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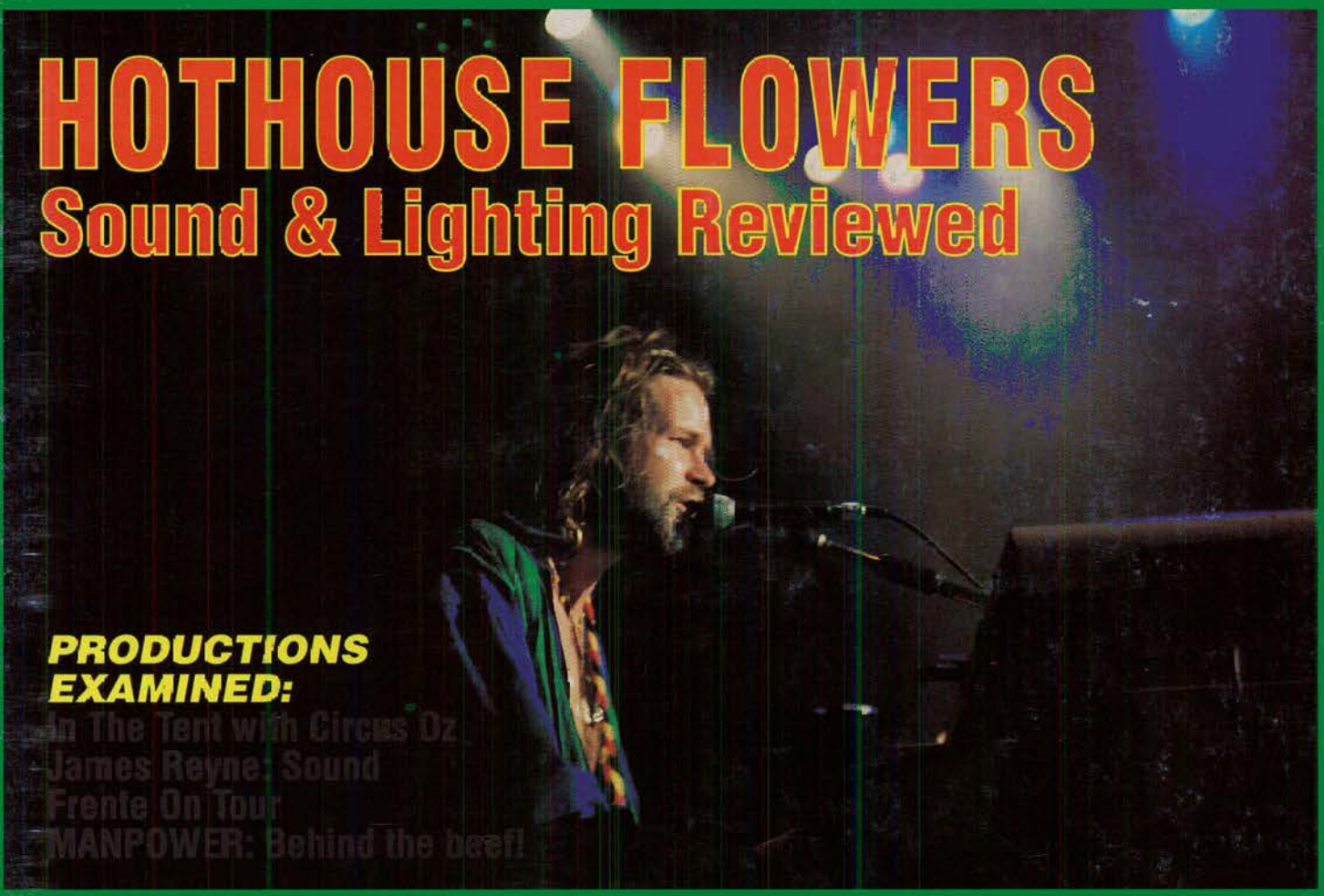
# Connections

*Australia's* SOUND, LIGHTING & STUDIO *Magazine*



## HOTHOUSE FLOWERS
## Sound & Lighting Reviewed

***PRODUCTIONS EXAMINED:***

In The Tent with Circus Oz
James Reyne: Sound
Frente On Tour
MANPOWER: Behind the beef!

## CABLE & CONNECTORS - Wiring standards & data

National CLASSIFIEDS inside

*WE EXPLAIN* **MIDI:** *WHAT IT IS & WHAT IT DOES!*

***HOT NEW SAMPLERS!***

*CAN A DRUM KIT* **REALLY** *HAVE BRAINS?*

**Greg Henderson**
STUDIO ENGINEER TIPS & TALES!

***REVIEWS:***
Aphex C2 Exciter
BBE 862 Sonic Maximiser
HOF Automix

***Worlds Biggest Lighting Show:***
We visit Italy - it's d-d-disco different!

**Installers Warned:**
Use a contract or be BURNED!

## LIGHTING DESIGN:
Natural Fibres Fashion Spectacular

# SHURE

## T Series Wireless

The standard 100% SHURE wireless system for general use. Operates on the VHF band like most other wireless systems. Receiver has one antenna, range is typically 100m. Transmitter battery life is typically 14 hours.

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When ordering CHOOSE a frequency to suit. *Bear in mind other nearby wireless system users, establish which frequencies are already in use.*

**Available (stock) frequencies:**

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| Beta 58 handheld vocal microphone system, (ELS24/Beta58) | 1,995.00 |
| Beta 87 handheld vocal microphone system, (ELS24/Beta 87) | 2,095.00 |
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| Instrument Condenser (ELS 114/98) | 1,895.00 |
| Lavalier system with 839W microphone (ELS114/839) | 1,545.00 |
| Lavalier system with WL83 microphone (ELS114/83) | 1,595.00 |
| Lavalier system with WL84 unidirectional microphone (ELS114/84) | 1,645.00 |

When ordering CHOOSE a frequency to suit. *Bear in mind other nearby wireless system users, establish which frequencies are already in use.*

**Available (stock) frequencies:**

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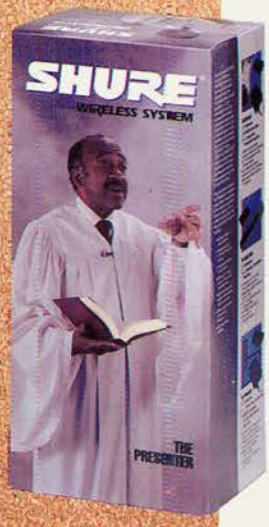
|---|---|---|
| 174.500 | 177.600 | 190.600 |
| 176.200 | 189.000 | 203.000 |

* Please note up to 14 different frequencies can work together. Ask for details.

*All prices include sales ta*

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**JANDS**

CIRCLE 104 ON READER SERVICE CARD

# Connections

MAY 1993. Issue 4

# Inside


◆ **Greg Henderson: Engineering Tips:**
Popular Australian studio guy talks Page 20

◆ **Howard Page: Career Tips:**
An Aussie at the top of the US pile tells how to get out of the country. It aint easy! Page 22

◆ **Hot House Flowers**
Commonsense advice from the crew: Page 26

◆ **Sounds Like Reyne**
Sound review: Gig in the Pub Page 33

◆ **Rimini: Where Disco was born**
Caroline Grafton reports on Italy's major sound & lighting show Page 35

◆ **Man Power On Tour!**
Catriona Forcer oggles the beefcake Page 39

◆ **Lighting a big fashion gig:**
John Hoenig tells how he does it Page 84

Music Technology

**SAMPLERS:**
& new products. P76

**MIDI Explained:**
A basic talkthrough. P77

**INFO FREAKO**
Tips and Suggestions. P77

**DRUMS?**
Breakthrough. End User Review of Rolands new Compact Drum Set. P81

Supplement

Lone Wolf: The new LAN for audio! P13
**Live:** Frente On Tour. Meet the crew: P25
**PUNTERS:** We again examine the twisted P40
Circus Oz: Sound In The Tent P41
**REVIEWS:** Aphex Exciter, BBE Maximiser, HOF Automation - all tested! P44
**CONTRACTORS:** We suggest a contract! P51
VENUE: Sydney Entertainment Centre P66


*Special feature!*

**CABLES & CONNECTORS**

*All you need to know! Wiring and application hints. Starts P59*

## REGULAR FEATURES:


**UPDATE:** Where it all becomes clear? from P7
AUX 2: Rancid gossip P15
**Letters.** Usually fairly lively! P16
Editorial. Skip this for light reading P17
**Hire Biz Buz.** Goings on & gear P19
Dr. Light P86
**Theatre Production Guide** P32
Sound Etc. Our Acoustician Page P42
**Peter Kemp** P46
Munchy Bytes P47
**Great Mistakes!** Learn from this.... P48
Duncan Fry. Travellers Tale..... P49
**Crossword**, Cartoon: P52
Sound System Design: P53
**Studio Tracking Guide:** P54
DMX Explained: P67



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● **DBX** have announced availability of the new PROJECT 1 range of effectors, including noise gates, compressor limiters and an acoustic enhancer. This cannot be called anything like 'Exciter', or Aphex will sue everyone. More details next issue. These were previewed early this year at NAMM, and have just landed at Syntec International, the new DBX distributors. Call them on (02) 417-4700.

● **CREW STRIKE:** Sydney Opera House is known for many things, one of these is the unionised house crew who are covered by the Arts & Media Alliance. Many a former roadcrew technician has accepted a posting at the Opera House in the past, and then become a union member. So when the union says 'all out', that's what they do. The issue: Free Car Parking.

For those interstate readers who may be unaware, the Opera House has, since inception, featured an attractive car park for crew and performers -without patron parking. Finally a parking station has been chiselled from the sandstone beneath the adjoining Botanic Gardens at an astronomic cost, with the scenic car park outside the O.H. given back to the people as part of the Gardens. The operator of the new car park would like to make some money, so a parking fee is charged. Musicians staged a strike last month, and won a pay increase to subsidise their (reduced rate) parking. They argued in the industrial courts that they had to carry their instruments into and out of the building, a reasonable argument that led to resolution of the dispute.

Then the 120 crew walked out for 24 hours, demanding free car parking. The strike led to cancellation of every performance in the building. Into The Woods, an ABC Symphony, and Don Quixote were all cancelled. The management of the Opera House were quoted in media as estimating the cost of the shutdown at around $200,000. Are you proud, crew?

● **SELECON** have released a new 1200 Quartz followspot named Chorus,along with a new 2.0 and 2.5kW frensel and PC range. More details next issue.

● **NEXT YEARS 97th AES CONVENTION** is slated for San Francisco rather than LA. The new dates are: November 10 - 13, the venue is the Moscone Centre. Meanwhile the 96th Convention will be held at the RAI Centre in Amsterdam between February 27th and March 2nd.

● **LIGHTING** people everywhere are lobbying Arena Technical Services in Sydney for an invite to 'The Preview', a full tilt lighting demonstration event to be held at the Sydney Entertainment Centre. The show will feature all kinds of High End Systems moving lights, and is limited to a couple of hundred series punters. It is on May 19th. See 'Events', on page 7.

● **FREEDMAN MOVE:** New Address: 283 Victoria Road, Rydalmere, NSW. Phone 638-6363. The previous Freedman premises at Summer Hill were a landmark in Sydney, having stood there since your editor was the editor of the school newspaper.

Established in 1966 by the late Henry Freedman and his wife Astrid, the Sydney audio company has always been at the head of its field. Changes have taken place, and the outfit has grown since the days of distributing Dynachord (I remember the 'Gigant', it was the first actual mixing console I ever saw! -Ed) and Frank Ifield.

Today the firm manufactures, distributes and services product like it's own brands- 'RODE' and 'JET'. They also pursue installation work, winning some prestigious jobs like the new Newcastle Workers Club, Blacktown Workers Club and work at the Sydney Opera House.

Today Henry's son Peter Freedman is in charge, he said that having always been associated with many of the countries leading consultants and builders, the firm was heading towards real marketing and supply of Acoustical Treatment Systems and associated Psycho Acoustic Systems. "This is an area we are active in, we have always maintained up to date technical equipment, and our staff includes highly qualified engineers".

Talking about the move, Peter said he has memories of the previous site that go back to when he was 8 years old, but it was just too small for the firms current needs. "We have some very real export potential for RODE and JET products. Our General Manager Colin Hill was brought in from the UK (previously with Carlsbro and OHM) 2 years ago to control our national distribution and prepare for the Export expansion.

Connections wishes everyone at Freedman's all the best for the future, and like any Aussie exporter, we hope you sell heaps offshore!

This issue marks a milestone, being available in Newsagents in Sydney & Melbourne for the first time. This is aimed at uncovering new readers, and we are closely monitoring the action as it unfolds!
Our distribution is- and always will be- primarily direct to the trade via subscription and resale at trade outlets like sound, lighting and musical dealerships. Since our launch in February we've collected nearly 2,000 subscribers, with this issues circulation 12,000!


