yes, XLR	-	\$7,590	Yes
Ramsa WR-S840	40 - 52	8	8	4	4	100mm	Yes, XLR	8 x 8	POA	No
TAC Bullet	10 - 30	4/8	6	4	2	100mm	Yes, XLR	No	\$12 - \$30,000	Yes
TAC Scorpion	24 - 40	8/16	4/8	4	2	100mm	Yes, XLR	Option	\$33 - \$53,000	Indent
TAC SR 6000	24 - 40	16	16	4	4	100mm	Yes, XLR	8 x 8	\$65 - \$94,000	Indent
TAC SR-9000	24 - 42	16	16	4	4	100mm	Yes, XLR	16 x 8	Circa \$168k	Indent
Mark IV Interface	16 - 40	4	6	4	2	100mm	Yes, XLR	4 x 4 option	from \$14,000	Yes
Soundtracs Solo Live 16	16	4	6	4	2	100mm	Yes, XLR	-	\$6,295	Yes
Soundtracs Solo Live 24	16	4	6	4	2	100mm	Yes, XLR	-	\$8,495	Yes
Soundtracs Solo Live 32	16	4	6	4	2	100mm	Yes, XLR	-	\$11,495	Yes
Soundtracs Solo Monitor 24	24	10 sends	-	4	2	60mm	Yes, XLR	Monitors	\$11,995	Yes
Soundtracs Solo Monitor 32	32	10 sends	-	4	2	60mm	Yes, XLR	Monitors	\$15,495	Yes
Soundtracs Solo 8 live	24 - 32	8	6	4	2	100mm	Yes, XLR	-	\$18 - \$21,000	July 93
Soundtracs Megas Mix 16	16	4	6	4	2	100mm	Yes, XLR	-	\$13,695	Indent
Soundtracs Megas Mix 24	24	4	6	4	2	100mm	Yes, XLR	-	\$17,895	Yes
Soundtracs Megas Mix 32	32	4	6	4	2	100mm	Yes, XLR	-	\$20,995	Indent
Soundtracs Megas Stage 24	24	8	6	5	2	100mm	Yes, XLR	8x8 option	\$28,995	Yes
Soundtracs Megas Stage 32-48	32 - 48	8	6	5	2	100mm	Yes, XLR	8x8 option	\$35 - \$46,000	Indent
Soundtracs Megas Monitor	24 - 32 - 40	10	-	5	2	60mm	Yes, XLR	Monitors	\$27 - \$37,000	Indent
Soundtracs Sequel 24 - 40	24 - 32 - 40	8	8	4	4	100mm	Yes, XLR	8 x 8	\$66 - \$89,990	Indent
Soundtracs SPA series	24 - 32 - 40 - 48	8 VCA	9	5	4	100mm	Yes, XLR	8 x 8	\$122 - \$194,000	Indent
Yamaha MC 1204II	12	4	4	4	2	100mm	Yes, XLR	6 x 2	\$6,495	Yes
Yamaha MC 1604II	16	4	4	4	2	100mm	Yes, XLR	6 x 2	\$7,995	Yes
Yamaha MC 2404II	24	4	4	4	2	100mm	Yes, XLR	6 x 2	\$10,495	Yes
Yamaha MC 3204II	32	4	4	4	2	100mm	Yes, XLR	6 x 2	\$12,995	Yes
Yamaha MC 2410M Monitor	24	10	2	4	2	100mm Outs	Yes, XLR	-	\$12,995	Yes
Yamaha MC 3210M Monitor	32	10	2	4	2	100mm Outs	Yes, XLR	-	\$15,995	Yes
Yamaha PM 1200 16 - 32	16 - 32	4	4	3	1	100mm	Yes, XLR	-	POA	Variable
Yamaha PM 1800A 16 - 40	16 - 40	8	6	4	2	100mm	Yes, XLR	8 x 4	POA	Variable
Yamaha PM 4000M Monitor	44 - 52	22	-	4	4	100mm	Yes, XLR	-	POA	TBA
Yamaha PM 4000 house	32 - 56	8 & 8VCA	12	4	4	100mm	Yes, XLR	11 x 3	POA	Variable
Soundcraft Spirit Live Four 20	20	4	5	3	2	100mm	Yes, XLR	-	\$7,495	Yes
Soundcraft Spirit Live Four 28	28	4	5	3	2	100mm	Yes, XLR	-	\$9,995	Yes
Soundcraft Spirit Live Four 36	36	4	5	3	2	100mm	Yes, XLR	-	\$12,495	Yes
Spirit Live Four expander	8	Bus	5	3	2	100mm	Bus	-	\$2,695	Yes
Soundcraft Spirit Monitor	16	8 + wedge	-	3	2	60mm	Yes, XLR	-	\$7,495	Yes
Soundcraft Spirit Monitor	24	8 + wedge	-	3	2	60mm	Yes, XLR	-	\$9,495	Yes
Soundcraft Delta SR consoles	8 - 32	4 + 2	4	3	2	100mm	Yes, XLR	4 x 4	\$8 - \$20,000	Yes
Soundcraft Delta Deluxe	8 - 32	4 + 2	6	4	2	100mm	Yes, XLR	-	\$12 - \$30,000	Some
Soundcraft Delta Monitor	24, 32, 40	12	2	4	2	100mm	Yes, XLR	-	\$32 - \$47,000	Indent
Soundcraft Venue II	16, 24, 32, 40, 44	8+2	6 & direct	4	2	100mm	Yes, XLR	Optional	\$23 - \$44,000	Indent
Soundcraft Vienna	16, 24, 32, 40	8 + 8 VCA opt	8	4	4	100mm	Yes, XLR	11 x 8 opt	\$48 - \$80,000	Indent
Soundcraft Vienna Monitor	32 & 40	16	-	4	4	100mm	Yes, XLR	-	\$77 - \$88,000	Indent
Soundcraft Europa	24, 32, 40	8 + 8 VCA	12	4	4	100mm	Yes, XLR	11 x 8	\$96 - \$130,000	Indent

NOTES: Prices retail inc. tax, as advised. All features & details advised by Aust. importers. E & OE. Other types available, not all importers responded. Compiled May 24th 1993. Prices will vary.

## Profile Spotlights

# Buyers Guide

Product Name	Watts	Lamp type	Beam Angle/s <sup>2</sup>	Typical Throw:m	Weight	Length mm	Width mm	Height	Frame Size	Price EX TAX	In stock?
Prolite PR5-ZPM *revised 5/93	500/650	T25/T27	16 - 27	6 - 12	6.5	635*	228	282	155	\$348	Yes
Prolite PR6-ZPM *revised 5/93	500/650	T25/T27	16 - 27	6 - 12	7.8	655*	228	282	155	\$367	Yes
Prolite PR5-ZPW	500/650	T25/T27	26 - 40	4 - 10	5.6	515	228	282	155	\$348	Yes
Prolite PR6-ZPW	500/650	T25/T27	26 - 40	4 - 10	6.8	535	228	282	155	\$367	Yes
Prolite PR10 - ZPM	1000/1200	T19/T29	16 - 28	8 - 20	7.8	730	253	360	183	\$553	Yes
Prolite PR12 - ZPM	1000/1200	T19/T29	16 - 28	8 - 20	11.8	730	253	360	183	\$595	Yes
Prolite PR10 - ZPW	1000/1200	T19/T29	26 - 40	6 - 16	7.3	630	253	360	183	\$553	Yes
Prolite PR12 - ZPW	1000/1200	T19/T27	26 - 40	6 - 16	10.6	630	252	360	183	\$595	Yes
Prolite PR22 - ZPM	2000	CP72	16 - 28	20 - 40	12.5	830	252	360	183	\$640	Yes
Prolite PR22 - ZPW	2000	CP72	26 - 40	12 - 25	11.6	730	253	360	183	\$640	Yes
Teatro Comma 16/28	650	T27	16-28	5-13	4.6	560	365	150	103x145	\$440	Yes
Teatro Comma 22/35	650	T27	22-35	3-9	4.4	500	365	150	130x145	\$440	Yes
Teatro Comma 37/48	650	T27	30-45	3-9	4.7	420	365	150	103x145	\$500	Yes
Teatro Comma 26	650	T27	28	3-9	4.5	420	365	150	130x145	\$400	Yes
Teatro Tratto-2 15/28	1000/1200	T19/T29	15-28	6-20	12.7	835	285	210	165	\$1020	Yes
Teatro Tratto-2 22/40	1000/1200	T19/T29	22-40	4-16	11.9	740	285	210	165	\$1020	Yes
Teatro Tratto 2C 9/18	1000/1200	T19/T29	9-18	6-28	12.6	860	285	245	165	TBA	Mid '93
Teatro Tratto 2C 19/42	1000/1200	T19/T29	19-42	4-16	11.7	740	285	245	165	TBA	Mid '93
Teatro Tipo 15/28	1000	T19	15-28	6-18	12.2	830	354	226	165	\$910	Yes
Teatro Tipo 22/40	1000	T19	22-40	4-12	11.3	738	354	226	165	\$930	Yes
Teatro Acuto 9/15	2000	CP72/CP79	9-15	10-40	24.8	1142	365	290	245	\$1860	Demo
Teatro Acuto 12/22	2000	CP72/CP79	12-22	10-25	22.8	1010	365	290	245	\$1750	Demo
Teatro Acuto 19/32	2000	CP72/CP79	19-32	5-18	20.8	776	365	290	245	\$1730	Demo
Selecon ZS650	500/650	T27	16°-30°	6-10	5	510	210	153	125	\$422	YES