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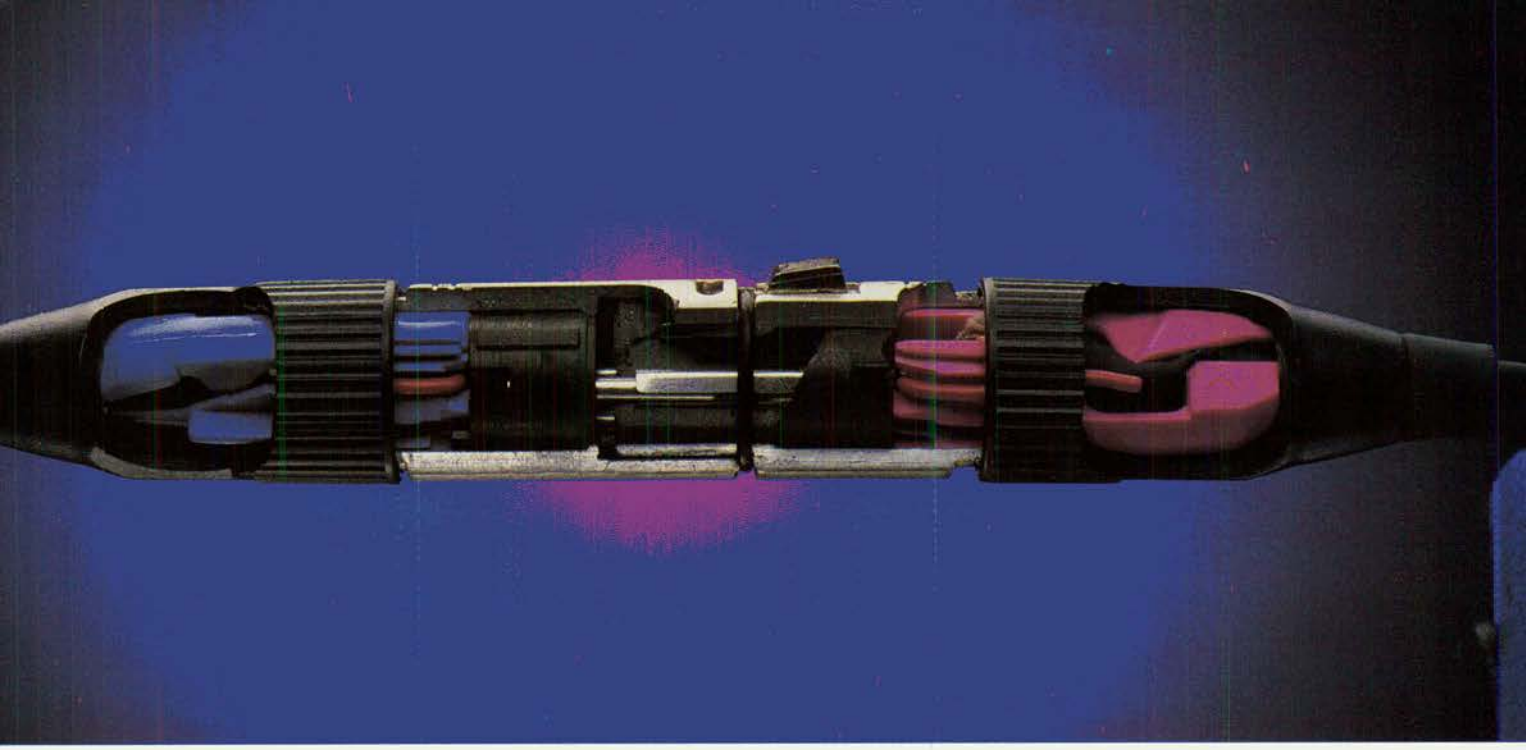

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## EVENTS

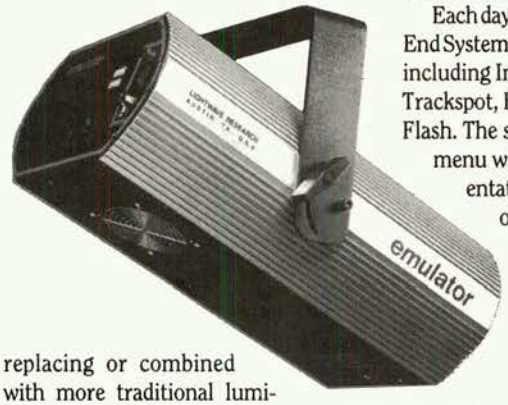
# LX: "THE PREVIEW"

Arena Technical Services are about to pull out all stops in a presentation night in the main arena of the Sydney Entertainment Centre.

The evening will be aimed at Lighting and Corporate Audio Visual Designers in a dynamic demonstration of intelligent lighting products and controllers.

For the first time in Australia, (that Connections knows of) a fully choreographed stage presentation will be available to enlighten the people that design, direct and produce the shows that make up a large piece of the ATS market place.

It is believed that the evening will educate the designers to the versatility of Moving Lights, when either replacing or combined with more traditional luminaries.




The presentation will be a collaborative effort of four leading lighting designers, Tim Grivas of High End Systems USA, Frank Calvi leading Australian Fashion Lighting Designer, Ian Robinson and veteran International Lighting Designer Gary Brokenshire of Australia. These distinguished LD's will introduce design elements not previously seen in this country, at such an event.

The Preview will be held on May 19th, 1993 from 6.00pm to 8.00pm and is by formal invitation only. If you feel you qualify and have not received an invitation yet, call Catherine Hough on (02) 412-1169.

### *Intelligent Lighting & Effects Seminar Workshop*

Arena Technical Services and GUVT are holding two one-day seminars and workshops on the 17th and 18th of May 1993, from 1.30pm to 4.00pm on each day.

Each day will include a High End Systems Product Overview including Intellabeam 700HX, Trackspot, Emulator and Data Flash. The second item on the menu will be a visual presentation by, Tim Grivas of the USA ( see the Rimini LD's story this issue), on day one and the illustrious Frank Calvi of Australia (well known Fashion LD and cuddly person), on day two. The seminar will end with a hands-on workshop working alongside the people that know and use the lighting and control products.

For enrolments call Lisa Adams at ATS on (02) 552-4011 NOW! For full details see page 29 of this issue.

Moving lights: Latest from Rimini Page 35.

# Venue War Escalates In Adelaide

*-By our undercover reporter*

A remarkable bun fight between the Adelaide Entertainment Centre and the Clipsal Powerhouse has errupted, with claims of disinformation and letters mailed to the industry. One fell off the back of truck, and it highlights the differences between the venues, which compete for a small number of concerts and public events.

The Basketball Association who operate the Clipsal Powerhouse stadium are at odds with the Grand Prix board, operators of the recently opened Adelaide Entertainment Centre. The current chairman of the Grand Prix Board/ Adelaide Entertainment Centre is Mal Hemmerling - who was originally chairman of the Basketball Association when the Clipsal Powerhouse was first planned.

It seems some promotors favour the Clipsal Powerhouse over the Adelaide Entertainment Centre, with some siting 'corporate box free loaders' as one reason. Promotors claim the Adelaide Entertainment Centre funding entailed a deal where corporate boxes were 'sold', entitling the box 'owner' access to the box for any or all the events held there. Claims have been made that in many instances the corporate boxes have been packed like sardine cans with invited 'free' guests, leading to forgone revenue for the promotor.

'It was our intention from day one to eventually seek approval for concerts and general entertainment," says the Basketball Association letter. "Our strategy was to obtain initial approval to build a sports centre then proceed to gain approval for non sporting events"

The Clipsal Powerhouse hosted a Tom Jones concert in May, and the Moscow State Circus in February. These events required council approval which was obtained. The Powerhouse now has a proposal before council to stage a maximum of twelve concerts per year - and has run into a wall of opposition.

The letter from the Basketball Association claims they have been informed by Mal Hemmerling that the Grand Prix Board will do all it can to prevent them from obtaining approval. Furthermore some of the resident resistance to their proposal has been "extremely inflammatory." The letter continues: "We feel we should be allowed to compete in the market place along with other venues such as the Entertainbment Centre, Festival Theatre, Thebarton Theatre, Memorial Drive etc."

Your undercover reporter comments that only Adelaide could host this sort of bun fight, where an Entertainment Centre that hosts sporting events could attempt to hinder a Sports Centre that aspires to host some entertainment events, which is normal practice elsewhere. We say let the promotors vote!

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## EVENTS

# LIVE SOUND SEMINAR

*Peavey Announce Sydney Learning Experience*

A sign of more buoyant times? Distributors and manufacturers step up the number of product clinics and seminars this year, with Peavey announcing 'An Education In Sound' - 'an in-depth learning experience'. Scheduled for Sydney on Sunday May 30th, the seminar will be presented by Marty McCann, who is a live sound engineer working for Peavey. He used to mix Lynard Skynard in the 1970's - remember? Of course you do!

Far from a sales pitch, the Seminar has already been presented countless times in the USA, with comments like "... the material was presented extremely well and easy for the lay person to comprehend", and "I expected a four hour sales pitch on Peavey, and I was happy to be wrong."

With most of the bases covered, McCann will endeavour to satisfy both novice and professional alike, with plenty of Q & A. The Seminar costs $5.00, which is probably just designed to keep the riff raff out - a very token amount for a rare educational opportunity.

**Date:** Sunday 30th May. **Time:** 1pm. Finish: 6pm. **Place:** University of NSW Roundhouse, Wurth Room, (1st floor), Anzac Parade, Kensington. **Tickets**: Australis Music, PO Box 518, Brookvale NSW 2100, or Brashs (Sydney city), Guitar Factory Hurstville & Parramatta, Muso's supply Bankstown, Smits Eastwood, Turramurra Music, Wollongong Music, or AT THE DOOR. They have a 250 person limit.

# NEW ZEALAND SHOWS

**Music Expo for September**

The International Music Expo which is arranged by the Music Trades Association of N.Z., will be held at the Ellerslie Race Course between the 18th and 21st of September. The event is sensibly split into public days (tyre kicking, prodding punters - and sheep. Those we love to hate) - September 18th (Saturday) and 19th (Sunday).

The Trade gets a quiet run on Monday 21st and Tuesday 22nd of September.

**NZ Broadcast, Audio & Video Show**

This is slated for October 5, 6 and 7, and has not yet got a real name. It will have representation from the Asian Broadcasting Union, New Zealand's ITVA organization, N.Z. IBA and doubtless others. We will keep you posted on this.

**NZATT Conference**

New Zealand's Association of Theatre Technicians is a longer established version of Australia's new NETAA, and conducts an annual conference. This year it runs 28th-30th May, at the Aotea Centre, with a programme of conference sessions featuring some international presenters like Gary Pritchard from LSC, Aussie L.D. Nigel Levings, and Francis Reid from the UK will present sessions, along with a host of N.Z industry professionals.

# Yamaha Rock is back

For the 7th year in row, Yamaha are backing local talent with their national music contest, renamed M Rock '93. The event is organised by former Yamaha marketing guru David Baker. In past years the event has hosted state finals with a grand final in Melbourne, this year is no exception.

The heats will he held throughout Australia later in the year, and the winner(s) will get the chance to represent Australia at Yamaha's Music Quest 93 in Japan. Yamaha will pay all expenses, which is a relief! Other prizes include a Mushroom recording deal, studio time at Metropolis, Yamaha gear, and legal help from Tress Cocks and Maddocks.

Connections' editor has attended the past couple of Sydney heats, and thinks the event is an extremely worthwhile pursuit for young acts, who get the chance to play live with full concert production. The experience is worth it, winning is really just a sideline! For more details watch your street press and this space!

# NEW SPEAKER DESIGN

*QMX is Aussie Monitor's latest PA box*

QMX is the front line Australian Monitor speaker system for sound reinforcement (pictured above). It is thought that the system utilises a pair of 4" voice coil Beyma woofers, with a Beyma 2" compression driver, designed into a passive 2 way configuration by leading acoustician Richard Priddle.

Australian Monitor didn't send us any specifications, rather the release reads: "the QMX system is a synergy of harmoniously balanced components, designed to reproduce music as close to the original as the laws of physics and contempory technology allow."

The flowery prose continues, with the passive crossover being tagged as a "Network Manager", which is a nice way of putting it. Actually, it's a refreshing change from the usual dry data. Try this: "...the unique concept of QMX provides all that is required to achieve the optimum in a dynamically accurate high fidelity performance, spectral wavefront linearity, uniform phase coherence, constant directivity, beamwidth stability, and a maxium on axis SPL of 136Db."

Anyway, Alan Brown of Centrestate Sound swears by them, and the grille design is probably the most attractive I've yet seen. You can get more information, like the wattage, size and frequency response by calling Australian Monitor on (02) 816-3544.

CIRCLE 145 ON READERS SERVICE CARD FOR INFO

# ON THE JOB. #04 in a series

On The Job this month features Ian Scrivener, Connection's new production assistant. Ian denies throwing tantrums when he cannot get his way. Seen here after being told that Connections is not an art magazine.

Fortunately Ian has had no experience in the music industry, (though we are told he has listened to some occassionally). His duties include making tea and assisting the tyrants in all aspects of publishing. He has also been lumped with the theatre portfolio. He also denies having a background in AV, desktop publishing and photography and is threatening to sue Connections.

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## EVENTS

### ADAT & BRC CLINICS

BE QUICK- The Alesis ADAT finally gets the BRC Master Remote Control, demonstrated here last year on a product tour with large attendances. The level of interest in ADAT was such that importers Electric Factory were probably in wrist slashing mode due to the lack of availability of the BRC then.

To celebrate, the Electric Factory people have a fresh series of ADAT/BRC clinics, conducted by Michael Allen who is very clever with ADAT. The clinics were announced on the 22nd of April, giving people in Melbourne and Sydney little chance- you've missed out already. I guess if the product is hot, you only need to give a weeks notice .....

**ACT: May 5**, Country Comfort Inn, **BRISBANE: May 7th**, Tower Mill Inn, **ADELAIDE: May 10th**, John Reynolds Music, and **PERTH: May 12th** at Kosmic.

*Contact Electric Factory to get your name on the door. (03) 480-5988.*

### Central QLD Rock Awards

This annual event culminates in a final on Sunday June 20th, at the Flamingo Night Club in Rockhampton, and last year attracted 37 bands from six cities.

With a series of heats through May and June, the event boasts over $6,000 in prizes - donated by firms like Australian Monitor, Jands and others. These firms send representatives who assist with the actual awarding process, a frightening prospect!

The response so far this year has been helped with local media outlets like Sunshine TV, Radio 4CC and 4HI promoting the awards, with sponsorship from Australian Airlines, Time Studios, C.Q. Concert Lighting and Stage & Audio.

*The event is run by Master Management, contact them on (079) 22-7700 or fax (079) 22-7022.*

### Sound Stage For Hire

Sydney's Audio Services Corporation is now a Sony dealer, the location sound firm is the local arm of an American chain, and offers useful things like DAT tape and Shure microphones.

They also have a street level shooting stage at their premises in Artarmon, with a three wall white cyc, 3 phase, kitchen and carpeted production area. Contact Geoff Grist for details: (02) 901-4455.

### PA Ramsa WR-S4400

In the USA, Ramsa are something of a force in mixing consoles for live sound. Here in Australia the distribution of Ramsa products has been erratic, until the recent formation of Ramsaudio Australia, who are focussed on the tricky task of positioning the brand here.

The task is helped by the fact the large WRS-840 monitor console is a regular on the concert circuit, with Jands Production Services owning two of these. The similar front of house variant also appears down under from time to time, with audio legend Stan Millar recently bringing two into the country for Neil Diamond's tour.

Now the affordable WR-S4400 series has been released, and it's already found favour with a couple of cynical operators, like Chris Kennedy's A1 Audio, and Melbourne sound engineer Bruce Johnston, who has one in a system he owns.

Available in 12, 16 or 24 channels, the console has some neat features to go along with it's four mix busses. For starters, the auxiliary sends have a neat feature that will become mandantory on other consoles Real Soon Now. This is the auxiliary direct out facility on the first of the four sends. DDA started this several years ago, it's just a better way to do things with so many effects required today.

The EQ section is standard three way with a sweep midrange, while the buss assignment allows direct to stereo output, bypassing the subgroups if requires. Four auxiliary returns are stereo, and all subs can be directly addressed by means of input.

For more information call Ramsaudio on (02) 477-7377.

CIRCLE 112 ON READER SERVICE CARD.

### BITS AND BYTES

❑ **Australian Monitor** have announced a five year warranty on new AM and K series amplifiers. Your amplifier will be repaired or replaced if it fails for any reason. The Sydney based firm exports to 32 countries.

❑ **Selecon** advises MSR 1200 followspots are selling like hotcakes in Thailand - 40 units to date! Connections co-publisher Caroline Grafton observed one in action during her recent study trip there.

❑ **A.R. Audio** are principal Sydney Klark Teknik dealers, they say.

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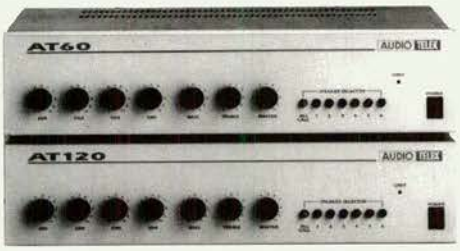
CIRCLE 142 ON READER SERVICE CARD

## PA New Aussie PA Amps

At a time when import tariffs are forcing many manufacturers 'of shore', Audio Telex, a wholly Aus-




tralian owned company, are expanding their Sydney factory with export demand for their sound reinforcement products.

The firm have just released a line of mixer amplifiers, ideally suitable for contractors, with three models - AT30, AT60 and AT120. These have some nice features, including their own inbuilt speaker zone selector switches, which switch the 100v line speaker outputs to your chosen zone. An 'all call' facility allows all speakers to be addressed.

Four input channels are universal, accepting balanced XLR and also RCA inputs. Outputs are 100 & 70v, 8 ohms and 4 ohms in the case of the AT120. A 300mv output can be used to drive a booster or a tape player.

Perhaps best of all is the output limiter, which in the case of the AT 60 & AT 120 renders the devices almost impervious to overdriving and short circuits. Prices are $394, $543, $658 retail inc tax. Contact *Audio Telex for more details: (02) 647-1411 or (03) 562-8566.*

CIRCLE 147 ON READER SERVICE CARD

## AMA Expands

*Music Association Accepts Retail Membership, Re-Lauches Magazine, AIMS Show Growing*

The Australian Music Association has announced that over 60 retailers are signed up, as the Australian International Music Show draws nearer. The move to include retailers follows the committment to involve more active music makers in the Association, which represents all the major product distributors in the music trade.

Meanwhile with AIMS '93 slated for September 9 - 12, organiser Rob Walker from the Victorian Rock Foundation says the show already surpasses the previous event, which was also held at Sydney's Darling Harbour Exhibition Centre. Walker says the added appeal of TV promotion and the September dateline - with enough time to concentrate on Christmas planning - has increased demand.

In addition, the AIMS '93 show has invited the stage lighting industry aboard, under the tagline 'Showlight '93'. "The lighting industry has had some good years at earlier AMA shows, this year we have extra space and more promotion to bring in the punters", said Walker.

The AMA has re-launched it's official magazine as 'Australian Music News', with added product news and advertising opportunities for anyone wanting to reach the key buyers and owners in the music trade. The May edition details a Guitar Month promotion the Association has planned for June. *More information from VRF, (03) 696-2022.*

## AV Multi-Laser Player

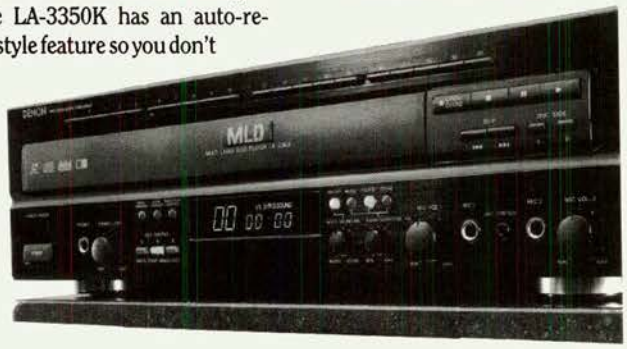
There are 7 different laser discs available that Denon's LA-3350K accepts:- 30cm and 20cm LD's, 20cm single LD's, VSD's, CDV's, 12cm & 8cm CD's. Confused yet?

Well, there are mainly three types of Karaoke laser disks:- Multi-Sound Digital, where the music is stereo on the digital section, while the analog section has mono music on the left side, with mono vocals on the right. Digital stereo has stereo music with analog stereo music, while Multi-Sound has no digital section, the music is mono on the left channel with vocals mono on the right.

The LA-3350K has an auto-reverse style feature so you don't need to turn the disc over, 4 surround-sound modes, echo, vocal changer and all kinds of trickery where the thing takes control if you miss a word or two - and more.

Really, the aural assault possibilities are unlimited. The Karaoke juggernaut rolls on relentless, a relative of the editor earns a healthy living from this sector of the music industry, so it must be OK! *More details from an AWA office near you, or call (02) 888-9000.*

CIRCLE 149 ON READER SERVICE CARD




## Rich Studios To Sell

The concentration of work available to the major recording studio market has been highlighted by the current attempted sale of Rich Music Studios in Sydney. This 32 track digital studio is on the market for $675,000, 'a unique opportunity to acquire a profitable recording studio regarded by many as Sydney's premier mixdown facility', according to the sale notice.

Rich Music Studio's is to be sold as a going concern, Paul Rich has been quoted as saying he would prefer to concentrate on his studio school, and that the business needed one-on-one attention that only an owner could give. The facility comes with a Solid State Logic 4048E console, and a Mitsubishi X850 32 track digital recorder.

Earlier in April Business Review Weekly ran a feature detailing the diminishing market facing the larger studios, with digital recording systems like ADAT changing the face of the business. The fact a band can buy digital recording equipment for something like the cost of actually recording an album was made, with the record companies becoming distributors of manufactured products rather than 'recording' companies in the future.

The story also pointed out the really big studios will always have a role, because major acts will need them.

## Mixer Tariff Concession

A recent tariff concession has relaxed the duty payable on some large mixing consoles imported into Australia. The concession (numbered 8543.80) exempts transportable mixing consoles having all these features: not less than 12 ch, not less than 4 mix busses, not less than 4 stage EQ on each channel, and not less than 2 matrix outputs.

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520D Green Bullet;
555SH Buddy Holly Mic
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## PA JBL Upgrade ES52000

When the Array Series loudspeaker system and Digital Controller were first released last Spring, JBL made much of the upgrade path available within the ES 52000 Digital System Controller. True to form, the market leading Californian firm has announced an Eprom update. "If you use analogue hardware, you're stuck", says JBL's Pacific Product Guy (and typical Yank) Mike Reeves. "You can see with this upgrade it's a bonus to be able to upgrade your hardware!"

The upgrade allows stereo limiting, has three new system tunings for the 4892 array box and one for the 4894, internal preset test tones, and reduced through-put delay. The LED meters now indicate system settings on powerup of the unit.

*Array System details from Jands: (02) 516-3622.*

CIRCLE 118 ON SERVICE CARD

## ....and release CONTROL 8SR

The need for small dedicated PA enclosures lead JBL to develop an extension to the Control line, the Control 8SR is a 200w, compact speaker system with an 8" woofer.

Operating in the frequency range from 70Hz to 16kHz, the 8SR is also weather 'resistant', which is very handy for theme parks and patio type use. The flat front Bi-Radial horn and compression driver provide a 100° x 80° horn pattern, and an optional multi-tap transformer is available for 70v/100v line use.

Finished in black molded polypropylene foam, the cabinet has optional mounting devices and a

tripod adaptor. *Details from Jands, (02) 516-3622.*

CIRCLE 148 ON SERVICE CARD

## New Digital Voice Processor Does It All

Symetrix have released an innovative digital voice processor, the 601 Series. This one rack unit tall device incorporates Parametric EQ, Shelving EQ, Notch Filtering, Noise Reduction, De-essing, Delay, Stereo Synthesis, Gating, Expansion and Compression and AGC.

"Symetrix are leading the way in digitalised audio processors", says National Sales person Don McConnell from the distributors Audio Telex Communications Pty Ltd. "Their products are already well accepted in the sound reinforcement industry here are will find the same level of acceptance on broadcast & recording like they have elsewhere".

The 601 has bright multi-segmented LED's and a large alpha wheel, and is said to be easy to use with factory presets. In addition you can set up presets using your PC. A powerful audio tool, retail $5,285.

*Call Audio Telex in your state or (02) 647-1411.*

**CIRCLE 150 ON SERVICE CARD**

## MULTI ROOM HiFi

Horwood Australia is the new name for Rebel International, the distribution firm fronted by Ian Woodhouse and Brian Horman. They distribute Atlas/Sondolier audio products in Australia, and also throughout Asia.

New is the consumer electronics range, this complete line of Integrated Home Electronics features an in-wall subwoofer, a smart controller and hand held remotes. You can set up a multi-room system with equipment in one or more locations, and take signals from your remote gear or the stuff in the same room. It's programmable, integrated, and comes with every optiopn imaginable.

*Contact Horwood Australia for data. (02) 718-8054, (03) 587-1558.*

CIRCLE 146 ON SERVICE CARD

**NEW LIGHTING: RIMINI REPORT, starts on page 35**

## Apogee Bits

❑ **APOGEE Digital Cables:**
The ultra leading edge studio technology firm from LA have now got APOGEE CABLES. Yup, the 'WIDE EYE' series are digital ready, with gold connectors, correct impedance characteristics. 1,3 & 5m lengths.

❑ **... and APOGEE DAT TAPES**
More handy consumables. AD Series DAT tapes are ultimate quality, come in 30, 46, 60, 74, 90 and 120. *Contact Shane Morris (02) 953-0020*

❑ **APOGEE for RENTAL**
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### *Digidesign Session 8*

Innovative Sound & Media Technologies (ISMT), a sister company to the Electric Factory, announce the Session 8 and the 8XL hard disk recording system. Running on a PC in Windows 3.1, the system has several parts - an audio interface, two computer cards, and the software.

The audio interface allows you to connect your mic and line inputs, it is plugged into one of the two cards in the PC. The other card is your PC's SCSI interface and DSP helper. To this card you connect an outboard hard drive, you need about 5mb for each recorded minute.

The idea is your PC's internal hard drive will handle your software, with your recorded material going direct to the external drive. *For more details call Adam Elkman at ISMT on (03) 416-9688.*

## APOGEE THX SOUND

Apogee Sound (no relation to Apogee Electronics) announce the LucasFilm THX system for Cinema sound. This is a packaged, three channel system with three way tri-amped speakers behind the screen, two channels of surround speakers, one sub-woofer and a sophisicated processor with twelve outputs to run the system.

The picture (below) shows the speaker components, with the single subwoofer at left. One of the surround sound speakers is on top, with one of the three tri-amped main systems on right.

Apogee quote a system frequency response of 20Hz - 18kHz, +/- 3dB. The processor is the MPTS-1. *Details: ESA Audio, (03) 562-4605.*

CIRCLE 153 ON SERVICE CARD.

### *New HirePoint Version*

HirePoint Software version 5 has powerful new features, like an electronic plot sheet of the kind drawn manually by some hire firms, as well as improved accounting, better setup and extra reports. V5 has been released in the USA, and according to Denis Stoles at Brisbane Sound Hire, is: "the best thing since sliced bread!" *Details: HirePoint (02) 876-2745.*

# Why Lone Wolf's Media Link could be the most important initiative this decade

Converging Technology is a favourite buzzword in the Connections office, where we deal daily with people from AV, Recording, Live Sound, Lighting, Musical and Contracting backgrounds. Everyone by now has had some experience with MIDI (Musical Instrument Digital Interface), and it's obvious to most non-lighting technical people that DMX 512 is the control protocol most common today.

The Lighting lady calls up wondering about using MIDI to trigger cues on her Event lighting desk, which has a MIDI port. The Contractor wonders about remote operation of his digital EQ, the AV operator works in the realm of SMPTE, MIDI and knows about Sony's DST (Digital Signal Transfer) system. Muso's and Studio Engineers use MIDI every hour, while stage technicians need to be across everything.

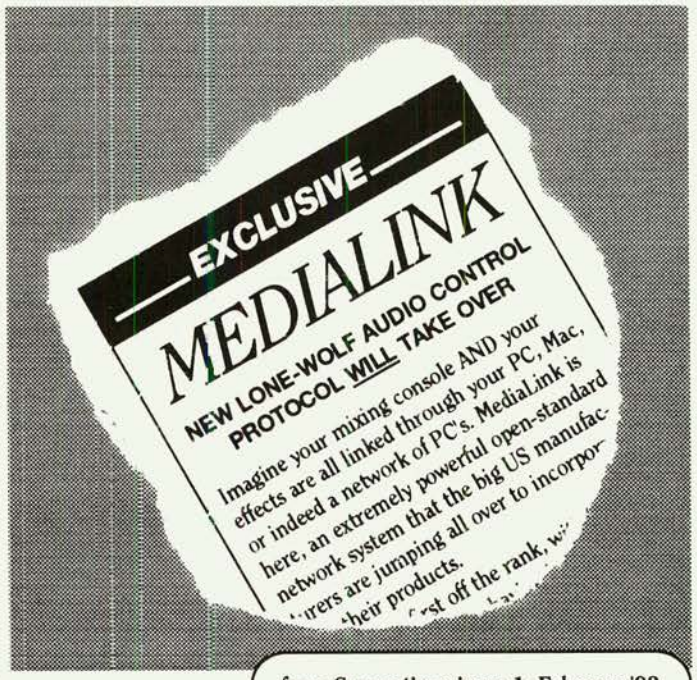
There are proprietary control protocols, like Crown's IQ System for remote controlling amplifiers - but no clear way forward for integrating technology.

Enter Media Link: a LAN (Local Operating Network) for controlling audio equipment from a computer. It evolved from art, almost like a right-brain perspective, because the creators- Mark Lacas and David Warman- were in a recording studio and wanted to simplify the use of technology in the creative process.

What you have is software for your PC or Mac, an output card with a Media Link port, and a fibre optic cable link to your gear. You can use standard cable if you like, but Fibre Optic carries much more digital data.