Selecon ZS650W	500/650	T27	22°-40°	4-10	5	510	210	153	125	\$439	YES
Selecon ZS1200N	1000/1200	T29	8°-16°	8-20	14	1030	270	214	185	\$869	YES
Selecon ZS1200M	1000/1200	T29	16°-32°	8-16	12	735	270	214	185	\$798	YES
Selecon ZS1200W	1000/1200	T29	22°-40°	7-14	12	735	270	214	185	\$798	YES
Selecon ZS2500N	2000	CP72	8°-16°	10-30	19	950	350	290	245	\$1190	NO
	2500	CP91/92	8°-16°	10-35	19	950	350	290	245	\$1260	NO
Selecon ZS2500M	2000	CP72	16°-32°	8-20	15	800	350	290	245	\$980	NO
	2500	CP91/92	16°-32°	8-25	15	800	350	290	245	\$1050	NO
Selecon ZS2500W	2000	CP72	22°-40°	7-20	15	800	350	290	245	\$980	NO
	2500	CP91/92	22°-40°	7-25	15	800	350	290	245	\$1050	NO
Selecon Accent Profile	50/75	MR16	28°-45°	2-5	2.2	297	83	73	60	\$310	YES
Selecon Accent Profile	20-75	MR16	28°-45°	2-5	0.95	243	83	73	60	\$310	YES
Coemar Accento 16/30	500/650	T25/T27	16 - 30	3 - 9	4.4	500	365	380	130 x 145	\$525	Yes
Coemar Accento 20/35	500/650	T25/T27	20 - 35	5 - 13	4.6	560	365	380	130 x 145	\$525	Yes
Coemar Centro	300/500	M38/M40	25	3 - 12	3.5	390	195	260	85x90	\$586	Yes
Coemar Centro HQI (& ballast)	150	HQI-150	25	3 - 16	3.5 & 3.6	390	195	260	85x90	\$687	No
TAS Profile 15/28	650/1000	T21/T19	15-28	6-17	11.2	830	355	408	165	\$785	Yes
TAS Profile 22/40	650/1000	T21/T19	22-40	4-11	10.5	740	355	408	165	\$795	Yes
Strand Quartet 22/40	650	T26	22°-40°	10	4.8	474	243	288	150mm	\$433	n/a
Strand Quartet 25	650	T26	25°	10	4.4	424	243	288	150mm	\$255	n/a
Strand Prelude 16/30	650	T26	16°-30°	8	6.5	525	230	340 or 270	150mm	\$561	n/a
Strand Prelude 28/40	650	T26	28°-40°	8	6.3	435	230	340 or 270	150mm	\$561	n/a
Strand Cantata 11/26	1200	T29	11°-26°	10	12.8	820	300	420	185mm	\$994	n/a
Strand Cantata 18/32	1200	T29	18°-32°	10	12	675	300	420	185mm	\$994	n/a
Strand Cantata 26/44	1200	T29	26°-44°	10	11	570	300	420	185mm	\$994	n/a
Strand Alto 8/16	2500	CP91	8°-16°	15	17	1045	360	460	245mm	\$2076	n/a
Strand Alto 14/32	2500	CP91	14°-32°	10	17	995	360	460	245mm	\$2076	n/a
Strand Alto 20/38	2500	CP91	20°-38°	10	16	805	360	460	245mm	\$2076	n/a
Altman Leko 6 x 9	1000	CP77	37	10	9	450	300	400	200	\$375	Indent
Altman Leko 6 x 12	1000	CP77	26	12	9	500	300	400	200	\$375	Indent
Altman Leko 6 x 16	1000	CP77	19	14	9	575	300	400	200	\$375	Indent
Altman Leko 6 x 22	1000	CP77	11	16	9	750	300	400	200	\$375	Indent