Your equipment will have a Media Link port on it, with a Media Link chip inside to decode the code. I can say this with certainty, because when we first revealed Lone Wolf's Media Link system in February, the seeds had been sown with the major players. At that time just a few were already signed as licensee's. Now it is a defacto coup, with the Lone Wolf display at the NSCA tradefair in Orlando recently a battlezone.

A prospective licensee told Connections: "the Lone Wolf people were snowed under. They told me I could buy a license but I'd need to wait a few months because the really big players were already demanding attention. They were apologetic about it, the situation was just obvious to me, and I'm content to wait in line'. Another Australian potential licensee wasn't too happy about waiting for anyone- he barged onto the stand and demanded an immediate license kit. "Who WAS that guy?" a Lone Wolf staffer asked!


EXCLUSIVE

MEDIALINK

NEW LONE-WOLF AUDIO CONTROL PROTOCOL WILL TAKE OVER

Imagine your mixing console AND your effects are all linked through your PC, Mac, or indeed a network of PC's. MediaLink is here, an extremely powerful open-standard network system that the big US manufac-turers are jumping all over to incorpor-ate in their products.

from Connections issue 1: February '93

At this time I'd better reveal I have not seen the system in use, I rely on trusted contacts to relay this part of the story.

The way the system works is what appeals to manufacturers. The computer interface is said to be icon based, click on your digital EQ icon and draw down a screen of operating parameters. As part of the license pack, Lone Wolf assist a manufacturer in engineering their technology into the product. Mechanically this means little more than getting the Media Link IC designed into the apparatus. Software is the other end of the chain, where the parameters of your device are drawn up and made presumably made available to users as a file add-on.

Think about a mixing console, fitted with the new US$6 Alps type flying fader just recently available out of Japan. The Lone Wolf port on the back is connected to your PC, in a daisy chain with your Digital EQ's, Limiters, Effects - and power amplifiers backstage.

Imagine you can access any control on any of these devices from your PC screen! You may not want to change settings, rather you'd just like to see what everything is doing. Now you can! The application is not limited to live PA- this is just a case study!

What is really getting the manufacturers going is Media Link's ability to carry OTHER PROTOCOLS. "It's easy to design products we can 'TAPS'," said Lacas. "A TAP converts a specific type of signal into MediaLink and back. For example, an Audio TAP converts an audio

*(continued on page 30)*

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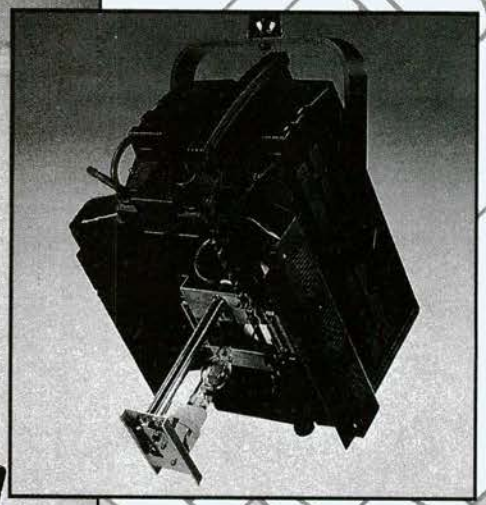

A new range of variable angle profile spots, Fresnel and PC spot designed specifically to operate at 2.5kW as well as 2kW. The Alto range incorporates a number of new features and addresses operational limitations of previous 2kW luminaires.

The new range has been designed to reduce weight whilst improving light output and beam quality and maintaining the high safety standards of Strand's luminaire products.

The key features of the Alto range are:

- Improved output from 2.5kW lamp whilst retaining capability of operating with 2kW lamp.
- Light weight construction.
- Profile beam angles spanning 8° - 38° with three models :
  8/16° for long throw;
  14/32° wide spread medium throw;
  20/38° compact short throw.
- New optical design gives whiter light to give even higher apparent brightness.
- Improved beam distribution from redesigned optical systems.
- Good peaky/flat field adjustment on profiles with easier adjustment of both lamp alignment and distribution.
- Improved lamp life from CP91/92 lamps with G22 base and longer Light Centre Length
- Excellent access to lamp and reflector by quick release trap doors which are interlocked by high temperature rated microswitches to disconnect power.
- Easy to operate rotating gate assembly with smooth yet positive shutter movement.
- Precision aligned accessory iris.
- Smooth lens adjustment on profiles with lever locking operation and beam angle indication.
- Unique single handed colour frame insertion and removal.
- Front and rear focus adjustment on Fresnel and PC spot.
- Excellent access to profile lenses by top and bottom hinging covers.
- Version available with cranked fork, to allow high vertical angles of operation when fork underslung rather than top hung.

# AUX 2

**Industry brother John Farrelly has passed away, on April 29th, after battling Cancer for the past year and a half. John leaves daughter Jane, aged 7, brother Neil, sister Trish and family. John was head of the Sound department at Jands Production Services, and is well known as monitor engineer for Split Enz, then Crowded House. He will be sorely missed**

INXS did the 'get cred' run through smaller gigs in April, it seems LD John Featherstone wasn't impressed, he didn't come out from the UK, so Shaun Motley did the gig - and well, too. Maybe Shaun will get the big break if the band ditch Featherstone for the Rest Of The World. Imported sound man Benji did make the trip, the ex Led Zepplin engineer was reported by several spys as, umm, experiencing problems in the smaller confines of non-arena gigs. "When the kick sample broke down at the Palais he didn't have a clue", chortled an Aussie sound engineer. "the mix had all this 160Hz in it, so the REAL kick sounded horrendous!" Meoow!

**Rob Walker is now the acting General Manager at the Victorian Rock Foundation after the previous edition left to manage Sonia Dada. Good luck Rob!**

"Tell everyone it's a big win for the big man", said Steve Devine, head of Topstage Productions in Canberra. Devine has settled with his ex-wife, after a very messy dispute. "The rumours Topstage was going under worked", he chortled, "so the settlement was small, but secret". "I want to now dispell all the rumours I started, and tell everyone my mental state and finances are OK", said Steve. We know Steve Devine, he'll be back on his feet in no time.

**Staff movements: New at LAVA in Sydney is Suzie Murdoch, departed from CLS is the very capable trish Johnson.**

More PYRO courses at Lightmoves, Monday MAY 10 and Monday JUNE 7th in Sydney, to learn about stage pyro, safety and see LeMaitre used to best effect. Call (02) 560-0000.

**The Jag is gone from the Jands Production Services carpark, and cheif Eric Robinson is now driving a nice Lexus. Our spy detailed the reaction of Mrs. Robinson, aka Patty Mostyn, but we REALLY don't have the nerve to print it here .....**

Rocky Horror made it to Singapore, one BIG hurdle was the need to drill a hole through the stage floor for power to the set centrepiece - the floor in Singapore is concrete!

**Band Manager on the run - we had a Melbourne court order against a well known individual in the amount of $7,739.60 faxed here. Owed for touring PA to a Melbourne firm, maybe there is a story in this .....**

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

## *Tradeshow Dates*

NZATT, Auckland, MAY 28 - 30 TH
APRS, London, JUNE 23, 25. PA
**Pro Audio & Light, 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
INT. Music Expo, N.Z. 18 - 21 SEPT. MI
NZ Broadcast & Audio, OCT 5 - 7. PA,IT
AES, New York, OCTOBER 7 - 10. PA.
SMPTE, Los Angeles, OCT 30 - NOV 2. IT
LDI '93, Orlando, NOVEMBER 13 - 15. LX
COMDEX, Las Vegas, NOVEMBER 15 - 19.
NAMM, Anahiem L.A., JANUARY 21 - 24 1994
AES 96th, Amsterdam, FEB 27 - MAR 2 1994
AES 97th, San Fransisco, NOV 10 - 13, 1994

**Descriptions used:**
*(E. & O.E.)*
**CO**: Contracting. **IT**: Information Technology.
**MI**: Music Industry.
**LX**: Lighting. **TH**: Theatre.
**PA**: Professional Audio.


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CIRCLE 141 ON READER SERVICE CARD

## Biased

I am writing in relation to the April article "Gay Mardi Gras Time", in the last issue.

Firstly I am sure you have been inundated with comments regarding the photograph of the main grid being upside down or has somebody come up with helium filled mirror ball?

My main point of writing is in regards to the fact that the article only mentions the Jands lighting equipment that was utilised for the event. Other equipment used included Coemar Samurai 1200 supplied by CDA through Total Concept Productions and also I believe Chameleon Touring supplied Tiger Scans. There may have also been other equipment used though I am only aware of the above.

If articles are to be written on such events then surely the report should include all equipment used.

As you are aware ther have been numerous comments regarding Connections being biased towards Jands, obviously things such as this article, only adds fuel to this fire.

**-Peter Kemp, Coemar De Sisti Australia.**

***Catriona Forcer responds:** Firstly I apologise for Alan Parkinson's balls being hung upside down and I lay all the blame on the printer.*

*Yes I admit the article did only mention the Jands lighting equipment but for a very good reason. Comments made about the other hire companies (no specific names mentioned) were rather negative or "off the record". Not wanting to upset anybody, I faithfully omitted any reference. For the same reasons, I did not cover the events in The Hordern Pavilion. To a certain degree, my articles depend on information fed to me and if that information does not include every single piece of equipment, then not everything will be itemised.*

*As to being biased towards Jands, that is total nonsense particularly in my case and please note that your letter is the only one received to date accusing the magazine of favouritism. Most of the events I cover are picked by myself and not Julius. Usually I don't know who the hire companies are until I get to the event as the actual show and the designers are my main concern. However, if a hire company wants to ring me to inform me of a show they are involved in and I think will be a good story, I'll certainly consider it. Jands have never done this although Chameleon put me onto the Neds Atomic Dustbin show they were involved in and very good it was too. Perhaps other companies could take the time to do this. Also, remember that Jands are involved in a large portion of shows and, simply because of that, will often be mentioned.*

*I only arrived in Australia last October and I feel I am far to much of a novice to be involved in the politics between different hire companies here. For the past seven years I have worked as a features writer with Lighting and Sound International as well as for Celco. Not once have I been accused of being biased towards Celco in my articles which is something I'm quite proud of.*

***- Catriona Forcer***

**Editors note: Allan Parkinson is delighted, he has had lots of calls from LD's wondering how he managed to do this. Seriously though, Catriona Forcer's integrity is beyond reproach. If we get letters complaining of bias (and we have not, until now), we print them. Simple.**

## Clutch Fallacy

I would like to correct a popular fallacy surrounding the "Into the Woods" production week. In a number of publications failure of revolve "clutch" has been given as the reason for the extensive delays in getting the show on. In fact the part which failed was a coupler between the clutch and the motor. During a cue sequence late in rehearsal day the revolve failed to respond, the Opera House stage fitters were called and the problem quickly diagnosed. The fitters then worked on into the night, located a replacement coupler in their store and had the revolve functioning and ready for rehearsals the next day AM.

As a result of this prompt action very little rehearsal time was lost. We had to recalibrate some cues set late in the day which were affected by "slipping" but this did not take a significant time. Because this was their last coupler they ordered a new one for their stock which had to come in from Germany. I would like to take this opportunity to thank the Stage Fitters for the excellent work they did in a cheerful, helpful and self sacrificing manner to keep all the stage machinery at The Opera House running and hope this letter lays to rest this matter.

**-John Bayley, Production Manager, Sydney Theatre Company.**

## You're wrong!

After reading the letters page of the April issue of Connections, I feel compelled to throw in my 'two bits worth' about neutral fidelity and Bill Woodman's ATC monitor speakers.

Your comment that "flat sound = boring" is certainly true for live rock'n'roll sound reinforcement, as anyone who's ever EQ'd a system with a spectrum analyser will agree. But live sound and studio sound are very different situations.

A live performance is mixed to sound 'right' when heard through a particular set of speakers, at a particular volume, in a particular venue. Live sound is a one-off real-time event, and the engineer is there with the audience to shape the sound accordingly. Colouration in the speakers often adds excitement to the sound.

Making a recording in a studio is a very different thing — the audience will be hearing the mix through different speakers, in a different room, at a different time. Unlike a live performance, the recording engineer won't be there in your lounge room to 'tweak' the mix to make it sound right! The mix is created with the intention of sounding good over any speaker system in any environment. Exciting colouration in studio monitors can result in dull and boring mixes when heard through other speakers that don't have the same colouration.

For this reason, it is common to find at least two speaker systems in the recording studio: one pair to provide an accurate indication of sound quality, and another pair to provide a coloured 'real world' reference. By alternating between each pair of speakers, the recording engineer can determine a) the actual sound quality, and b) how it will sound on the average home stereo.

ATC's SCM series studio monitors are designed to provide an accurate indication of sound quality, and that means minimal colouration. I interviewed Bill Woodman at the SMPTE '92 show and learnt his design philosophies — there's no warped theories or marketing gimmicks involved. Just straightforward, intelligent, research and design. He is an innovator who questions many of the accepted norms of speaker design and testing, and that leaves him open to criticism. But the sonic quality of the ATC speakers proves he is doing it right. Bill Woodman is a master of specs, not a slave to them!

I bought myself a pair of ATC SCM20's.

**-Greg Simmons, Sonics Yearbook Editor.**

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## Studio Ripoff

Firstly, thanks for a great magazine. It was interesting to see the change over from *Channels* to *Connections*, the magazine as a whole seems to be booming. There are a lot of sections in your magazine which are great, but I really have to commend you on the free ads for Stolen Equipment. In fact the whole classified section is really good, it's a pity more people here in the West don't catch on!!

I always look forward to the Great Mistakes column, Little Sharky, and Update and, in fact, the only gripe I have is that I would like to see RRP's for the products you review/update.

But the real reason that I am writing is in reply to the article *Studio Courses: Ripoff or not?,* by Ian Scrivener, April 1993 issue.

To put you in the picture, I am a guitarist, (sort of singer) songwriter with my own 8 track home studio, a few FX, synched with a 16 track MIDI recorder on a Mac computer. (Pretty basic, but it does a good job and is right at my fingertips when I need it.)

On Tuesday 7th July 1992 I contacted an Studio Engineering School (who shall remain anonymous) in Perth in response to an advertisement that they ran ran in a local music magazine (X-press, #281, 2/7/92), stating "Be part of a National CD release" and a contact number.

A telephone call was forwarded and I was told that they charged $25 per hour and any band who recorded a demo at their studio automatically went onto the CD, as promotion to get their studio accepted as a professional studio. The band I as working in had broken up a couple of months before, but I was working in a duo, only guitar and a lady who did vocals.

We liked this arrangement and steered away from (over) production on our demo tape, keeping it all fairly simple. The duo agreed to record there in order to be on the CD which commenced on Sunday 16th August 1992. recording took about three hours to record one guitar track, two vocals and a bird tweet at the beginning of the song. The studio didn't own a DAT machine, and hadn't hired one for the day, so we went back later to mix-down which took about an hour.

At this time we were then told we had to have a minimum of six hours recording time to get onto the CD. So we paid for the extra two hours. We were as told that the CD would be available in late September and would be called *Australia Undiscovered.*

Now I find myself, eight months later, still in the dark about the CD, and $300 worse off.

**-Richard Mortimer, Hillarys, WA**

## Very Disappointed

I was very disappointed to read your correspondent's review of the Frankfurt MusicMesse exhibition in the previous edition. Either Ray Bond had partaken too much hospitality on the Aussie Monitor booth and had been brainwashed by aluminium extrusion, or he just plain didn't wander around the show very much, or the pictures he took of our booth didn't come out.

What other reason can there be for not giving any kind of a mention to ARX, who, as he knows, had a very large display at the show. As you would know these exhibitions are incredibly expensive to display at, and it is depressing when Australian companies are disregarded in the rush for show coverage.Is there anything behind all this? Some hidden agenda?

Surely some small recognition would not be too much to ask for, given the amount of time, money and energy expended in trying to put Australia on the map as a worthwhile pro audio source.

**-Colin Park, ARX Systems, Melbourne**

***Send Letters to:*** *Fax (02) 876-5715, or PO Box 439, Epping NSW, 2121 Australia.*
*We almost ALWAYS print the abusive ones, they are more interesting than the nice ones.*

## EDITORIAL

Why do we now have a **Music Technology** supplement? Converging Technology, that's why. Lighting operators use MIDI to fire cues, Sound and AV engineers are finding new ways to use samplers, and the digital express roars eternally forward.

The Roland drum system reviewed on our Music Technology pages comes closest yet to providing those live sounds many an engineer has struggled for hours to get, and it does it without fuss. Ignore at your own peril the world around you and be left behind!

We agonised for months before expanding this magazine in this way. We are keen to get your reactions and suggestions. **Call us-** 02 876-3530.

One suggestion we took on board after the reader survey in March was regarding user friendliness of the magazine format. We are always trying to make the layout fresher, and hope this issue is a move forward in your opinion.

The move to limited Newsagent Distribution was also not approached lightly. We are, and always will be, predominantly a trade magazine, and our strength is our Database. By opting for distribution in Sydney & Melbourne newsagents we hope to widen the readership. **-JG**

**A film production error this issue means some pages have wrong numbers. Our cover has a film 'trapping' problem -an unfortunate error.*

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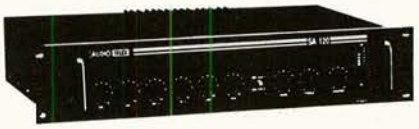

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# HIRE BIZ BUZZ

## PA hassles at Bobby Brown

Bobby Brown's sound Engineer Danny Leake told Catriona Forcer power problems in the first Sydney show lead to the Turbo system blowing a mains breaker. The system comprises 52 TMS-3 cabinets with 24 subs on the floor, driven by a Soundcraft Europa desk.

"We tried to figure it out and thought we can't have this happening during the show", Danny said in an interview for Light & Sound International. "It did happen in the show, but we'd set it up so if it did happen it wouldn't take the desk out, and we'd have some sound. We were so busy working on that we forgot to turn the bottom row of cabinets down, so it was at the same level as the top three rows. They were running loud enough to reach the back wall of the arena, so unfortunately the people in that area were sort of getting burnt out."

"Amazingly, last night the crowd was still yelling louder than the PA system, we had a Db meter and the crowd were yelling at 121dB, and I had the band going at 116dB!"

## NOVA's 500 gig contract!

Scarecrow, the John Mellencamp tribute, have broken Stormy Monday's dubious claim to fame as longest term hirers. The would-be Mellencampers celebrated gig number 500 recently, with the NOVA PA out so long the guys have forgotten what it looks like!

Chris King is the FOH engineer, with a Soundcraft 500 console, and monitors happen through a NOVA M4 console, driven by Dylan Hughes. The PA is the clasic NC-3, double 3 way, with 6 foldback sends.

Matt Arthur is the Lighting Person.

## Never blown a speaker!

Lloyd English from Specialised Sound & Lighting in South Australia (Phone 089 854-224) says he has not had a single recone in 2 years, since installing 'Speaker Guard'. The blurb he sent us says:

"How much did customer ignorance cost you last year" .... a great start, guaranteed to draw immediate attention from any audio hire personage. The missive continues: " ... an intelligent new device that fits neatly into the speaker enclosure away from meddling fingers, and is simply preset to the sound level you have chosen. In the event of a speaker being over driven, the Speaker Guard activates and connects a dummy load into the speaker line, dropping the output 15dB until the volume is lowered". Sounds a bit like the ignition cuttout on the Connections staff car, which will not exceed 7000 RPM. Sad but true.

Sounds like Gods Gift, hopefully Lloyd will send us one to test here in Connections. Meantime, call him for details.

## Around The Nation!

**Concert Lighting Systems** in Melbourne have had a lucky brush with the digestive tract of a hungry lion, which escaped during a recent GMH launch. Several CLS crew were on hand when the lion took a lunch break. All returned intact to HQ after their harrowing experience.

New at CLS: Grant Jennings (ex Active) has joined to co-manage the production dept. with Richard Grenfell. Louise Brennan has returned to co-ordinate the shows and hires, and help out with customer service. Angus Longstaff has joined to help with sales and service, while Leigh Greig has joined the hire dept, from Harry The Hirer. Trish Johnson has left CLS, sadly for us, because she compiles this info for Connections.

**Australian Concert Productions** in Brisbane did the good 'ole Charter Towers Country Music festival at the showgrounds there, with 12 TMS-3's. Brian Inglis, Dave Vinnicombe and Jason presumably had a laid back couple of days, the Yamaha PM1800-32 is reported to have enjoyed the mellow tunes too. The foldback desk needed a motivational talk before returning to the big smoke for some real serious work!

TOM JONES at the Townsville and Brisbane Entertainment Centres was a little more full on for the guys, old Tom is a performance Chameleon, isn't he? And what about all those knickers the band eat? 40 Turbo's and 24 subs shook the Tom fans, with the PM 3000-40 supplemented by a Yamha 916 submixer. Monitors ran from a Soundcraft 8000/40 board, to 12 sends. This rig needed two 40' jumbo pans for the 22 hour run North to Townsville.

Last but not least - the 'Opening The Gabba' gig needed 8 TMS 3 and 8 TMS 4's. Geoff McGowan and Jason did this one.


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# HIRE BIZ BUZZ

**EAST COAST LIGHTING** (phone 07 252-9583) of Brisbane also did Tom Jones up North, with 204 Par 64, 24 Rays, an Event Plus 60 channel console, 4 MSR 1200 followspots, 11 LSC racks, 8 x 1 tonne chain motors. Dyke Dunning, James Kenny and Paul Van Der Ent did the gigs.

Similarly, wherever the ACP PA goes you'll probably find an East Coast Lighting Rig. So Dyke, Kerrod Heineger and James Kenny had a mellow time at Charters Towers too, at the Country Music Festival.

East Coast have NEW 300 amp ELP mains distribution boards, with push-pull connectors.

**DB Concert Sound** of Geelong (phone 052 211-688) have had a rig out with Frente. (See review, this issue). Also happening for the firm were Boom Crash Opera, with some Melbourne shows, and Headless Chickens. This was crewed by Bil Dart, Jason Maljers, Gavin Hulme with Brian Cavagninio on monitors.

**The PA People** in Sydney have hired Chris Pyne as a senior systems engineer, he is formerly of Jands and Arena Technical Services. They have recently done the National Folk Festival where 2 venues were handled by Ross Ford, Tony Moffat, Andrew Winslade and Peter Wood. PM consoles, Turbo and Bose 802 boxes, and monitors made up the system. The guys also helped with the Channel 10 outside broadcast at Bathurst, supplying a PM 3000, vision monitors and a multicore system. Tony Moffatt spent the weekend sniffing burning rubber.

**FERNANDEZ MUSIC** in Cairns had the usual strange cross section of work last month, with The Velvet Soap Opera Company at the Karnak Theatre and Voodoo Love Child being two engagements of note. The Voodoo Love Child/s got some Intellabeams with their PA.

The Fernandez guys say the beautiful Karnak Theatre in the rainforest has a few power hassles, but the suspect oven and coffee perculator were beyond the pale. Then a snake was discovered asleep in the DB board - well, a warm dry spot guys, whaddya expect? You WILL insist on living in Gods Own Country where nature and climate contribute to utopian enjoyment of your daily predicament.

Ah, the reality of gigs in the far north!

Doug Johnstone also says he has one of Slash's chest hairs for sale, the remnant was discovered stuck in the back of a guitar used at a private Guns & Roses show in Port Douglas, North Queensland.

Best offer, make yours by calling Doug on (070) 518-519.

**PREMIER LIGHTING** did the Glaxo International seminar and Dinner at the Regent and ANA Hotels - with 70 profiles, 40 PC and Fresnels, desks and dimmers. LD was Phil, with Shaun Driscoll and Darryn Fox as board operators. Shane Hidges, Phil Planer and David McRae did the grunt work.

**ACTIVE LIGHTING** have been active (yuk yuk) with TV Week Logie Awards - LD Mario Petri, crew were Tim Hall & Adam White. This ate up 156 Par 64, 32 scrollers, 22 5ks, 47 2ks, 54 ikw frensels, 24 1kw profiles, 48 Par 56, 8 Golden Scans and 8 Tigerscans. Phew! A Celco Navigator drove the Clay Paky bits.

Southern Sons: LD Tony Donnelly and SE Tim Hall, Tom Jones in Melbourne & Hobart was lit by LD Neal Montavon, with Tim Hall operating. 8 Golden Scan went on this.

Andrew Topp tells us the firm also did work at Torquay and a 'STOMP' at Melbourne Town Hall, where Iggy Gilmore, Tim Hall and Alan 'Midnight' Eno did the deed.

**JOES PA HIRE** is a Sydney PA owner/operator setup, (call 02 564-2521) who do acts like Peter Andre, Candy Harlots, Killer Queen, Dynissty, and a Mentals show: Peter Beaumont-Edmonds (Skip) FOH. Joe & Jane Scaturro in charge.

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# Interview- Greg Henderson

*Caroline Grafton talks with ARIA winning engineer Greg Henderson about sound, sound - and babies.*

1993 has treated Greg Henderson Engineer, to a double pleasure. I think the biggest treat for Greg is the awaited arrival of his first child due for delivery in May and may even already be born as you read this article. The second delight is winning the 1993 ARIA ENGINEER OF THE YEAR AWARD for his work with Yothu Yindi on their debut album 'Tribal Voice' produced by Mark Moffatt. I interviewed this modest and unassuming man on a rainy night at Rich Studios in Sydney and thought you might be interested.

Greg has worked in the recording industry for ten years commencing his career as an assistant at Studios 301, at the age of seventeen, making coffee and learning the ropes for more senior technicians. Greg proved to everyone that he had chosen the correct field by becoming House Engineer within eighteen months at the age of eighteen.

**"Awesome, very nervous and honoured"**

When asked how it felt to win this years ARIA, and I might add here that this is his second win, the response was "Awesome, very nervous and honoured". He did not expect to win for this particular Album. "But basically I think the voters generally know me and know my work, so I think that has a lot to do with it".

His favourite studios to work in are Gotham in Melbourne, Festival in Sydney, but his obvious preference goes to Studios 301 in Sydney. After working there for three years he feels, "that I was born there and I treat it like home. I'm really close to all the people there, its just a really great studio and I know Mixdown Studio really well. Now Jim Taig is at 301 it's great, having someone tuned in to modern day engineering is great for 301. Jim is more progressive, he's right on top of it. Within a year that studio is going to be so improved".

As far as producers are concerned he tends not to stick to any one producer, with one exception. He admits he has a very strong relationship with Mark Moffatt who he has worked with on various projects since 1987. Gregs qualifies himself as a mix specialist and this provides his main body of work. He tells me he is not really happy with any project he has taken from recording to final mix and he believes that people should do, what they do best, "there are so many better recording engineers than me, what I'm good at is mixing". This, in Gregs view, would also share the work around.

When left to his own devices Gregs equipment preferences for a recording session are as follows.

***MICROPHONES***

**Guitars** Shure 57 and AKG 414,

**Bass** Neumann U47 and a DI

**Drums Kick**- Sennheiser 421 up close and a Neumann U47 back flat off the head of the drum.

**Snare**- Shure 57 and a AKG 414.

**HiHat**- Sennheiser 451.

**Overheads**- 2 by AKG 414.

**Toms**- Senheiser 421 and Neumann U87s in the room

**Vocals:** Varies on the vocalist of course, but maybe a Neumann U49 and I like valve mics. Keyboards Well if the keyboard player has got his act together you can just DI but its always nice to have some extra effects around.

**Yidaki:** otherwise known to the average white man as the Didgeridoo, "we ended up using an RE20 but you can pretty well do it dry. The Yothu people are so across the sound of those things, they pour water down them to get the right tone, they spend a lot of time before it even hits the mic, so you can pretty well stick something within cooee of it. They are such great instruments- they spend ages making them.

***EFFECTS***

**Drums**- 480L Reverb, PCM70 on Kick

**Guitar**- 480L Reverb

**Vocals**- 8300 Chorus, Lexicon 224, PCM70

**Various**- SSL Compressor, DBX160 for a snappy compression or UREI LA2 if I need something softer

**Outboard**- EQ's I like API's.

Projects Greg is most proud of, are: Midnight Oil (Greg recorded and mixed this at the age of nineteen), although he admits that Nick Launhay, of the UK, really sorted out the final mix within an amazing demonstration of dynamics in mixing. This experience obviously had a great effect on Greg's career. The Choir Boys, Yothu Yindi and Mental As Anything are other memorable projects.