NOTES: ASK if price includes LAMP, Mains Plug, Safety chain: Some do, some don't.

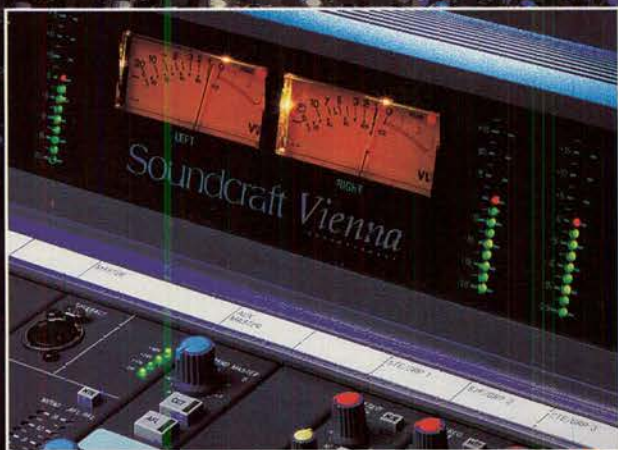
Distributors: PROLITE- Starlight Technologies. STRAND: Bytecraft. SELECON: Selecon NZ. COEMAR: Coemar DeSist Aust. TEATRO: Lightmoves Technologies. ALTMAN: Barratt Lighting.

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# Rocky...



**T**he Rocky Horror Show has just come to the end of a four month run at Sydneys' Her Majesties Theatre and the next port of call for the touring production is Singapore. I went to speak to Tim Newman, the board operator and Sue Saunders, the head electrician about the lighting for the show and their plans for Singapore. The original lighting designer is David Murray who is well known for his theatre lighting.

Tim is a theatre technician and he can usually be found at Her Majesties Comedy Theatre in Melbournes Art Centre. Sue also hails from the Comedy where she has worked as a system electrician/board operator. Sue is finding being with a touring production very interesting and she says she is always busy with plenty to repair. When asked if she's a frustrated lighting designer she was quick to reply that she would never want to be one as her passion is repairing things. As in some previous productions, David Murray chose to utilise a Morpheus Pan Command system supplied by Concert Light Systems of Melbourne.