Recently Connections has had a lot of budding engineers out there, ask us to ask our leading engineers, for advice. Well obviously they can't give away their secrets but Greg volunteered the following:

***DON'T DO IT! information:***

**1.** If you have a distorted guitar situation, especially with more than one guitar, with a lot of 2k and 3k screaming at you, don't just shift the top end by pulling out stuff around 2k and 3k to compensate. You just add bottom end, add a little bit at 100 then a bit at 600 and so on. You can hear it thicken. Don't suck things out to much. It took me years to learn this lesson.

**2.** Don't cut the ends off reels. "Once I put the razor through a half inch, (sounds very painful. -Ed) because I needed a bit of tape for something. Well, it happened to be a very slow fade of the only mix we did".

**3.** Check, Check, Check and then get someone else to Check before you erase anything. "I once, unknowingly, told an assistant is was OK to erase a lead vocal".

**4.** Don't let people, a producer or anyone, constantly sit beside you while your trying to do a mix. *(But what about the talented A & R guy? -Ed)* They will invariably infringe on your personal output. You start to worry about, what they would do if faced with the same situation or if they think they would do it a different way. If they don't trust you, why did they hire you? And if you don't feel trusted, then how can you perform?

Also, never having worked on the road or live, Greg thinks it's a good idea for any young guy/girl to try it. He agrees that it can only be beneficial to understanding various acoustic environments and you really learn to trouble shoot a situation. ✇

*My thanks to Greg for this interview and to Paul Rich for the space in Rich Studios to carry it out.*


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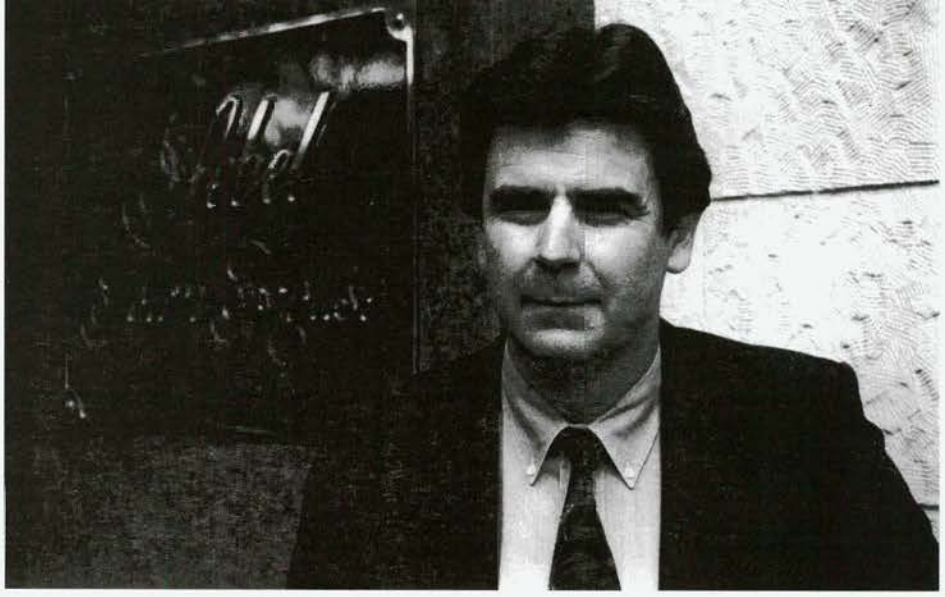
**CIRCLE 156 ON READER SERVICE CARD**

# Howard Page

*He was one of the first Aussies ever to mix live sound. Today he's in charge of crew at Showco - one of the world's largest PA outfits. In Sydney with Paul McCartney, he told **Julius Grafton** what he looks for in road crew ....*



Showco's Vice President of Audio Services, Howard Page has a certain presence that fills a room. Not that he's THAT imposing, but he is slightly taller than normal. He strides into the lobby at the Sebel Town House, bantering with the desk staff and in total control of the surroundings. This is guy who gets things done.

The oddest thing about Howard is that he used to look like a Texan .... before the Australian sound engineer moved to Texas, that is. Known as the 'King of Denim' amongst other things, the guy today dresses 'up', as our photo indicates. He was quite happy to have his picture taken, but only if he could dash upstairs to his room at the Sebel Town House and put on the tie and jacket. For almost 20 years Howard was an institution on the Australian Touring Scene, dressed almost exclusively in a demin shirt, Levi's and boots.

These days the trademark moustache from the Jands days is gone, perhaps reflecting the change of career. Howard was one of Jands first sound engineers, having designed and supervised the construction of much of the first real PA equipment in Australia. "In those days import duties like 47% on mixing consoles made it cheaper to build them here. So we did!"

Today Howard is talking about crew employment prospects and what he looks for in prospective crew.

"It's an attitude. The business has evolved now, I don't just look for someone who's got the chops technically. These World tours operate at such a high stress level that the old days of the roadie mentality and attitude - if someone got in your way you swore at them - are over. These days you need a person that can integrate with all the other crew, departments and contractors and have the right attitude. On Paul McCartney we have 14 different contracting companies".

To put it into perspective, Howard is in charge of personnel on the road at Showco, and heavily into training and development of The Right Attitude. This stems from institutionalised behaviour modes that get entrenched in an organisation - and need fixing. Howard is a people fixer.

The American concert sound industry has some notable 'attitude' companies, where you can almost pick who the guy sitting across the aisle from you in the plane works for. One of the current major firms has a pack of abject turkeys in its employ, who just seem to clone themselves into un-helpful, opinionated gallahs the day they go on the payroll. Howard was brought into Showco in 1989 to avoid that happening there, and an anecdote filtered back the Australia shortly afterwards.

This had Howard hopping onto a London bound flight from Dallas, where he had to sack a system engineer who had managed to blow up half a system and create customer friction along the way. Tales of "good ole' Texas boys" vs. Howard were rife. I put this to him and he declines to comment, but the impression is the Aussie transfusion didn't take too long to work in Dallas!

Attitude IS a big part of professionalism, Howard feels. "I try to create an atmosphere where the sound crew are seen but not heard, to coin a phrase. The sound crew go about their business from load in to load out without the production department ever being aware of any problems that might arise."

"I always have been aware of a lot of very talented people in Australia, but there is a very large work permit problem just getting them on a tour today. It's harder than it's ever been, the American authorities have narrowed the job description rules down to define specific skills. It's no longer necessary to point out this person is a sound engineer, you need a multiple proven worldwide record to get in".

"The standard of Australian crews is usually far superior to many other countries. I know some fellows who have gone to England recently. It's a whole new ballgame touring the world as opposed to touring Australia. Venues, language, loadouts with 100 loaders and 38 trucks at a time- you can't walk into those tours overnight, there's no chance to learn (on the job)."

"My forte is integrating the sound production and personnel at the start of a tour and fine tuning the sound system, trucking and rigging. We believe we have the finest sound system - the Showco Prism™ System - in the world. We realise you're only as good as your last show - the personnel need to be the best in the world too.

"I flit from tour to tour, look at quality control, work closely with our sound designers, and have a lot of input from the road at real user level."

There are no major developments in system design on the horizon, according to Howard "What keeps evolving in sound systems is better packaging and quicker setup. You stuck with the law of physics of sound though. Digital consoles are coming, but the worry is redundancy'.

One large concern is the trend here in Australia towards noise restrictions at outdoor concerts. "What's the point of having a wonderful sound system at a concert when you can hear a motorbike roar past on the road outside? Who'll pay to come to show like that? America has a wonderful trend towards ignoring smaller lobby groups who try to ruin things like rock concerts, which bring a lot of money into towns. What is happening here today will never happen there".

Howard went to Showco after Jands sold out to Samuelson's in the late 1980's. "I was made a mafia style offer, too good to refuse. I had no personal ties, plus it was a giant leap forward. If you stay around long enough you become part of the furniture. I work on challenge, not for money per se. I don't settle for second best".

**By chance our Nostalgia Corner on the social page has an early picture of Howard in action!*

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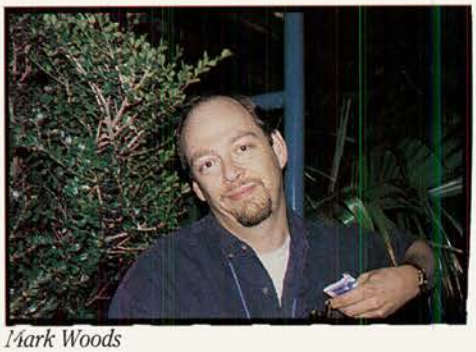
# FRENTE ON TOUR

Popular Melbourne band Frente! were in Sydney recently with production from DB Concert Sound from Geelong, Victoria. The tour is now coming to an end with the band returning to the studio to record a new album although there is already talk of a tour at the end of the year or early 1994. Lighting designer Cameron McKaige has been with Frente! since this tour started five months ago.

"We've been doing a theatre run up around Cairns which was extremely successful." Cameron told me. "It was an all age event with no alcohol which seems to be a very big draw card for them because of the wide range of people who like them. I think the younger people can relate to the lead singer and they find something which is interesting about her."



*Mark Woods*

"In every state there was a different production and our tour manager Mark Woods seems to have this knack of organising productions at each place we play at. It's actually quite good to get back to DB Concert Sound because we can work with a production we know and it goes up nice and easy and well. We've recently played Darwin, Cairns and Perth and they've all been separate productions - some good and some not so good. It seems the higher you get to the top of Australia, the worse productions become. We did one show about 300 Km out of Darwin where in house lighting was supplied and it turned out to be three flood lights which I had to put together. It was like put the rubber seal on, screw the globe on, screw the adaptor on and nail it to the roof!"

At the Sydney show in The Jet Club the basic light show came from DB although Cameron had added three projectors and screens for the first time.

"At the moment we're using 36 Par 64s, five zoom profiles, two molefays, one strobe, three projectors and screens and a Jands ESP 36 way control desk. The dimmers are also Jands and they're quite good. Everything has it's own roadcase and is put together nicely. It's a good plus for DB, they always have things together."

"It's easy to be different from other guys in Melbourne because maybe everyone looks at everyone elses shows and pick ideas to put in their own show. I'll go to a show and maybe pick out a smidge that, once it's in my show, will be changed around so much it's my idea anyway. We did some dates with Hunters & Collectors at the beginning of the tour and their LD Alan Stone, who is a good friend of mine, had some really good ideas. I wouldn't say I pinched any from him but he gave me a base to start from."

Mark Woods is both the front of house sound engineer and tour manger with Frente!. He has previously worked as a sound mixer with The Models, Men at Work and Tina Turner before turning to recording for a long period. Mark returned to live work a few years back.

"The PA is from DB Sound and is all JBL stuff with Australian Monitor amps," he said. "There are six horns, six mid, & six subs per side. The desk is a Yamaha 1532 with ARX graphics. All the mics are normal although Frente! are very soft. Angie is about the softest singer you can imagine and the band are very soft as well. The problem I had with the band, especially once you get it nicely EQed, was that I would hear drum kit in the centre vocal mic. Obviously in pub gigs you have to get it quite loud, or normal volume anyway, so what I'm using is a Crown CM32 noise cancelling mic which actively rejects sound that is not directly in front of it or very close to it. That's made the world of difference. It's a condenser mic and it does give 10 dB more gain before feedback, which is a lot. Everyone once they've used it are impressed and it changed the sound of the band almost immediately. Instead of having to have the band almost off and waiting to hear the voice and hear how loud that'll be to mix the band up accordingly, with this mic I can actually start with the band and what you'd call a soft to medium level. If it's a good sounding room you can get it up to really loud. The Jet Club is a good sounding room and it's a good high stage.

"It's nice to have DB Concert Sound as they are a good crew and they have good gear. It's probably cost a little more than just hiring stuff from Sydney and Brisbane but it's already paying off in a way. Like today when you know Simon's got a tooth ache and Angie's complaining she's still asleep, I don't have to do a sound check. I assume they'll have it nicely put together and it'll be tuned well. If you're using different people or gear that's not as good then you couldn't do that. You'd have to be there for sound check because you'd have no idea what might happen at show time. In a way I like all the production companies but you certainly get what you pay for and this has cost us mainly because of the travelling the truck and the crew."

**-Story & Pictures By Catriona Forcer**

*CREW LIST*

**Systems Engineer:** Gavin Hulme
**Monitor Engineer:** Brian Cavagnino
**FOH/Tour Manager:** Mark Woods
**Lighting Designer:** Cameron McKaige
**Rigger:** Jason Melgers
**Stage Tech:** Callum Orr

*Cameron McKaige & Gavin Hulme*

# Hothouse Flowers on tour

*The hard working Irish crew with a few good tips about sussing other people's production, and keeping the lid on your spec! Catriona Forcer discovers the inside info ...*

Both lighting designer Terry Power and sound engineer Norman Verso have been with The Hothouse Flowers for the past six years. This is the third tour of Australia by The Hothouse Flowers, the second one opening for Dire Straits in 1991. The tour itinerary is tight with the band playing up to five days in a row and most days off are travel days.

The Australian shows on this tour were the first of a world tour planned by the band which travels on to Europe for ten weeks followed by festival dates, including Glastonbury and Ross Kilda, during the summer there. After the States and Canada they hope to return to Australia by the end of the year or early next year.

"To begin with I was working for their manager at the sound company he owned," said Norman. "When he started managing The Hothouse Flowers, he also provided the sound for the band and I started engineering sound for them. That was in Dublin where I live. Before I had worked with another band in Ireland called The Moving Hearts for about seven years. When either band are off the road I do gigs with other bands like The Waterboys."

In the State Theatre, Sydney, Norman was using PA hire from Jands comprising of a S4 speaker enclosure system with the number of boxes used depending on the venue they are in. At the State there were 12 boxes - three either side of the stage and three flown either side for the balconies. Control is a Soundcraft Europa 40 channel desk and Norman also employs a Lexicon 224X, Yamaha Rev 5, two Yamaha SPX1000's, Roland SDE3000 and there are BSS 402 compressors.

"I'm not using any gates outboard because there are noise gates built into the desk," Norman told me. "I haven't used this desk before and I was looking forward to it. The alternative was the Yamaha PM3000 but I prefer the Soundcraft to that. Normally I use TAC boards preferably a TAC SR9000 or SR6000. I'll be using a SR6000 throughout Europe and the hire company we'll be using there are SSE from Birmingham, UK. They have Electro Voice MT2 and MT4 speaker enclosures so we'll be using the MT2's in smaller venues and the MT4's in the larger.