"They don't come with such a restrictive deal," explained Tim. "You can chose your operators, you don't have to have service people trained with the company. We had Richard from CLS with us for the production weeks and he taught us what we needed to know."

Between them, Tim and Sue do all their own repairs, maintenance, transfers and programming for the system which they describe as being a lot easier than having a third person involved. As well as the Pan Command system there are par cans, lots of Fresnels, Profile Spots, Laser Emulators, Raylights, Quasar FX Projectors, Solar 575 FX Projectors, Terra Strobes, White Lightning Strobes, Neithammer Follow Spots and Lycian Follow Spots. Add to that copious amounts of neon, lots of low voltage dichroics, perspex light boxes that run about the stage with different colours in them, Arcline Strobe, fibre-optics and even a mirror ball.

"It's a busy show!" added Tim. "There are also sixteen colour faders which are part of the PC system. We've had no problems what so ever with the Morpheus equipment. I found it a bit daunting at first because you've got lots of perametres per fixture but the system is easy to learn. Now we are eight months into this production, it's become second nature. I find it very flexible too."

The main feature of the set is the revolve which is five metres in diameter and 7.6 metres tall at its highest point. The show starts off in a very simple lighting state with one cue per song and later the fly pieces are removed and the castle is

## ...and the Pan Commanders

**By Catriona Forcer**

revealed with lots of dry ice, congo blue light. The revolve starts to turn 180%, the walls open out to form a set piece. On the revolve itself there are actually sixty dimmers controlling the lights and neon. The set is very multi-functional depending on which way you turn it - you can be inside or out, in the laboratory, upstairs, downstairs and at the end it turns back around, the walls collapse, the bricks fall out and it turns into a rocket. The rocket actually flies up amongst lots of pyros with lights at the bottom of it and, of course, much smoke and dry ice.

"It's a shame we've got the cast on the stage to spoil our beautiful lighting effects really!" said Sue. I asked Sue if the show had just about every lighting effect possible to which she replied 'not quite but don't say anything or they'll put it in'. I was also curious if there were ever accidents with so much moving scenery on stage.



*Sue Saunders, Head Electrician and Tim Newman, board operator.*

## PanCommand

"The cast are actually pretty good but sometimes we've got understudies on who don't get it right," laughed Sue. "We have a cage that moves forward during one scene, it has neon flashing all around it that does a chase, the steps are also neon chasing, all the strobes are going, all the smoke is going and the understudy got lost! He got run over by the revolve."

"It's a very interesting mixture between old style theatre lighting and rock'n'roll flash," said Tim. "I'm controlling the show with an Avab 202XP board. Both of the desks have got an external trigger and there's one button in the centre which triggers both desks through the sequence."

"The basic rig is very simple," added Sue. "It's just everything that's been laid over top that really makes it interesting. You can do a lot more with moving lights which are still quite new in theatre although the last Rocky Horror production used Vari\*lites. I did the main board and we had a Vari operator to do the other board. I think the effects you can get with the Morpheus system are so much better."

"Also when we first programmed the show the blocking wasn't finished so we needed the extra flexibility to cover the unknown," said Tim. "When the rig was designed it was an unknown quantity what was going to happen."