Sound for The Hothouse Flowers is very simple. Everything is played live, there are no samples used of any sort and there is no electronic music. It's all natural sounds from either acoustic or electric instruments so there are no midis or triggers. It's difficult in that you haven't got any pre-made sounds as such, you have to get the sound you want from the instruments being used."

In London the band will be playing the notoriously difficult Albert Hall and, even more tricky, the show will be in the round. As a result the PA will be hung in a central cluster over the stage which, hopefully, will cover the whole area.

Lighting designer Terry Power also comes from Dublin, a city that was once renown for it's live music scene. He is quoted as saying that he loves Australia because it is like America without the Americans!

*"I saw Metallica recently and I was very impressed by their stage. I actually worked on it, I did the load out to see how the stage went together. We loaded fifteen trucks in three hours!"*

"There are a lot of small bands but not larger ones because when U2 got popular all the record companies signed up every band they could find looking for the new U2," explained Terry. "When they realised they didn't have it, they dropped them all. So about five years ago there were maybe 12 or 13 bands touring every weekend and that kept the whole industry going. But when the record companies dropped the bands they couldn't afford to pay people and the industry died. There is quite a big circuit in Ireland which stems from the old ballroom days when show bands used to play.

*"It's quite a simple shaped rig because the music is more important than the show which a lot of people have forgotten these days. There are small bands, bands at our level and there are bands that have huge amounts of money that have to put on a big show. Frankenstein has created a monster- **they** had that, **we want two more!** Dire Straits put on a really good show but it had to be because they don't exactly run about the place- **so there's no energy in them!**"*

Every town has like a 3000 seater ballroom but unfortunately a lot have been closed down or turned into carpet warehouses."

The lighting rig used at The State Theatre will remain similar throughout the world tour although Terry usually has 23 colour changers on molefays which were not there. Also not at the Australian shows were five white cycs which Terry hopes to use wherever he can because he is going to go for a totally white stage - white monitors, white piano, white drumkit.

"It's been done before but it's usually done by 'Vegas stars' like Barry Manilow and Liberace," said Terry. "If it doesn't work, it doesn't. Everyone uses black as it's easy and hides everything. White is going to be quite difficult to actually hide the black bits, if you know what I mean! We're buying rolls and rolls of muslin to cover everything. Most of the shows we're doing in Europe are theatre shows with balconies so a lot of the audience are looking down on the stage which should look quite pretty.

It does mean with the lighting I can't go for any severe effects because everything reflects so it'll be more big colours than anything else."

Fortunately before the tour starts in Germany there are a couple of days production rehearsals to see if it actually works, if not it'll be back to black. For the bigger shows Terry will also be using 16 VL5's, 8 VL2b's (to be operated by Mick Owens) and a couple of projectors and the hire company in Europe will be Samuelsons.

"Another reason for using the white is that the whole theme of the tour and album is rain and water," Terry said. "So we will be able to project rain, water and the sea onto the white. The intro tape is of lashing rain because the album is called 'Song in the Rain'. At the Albert Hall we'll have a white circle and project down onto it which, in theory, should look good. We were going to do words and stuff like that but i don't think anybody can ever do that again because of the U2 Zoo TV tour. It's a pity because it's a nice idea and way to get your message across."

"Playing in the round you do lose that extra dimension in fact with using white you lose all your dimensions because everything reflects and it becomes a big ball of colour. You can do subtle things but because it's all white, it's difficult do get mood. I don't know, we've never done it before. We did white one year at a festival in Ireland and it worked well but, again, it was all big colours with molefays changing colour left, right and centre."

The rig at The State Theatre comprised of 90 pars, 6 Lekos, 17 molefays most of which had aircraft bulbs in them rather than flood bulbs, a cracked oil machine and 2 follow spots. The control desk is a Jands Instinct 60 way although Terry admits to normally using an Avo QM.

"I'm kind of getting to like Celco desks now," said Terry. "Although the buttons are a bit too far apart for my liking. I do like the fact that they have the output limits so if something is annoying you. you can turn it down without effecting anything else."

Because some of the gigs on the tour, like the clubs on the Gold Coast, were quite small it was decided that it wasn't worth bringing loads of equipment that would often sit in the truck.

"It's quite a simple shaped rig because the music is more important than the show which a lot of people have forgotten these days," said Terry. "There are small bands, bands at our level and there are bands that have huge amounts of money that have to put on a big show. Frankenstein has created a monster- they had that, we want two more. Dire Straits put on a really good show but it had to be because they don't exactly run about the place so there's no energy in them so that did it for them. These lot run about like maniacs so I think you're better off just lighting them up and letting them create the dynamics. They do put a lot into the show and the kids love it. Near the end of the show a lot of the audience join the band on stage which is great."

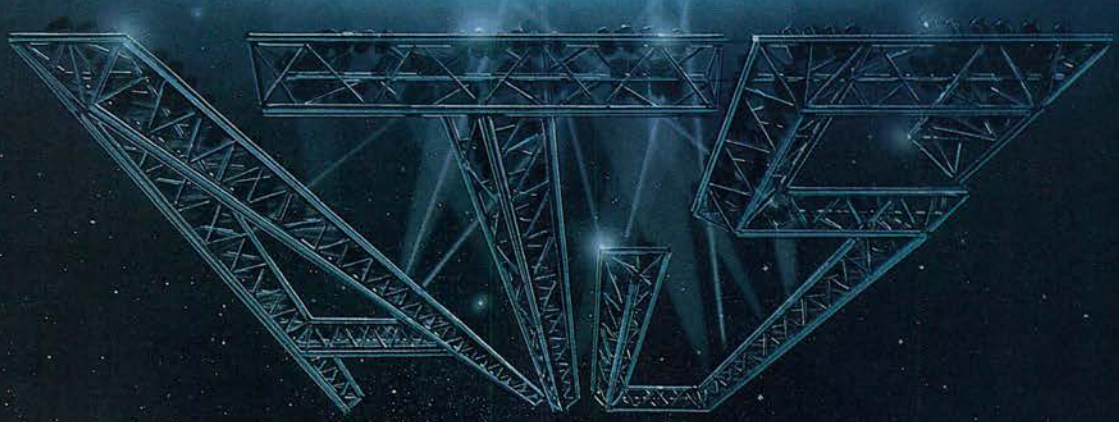
"Although I'd like to do more bands, I have a wife and kid and I love Ireland. It would be easy to move to England where there's more work but I love Ireland and I hate England. I'd rather live in Ireland and be poor than live in England talking 'when I was with Prince' etc. The industry is pretty fucked in Europe at the moment and there are loads of people out of work because people aren't coming to the shows as they don't have the money. The recession hits everybody and it hits the entertainment industry first."

"I saw Metallica recently and I was very impressed by their stage. It worked really well and the show was brilliant, I like the idea of having people on stage with the band. I actually worked on it, I did the load out to see how the stage went together. We loaded fifteen trucks in three hours because the stage rolls out, lights come in, sound comes in and it goes. You don't have to wait for anybody."

## CREW LIST

Robbie Wootton - Manager
Caroline Henry - Personal Assistant to Robbie Wootton
Terry Power - Lighting Designer
Niall Slevin - Monitor Engineer
Norman Verso - Sound Engineer
Martin Murphy - Guitar Technician
Mark Farrell - Drum Technician

# TAKING CARE OF BUSINESS DOWN UNDER



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# Lone Wolf's MEDIALINK & YOU

*By Julius Grafton.*

*(from Page 13)*

signal into MediaLink and back. Each TAP has an input and output for the desired signal and a MediaLink connector. TAPS act as surrogates for non MediaLink devices, allowing them to access the network."

There are already VIDEO TAPS and PHONE TAPS - you guessed it, Media-Link is destined for the home market too. In fact the firm have already demonstrated the MediaLink home, where a fibre optic cable runs along the skirting board, with the phone, video, stereo, and every other device all interconnected and all operated via MediaLink. "We have LANSCAPES, which are snapshots of the entire system - for example, you could have the current lanscape turn down the hifi when the phone rings!" said Lacas.

"I'd like to say that we're the Fed-EX of digital data. We don't care what's in the data packet. Hand us a packet with an address on it and we deliver it right now."

One aspect of the MediaLink explosion, (perhaps not the right description of the high level of interest!) is the fact it appears extremely fault tolerant. Read: stable. The technology is already in use on the road with INXS and Emerson Lake and Palmer using it live. Emerson Lake and Palmer use MediaLink where every note is carried or infulenced byMediaLink. It hasn't let them down to date.

The firm say the technology is easy to use and control, and to that end a consumer, domestic type controller that is as easy to use as a telephone is on the horizon.

To put this whole story into perspective, imagine a world where every video game, VCR, Computer, Hard Disk, CD player, DAT machine, Synth, Console and gizmo has a MediaLink port. This is the aim of the Lone Wolf team, and it looks today like this will become a reality Real Soon Now!

**LONE WOLF INC**

1509 Aviation Boulevard,

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CA 90278, USA.

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## Intrigue in Orlando

After a Media Link interest group was formed in February, industry attention became focused on the next major industry event - the NSCA Convention in Orlando.

As our main story details, this was something of a watershed for Lone Wolf, with major equipment manufacturers falling over themselves to buy relatively inexpensive Media Link licenses, so they can design the technology into their equipment.

In late April, the Audio Engineering Society announced an October 1993 deadline for its Sound System Control subcommittee- and stunned observers by seemingly declaring the outcome.

Their release stated in part that the Sound System Control subcommittee (SC-10) would publish a draft document describing its application protocol for audio equipment to be controlled and monitored remotely over a local area network. A working session will be held June 3 through 5 in Dallas. "The subcommittee was encouraged by the level of support declared by participating companies at the 1993 NSCA Convention in Orlando".

Having read this, I called Mike Isaacs at Lone Wolf, and asked if this meant the AES were tacitly endorsing Media Link. He said he wouldn't comment at this time, but I should speak with Anthony McLean from Live Sound & Touring Technology magazine in Kansas.

McLean told Connections: "To read between the lines, it looks like Lone Wolf has already been chosen, and the AES draft will be nothing more than the formalized announcement of the Audio LAN standard".

The SC-10 standard will allow manufacturers to produce equipment which is interoperable with equipment from other manufacturers, and the release on April 20 said: "The applications protocol developed so far has received substantial support from major audio manufacturers. Many of these manufacturers are developing products intended to comply with the expected standard - which isn't finished".

"We hope publication of the draft document in October will rectify this problem".

### *Bill Gates the second?*

Am I wrong, or is Lone Wolf poised to become the most impossibly wealthy pot of gold ever seen in the entertainment technology world?

Remember the USITT got together and cobbled up DMX-512 as the lighting standard? The Music trade got together and declared MIDI their standard?

Now a private firm has gone ahead and developed something so smart, so pure and so logical the whole industry has fallen upon it. The AES looks like it will legitimise it into a standard, and the protocol will expand itself into the consumer market - it will take over, like the mythical Skynet in Terminator 2!

And the Lone Wolf dudes will become impossibly rich and wealthy! Maybe they'll buy this magazine from us .....

### *They all fall into place....*

You'd think CROWN would ignore Media Link, after all, their IQ System control protocol has helped them in the market, and many users love it. So the buzz at NSCA that Crown had rolled over and become a Media link Licensee wouldn't go away. Crown personnel were all over the Media Link display.

Afterwards, I asked Lone Wolf's Mike Isaacs if Crown were really on board. "Amcron is not a signed licensee", he said, then he faxed me a Press Release from Crown that said:

"Crown International and Lone Wolf are working together to define how the Lone Wolf Media Link network can carry the Crown IQ System control protocol".

Read between THESE lines, and you see Lone Wolf's high bandwidth network chip inside Crown amps before long.

Meanwhile, Crest Audio announced on April 26 that they will 'share technology' towards NexSys and MediaLink compatibility. So watch for MediaLink ports on Crest amps, real soon.

QSC, Rane, TOA, Carver and JBL are already on board. This is a landslide that is gathering momentum!

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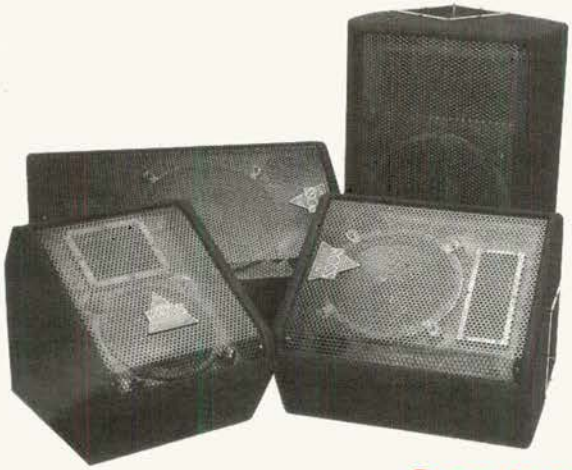

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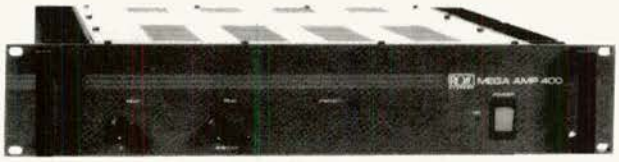

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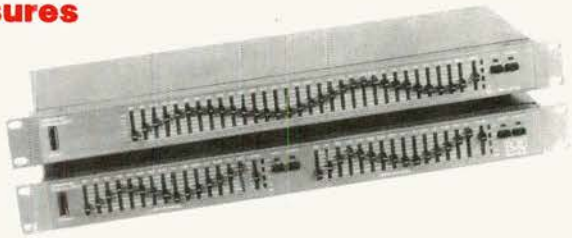

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# THEATRE CREW PRODUCTION GUIDE

*A listing of production crews, the unsung heros working behind the scenes in theatre, opera, and dance productions around the country.*

**Production**/Company — Venue ... Crew

**A flea in her ear**/*NIDA Theatre Co.* — NIDA
Tony Youlden(LD), Gavan Swift(LBO), Sue Field(SSD), Phillip Serjeant(SM), Louise McRoberts(SM)

**Among the butterflies** — Cross Roads (NSW)
Alan Walpole(PD)

**And a Nightingale Sang** — Qld Performing Arts Centre (QLD)
David Walters(LD), Geoff Kelly(LBO), Mark Blacker(SO), Bruce Bolton(SM)