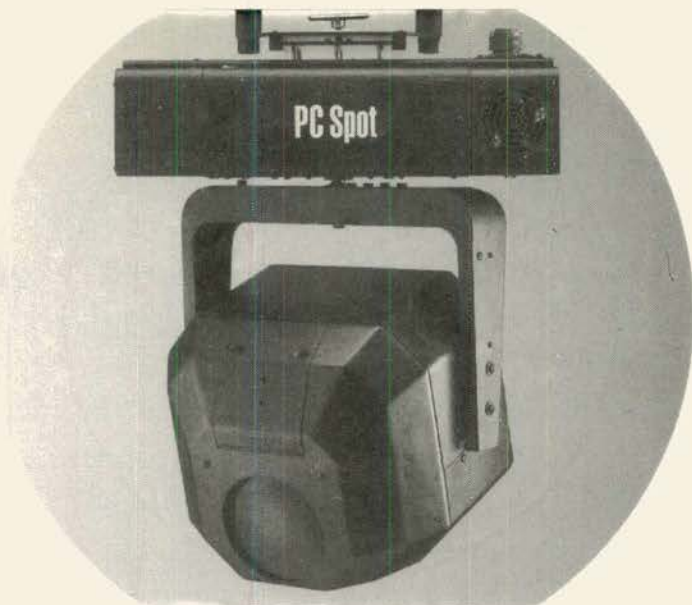
Lighting wise the exact show was due to leave for Singapore the following week although the show was going to be different for the censors.

"It's a pretty risqué show although most people like it," said Sue. "We haven't had any complaints here but I think they are a bit more conservative in Singapore. It will be toned down quite a lot both in language and tongue movements! Also they will have to be a little more discreet with their microphones. The show will be playing at the Kallang Theatre."

"They've had to drill a hole in the stage under the centre of the revolve for the cables," Tim said. "There's a PC Spot on the revolve and a couple of colour faders, dimmers and all kinds of stuff in there. So going through the centre of the revolve, just straight through the floor is a hole and the cable just drops down into the basement and twists on the floor to let the revolve spin. This was a big problem in going into Kallang as no one had ever drilled a hole in their floor before!"

"It's basically an arts centre really and this is the first commercial theatre to go into there," said Sue. "They are very wary of their best stage and changing things around. They want us to bolt down the revolve motor and even the centre of the revolve. We can't use their patching, we have to take all our own dimmers with us, all our own wiring because we can't use the in house system so we've got to rewire that. There are all sorts of political problems with using in house staff. Because we're bringing in our own equipment, and the in house staff will only use their own equipment, we've got to get contractors from outside to come in and work the show. We're using their house normal theatre lamps and, for front of house, we're using their looms and we'll just take our own headers."

The show will actually only play for thirteen performances in Singapore which seems like a lot of effort for so few shows. The tickets though are quite expensive, over \$100 Singapore dollars for a good seat, and the theatre does hold 1800 people.



PanCommand is made by Morpheus Lighting in San Jose, USA. The PC Spot (pictured) has a 400HTI lamp, and like Vari\*Lite, operates through 360°. 'Waggly Mirror' fixtures are limited in that the mirror moves, but the fixture doesn't. PC Spot offers a full spectrum Dichroic colour system and 9 gobo's (4 of them rotate). Other family members are PC Beam, with variable beam size from ACL to wide flood, and PC Soft, which spreads from 2° to 35°.

Control of the system comes from the Commander console, which delivers a unique protocol to the X-Rack, which distributes signal and AC to the fixtures.

In Australia, Concert Lighting Systems of Melbourne are PanCommand agents, they have upwards of a megabuck invested in hire stock, and have provided systems to many international and large local shows.

Contact them on (03) 529-5019.

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## Great Mistakes

(continued from 68)

things that happen on "the' road".

This final gem, I'm sure, will remind many of your seasoned readers of a similar situation that they themselves have encountered. I'm speaking now about the great "outdoor gig". For those not so experienced, outdoor shows can leave the door wide open to unforeseeable circumstances occurring. For this particular outdoor Queensland show there had been a great deal of pre-production phone calls regarding stage requirements, necessary power supplies, security needs, etc. It was an all day festival with about a million bands playing and the shortest change over times between sets possibly ever written about. We arrived at the site at 8:30am as agreed, at which time the power and the stage were to be ready. There was supposed to be coffee and tea, and backstage tents with a securely fenced area. Just like so many of these shows we'd done, things needed to happen fast and with professional precision or the whole "one-off" event could be spoiled.

Well if it could have happened, it did!! The stage was set up correctly and the power was ready to go as specified. The support type bands had engineers and trogs who knew what they were doing. All the drink riders were in the right tents, heaps of punters turned up, it was a beautiful day, the wind stayed away and this made the sound really easy to control. People smoked pot all day long and there was no heavy vibe from the police. No-one complained about the noise and none of the stacks blew over.

I know these things were sent to try those of us who choose, or have chosen, a life on "tha' road" and you've probably heard it all before, but I just thought you might like to hear some of it again!

Yours unbelievably

MR MAN..

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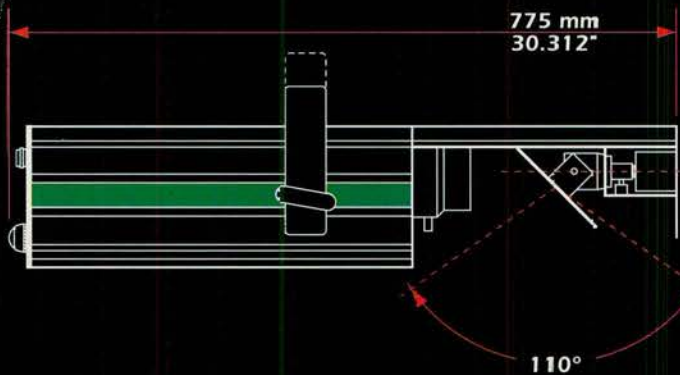
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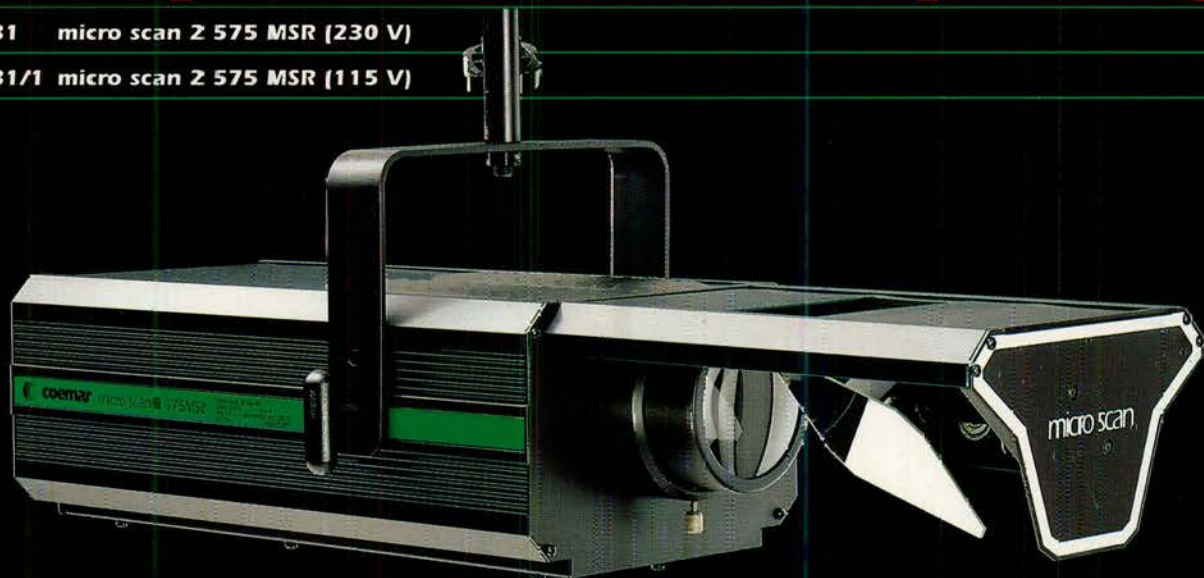


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