**Angels in America**/*Syd Theatre Co* — The Wharf Theatre (NSW)
Mark Shelton(LD), Kevin Blyth(LBO), Peter Eades(SD), Justine Thompson(SM), Barbara Durwood(SM) Brian thompson(SSD), Gerard

**Aust Choreographic Ensemble** — Theatre Royal, Hobart (TAS)
Angus Denton(LD), John Comeadow(LD), Damien Fuller(LBO), Brett Cabot(SD), Sandy Campbell(SO), John Senezk(SSD), Yvette Simpson(SM)

**Beauty & The Beast**/*Syd Dance Co.* — The Metro Theatre (NSW)
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)

**Blossoms and Wrinkles**/*One Extra* Belvoir St Theatre(Upstairs) (NSW)
Rory Dempster(LD), Annette Dale(LBO, SM), Mic Conway(SD), Lee Williams(SO),

**Love Muscle**/*NIDA Theatre Co.* — NIDA
Tony Youlden(LD), Marcus Finchan(SD), Robyn Fincham(SD,SO), Tim Kobin(SSD), Phillip Serjeant(SM)

**Daylight Saving** — Q Theatre (NSW)
Chris Day(LD&LBO), Sharna Galvin(SO&SM), Jennie Tate(SSD)

**Dead Heart**/*NIDA Theatre Co.* — NIDA
Tony Youlden(LD),Gavan Swift(LBO), Paul Charlier(SD), Toni Glynn(SO), Peter Cooke(SSD)

**Death & The Maiden**/ *Syd Theatre Co.* On TourNigel Levings(LD), Peter Eades(SD), Brian Thompson(SSD), Julie Lester(SM), Gerard McLaughlin(C)

**Don Quixote**/*The Australian Ballet* Syd Op Hse, Opera Theatre (NSW)
Bill Akers(LD), Alynn Pratt(LBO), SOH Audio(SD), Neil McGarry(SO), Ann Fraser(SSD), Margaret Bourke(SM), Mimi Heman(FS), Simon Jenkins(FS), John Reynolds(FS), Phil Dunesky(SOH light super)

**Extraordinary Encounters** ... Belvoir St Theatre(Downstairs) (NSW)
Brian McCarty(LD,LBO,SO),

**Gilgul**/*Company B* — Belvoir St Theatre(Upstairs) (NSW)
Robert Lehrer(LD), Barry Kosky(SD), Peter Corrigan(SSD), Loretta Busby(LBO,SO,SM)

**Gunjies** — Belvoir St Theatre(Upstairs) (NSW)
Mark Howett(LXD), Monique Howett(LBO), Monique Howett(SD), Mark Mitchell(C), Fiona Johnston(C), Barbara Williams(C)

**Hamlet**/*Bell Shakespeare Co* — Theatre Royal (NSW)
Brett Grahams(LD), Michael Scott-Mitchell(PD)

**Hamlet**/*WA Ballet*
Kenneth Rayner(LD), Jan Conraats(LBO), WASO(SO), Andrew Carter(PD), Jennifer Dymond(SM), Davina Ware(C), Sam Hardcastle(C)

**High Society** — Canberra Theatre (ACT)
Karen Norris(LD), Heikki(LBO), John Mattheson(SD), David Greasely(SO), Mare Crimpton(SM)

**Into the Woods**/*Sydney Theatre Co* — Syd Op Hse, Drama Theatre
Roger Barratt(LD), John Senlzuk(SSD), Michael Bader(SM), Josephine Hill(SM)

**Isn't it romantic** — Kent St Theatre (NSW)
Michael Schell(LD), Dianne Kennedy(LBO), Neil Kennedy(SD), Wendy Hill(PD), Sarah Butler(SSD), John Foster(SM)

**Joseph & The ... Dreamcoat** — Qld Performing Arts Centre (QLD)
Andy Bridge(LD), Hugh Carlton(LBO), Mark Leven(SD), Paul Hitchins(SO), Anneke Harrison(SM), Mike Hyde(C), Ian Blackborn(C)

**Lend Me a Tenor** — Glen Street Theatre (NSW)
Mark Howet(LD), Richard Montgomery(LBO), Annette Alderson(SM), Graham Maclean(PD)

**Les Liason Dangereuses**/*Iron Cove Theatre Co* — Balmain Town Hall (NSW)
James Armstrong(LD), Dina(SO, Annette reid(PD), Peta Cruise(SM), Cecile busby(C)

**Love Muscle**/*NIDA Theatre Co.* — NIDA
Tony Youlden(LD), Marcus Finchan(SD), Robyn Fincham(SD,SO), Tim Kobin(SSD), Phillip Serjeant(SM)

**Macbeth** — Darned Sock Theatre (NSW)
Viginia Boyle(PD), Bess Parker(SSD)

**Madame Butterfly**/*WA Opera* — His Majesty's Theatre, Perth (WA)
Donn Byrnes(LD), Jan Conraats(LBO)

**Other Worlds** — NIDA (NSW)
Kate McKay, Robyn Finchan(LBO), Marcus Verrall(SD,SO), Carson Andreas(SSD), B Phillips(SM)

**Out of order** — Theatre Royal, Hobart (TAS)
Damien Fuller(LBO), Sandy Campbell(C)

**Punch me in The Stomach** — Belvoir St Theatre(Upstairs)(NSW)
Grant Davis(LD), Loretta(SM,LBO,SO),

**Richard III**/*Bell Shakespeare Co*
Nigel Levings(LD), Michael Scott-Mitchell(PD)

**Romeo & Juliet**/*Bell Shakespeare Co*
Nigel Levings(LD), Michael Scott-Mitchell(PD)

**Shirley Valentine**/*Peter Williams* — Sydney Op Hse, Playhouse (NSW)
Jamieson Lewis (LD), John Lewis(LBO), SOH Audio(SD), Liz Warren(SO), Angus Strathie (SSD), Bernard Angell(SM)

**Sky** — Q Theatre (NSW)
Peter Holdemess(LD,PD), Chris Day(LBO, SO)

**State of bewilderment** — Riverside/ Syd Op Hse (NSW)
Tim Boyd(LD), Liz Thompson(SM), Mark Wilser(SSD)

**Strictly no balls groom**/*Old Nick Co.* — Theatre Royal, Hobart (TAS)
Damien Fuller(LD,LBO), Craig Wellington(SD), Graeme PainePD), Snady Campbell(C), Hemisphere Productions(Video designe)

**Talley's Folly** — Glen Street Theatre (NSW)
Karen Norris(LD), Ian McPherson(SSD)

**Tasdance**/*Tasdance*
Greg Thompson(SM)/Rob Gravestock(SM)

**The Grace of Mary Trevors** — NIDA (NSW)
Louise McRoberts(LD), Adrian Harris(LBO), Leonie Pixon(SO), Andrew Raymond(SSD), Sheryl Talmagel(SM)

**The Heartbreak Kid** — Ensemble (NSW)
Shane Stevens(LD), Vanessa Campbell(LBO,SO,SM), Judith Hoddinott(PD,SSD), Michael Salmon(C)

**The New Rocky Horror Show** — Her Majesty's Theatre (NSW)
David Murray(LD), Peter Ratcliffe(SD), Rob Bourmanis(C)

**The Old Boy** — Ensemble (NSW)
Shane Stevens(LD), Kym Newell(LBO), Judith Hoddinott(PD,SSD), Andrew Simpson(SM), Michael Salmon(C)

**Tosca**/*State Opera of SA* — Adelaide Festival Centre (SA)
Mark henderson(LD), Ashley Martin-Davis(PD,SSD), Mandy farner(SM)

**Viva La Frieda**/*Handspan Theatre* — Anthill At The Gasworks (VIC)
Phil Lethlean(LD), Mikkec Minster(LBO,SO,SM) Peter Jago(SD), Ken Evans(PD,SSD)

**Who's Afraid of Viginia...**/*New Carthage Theatre* — Pilgrim Theare (NSW)
Tom Bennerman(PD)

**You can't take it with you** — Kent St Theatre (NSW)
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. Fax Ian on (02) 876 5715 or phone (02) 867 3530.*

# Sounds like Reyne ....

Bruce Johnson was sitting eating steak and fries when we caught him before a recent gig on James Reyne's latest tour. The show was at Tracks in the Epping Hotel, and evidence of the need to keep a tour working six nights a week. This Tuesday night show couldn't handle more than 400 punters, because the venue is small.

The production values of this show are almost un-viable in 1993, and only possible because of a shrinking number of people like Bruce, who own and operate mobile production companies - in this case, an eight tonner with a large PA and a lighting rig. Bruce can - and does - charge less than it costs an act to rent all the parts separately, but even he is finding it tough.

"I was in the car with the tour manager the other day, and he took three calls from three PA firms who all offered ridiculous rates", Bruce says. A guy like Bruce doesn't get rich doing what he does either, a year earlier I'd compared notes, because Bruce's production is not unlike one we used to own. Back then, Bruce had no major truck outlays other than routine costs. Today he shakes his head about the engine, gearbox and other astronomic replacement costs he and partner Janna have experienced. "I wont be buying any gear for a while", he said, and where he had two systems a year ago, today there is only one on the road.

Bruce did what any smart operator does in a difficult market - he looked about and saw the writing on the wall. He converted the second touring rig into three house systems that are hired into venues in hometown Melbourne. "Every gig will have a house system", predicts Bruce, and he is saying what he and I have known for while - because it just makes sense.

"The way it works for me is I don't supply microphones, stands or cables, then I assume all maintenance costs. I tell the venue owner I can supply all these items, but he'll be up for replacement costs!" My venue rigs have got JBL FOH boxes, and I've cured to foldback wedge blowing problem by installing RCF 481 1' compression drivers to them. They don't blow!"

Bruce's touring rig is impressive, with a Soundcraft 8000 32ch console, JBL modular FOH cabinets (identical to McLeans and Jands), Phase Linear amps ("they are old, but they sound unreal") and an eight send monitor rig. "The Yamaha 2408 monitor console has been my only ongoing hassle", Bruce says. "The way the hard wire the insert points to the groups causes problems".

James Reyne, meanwhile, is out with a level of production that won't be affordable in years to come, and his audience don't realise the quality they are experiencing. Bruce was mixing these first shows, before handing over to Dave Henebery, (pictured) who will do the rest of the tour. Monitors are mixed by Bruce's long standing system engineer 'Scary Dave' Allpress.

This gig we also marvelled at the bizarre concept utilized by Lighting Guy Steven Dinsdale - a 'cocoon' scrim over the band!


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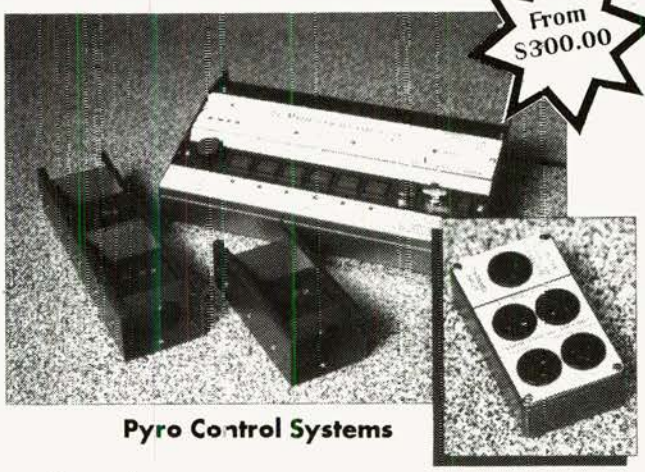

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CIRCLE 132 ON READER SERVICE CARD

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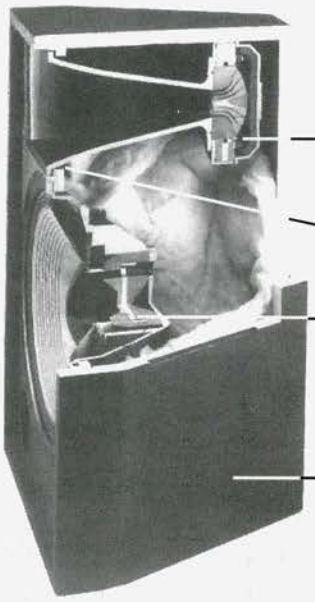

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**CIRCLE 118 ON READER SERVICE CARD**

# Continuing the good news

**Fresnel 2000/25** - Two years ago we introduced our Selecon Fresnel 1200 with a 175mm (7 inch) lens. It immediately won industry plaudits due to the additional light output and quality of the beam compared to 150mm (6 inch) lens units. At this time we were requested to follow the same approach for a 2.0 Kw Fresnel (remember the 243) so we have!

The new Selecon Fresnel 2000/25 has a 250mm (10 inch) lens in a body no larger than other 8 inch Fresnel and lighter (at 8.7Kgs.) than most. Light output is of course considerable greater than 8 inch 2 Kw Fresnels and compares more than favourably with some 2.5 Kw Fresnels. For example the spot focus of 7° provides 419, 4000 cd, the flood position of 60° 37,700 cd.

Samples so you can check the beam quality etc. for yourself are available from your Selecon distributor. And yes...a 2.5 Kw model will be available shortly.

**Performer 1200 MSR Followspot** - A purpose designed (from the stand up) followspot that both meets the performance and budget needs of most. Our very effective axial optical system delivers 1,000 lux at 57 metres while the operational features include everything you expect and a little more eg. continuous zoom operation, mechanical dowser, 1/2 power switch, cutter; iris, gobo slot, 6 colour changer etc.

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Fresnel 2000/25

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**CIRCLE 158 ON READER SERVICE CARD**

# RIMINI SIB TRADESHOW: ITALY

## THE SHOW

Rimini SIB '93, call it bizarre, call it sexist, call it hedonistic, call it whatever you want, but the fact is it's an extraordinary event of true Zigfield proportions - that only the Italians with their eye for style and passionate attitude could accomplish.

Yes, yours truly was invited to attend this regal event in the Colosseum of the lighting industry and was quite frankly impressed with the whole event. Even those naughty sexist bits of arse both male and female, the (nearly) live sex shows, the mobile boudoirs for the rich and famous and the scantily clad young women dancing in wild abandon, yes, I enjoyed every bit of this event. Yes, I will admit by a lot of readers standards it IS sexist but really it's just the way it happens over there. Always has and probably always will, that's Italy.

The 7th Edition of **MAGIS** was held concurrently in a separate pavilion offering on exhibition a wide range of equipment for theatre, cinema and television. **AGIS**, the Italian General Show Business Association was also in this hall. I don't think there was one aspect of the entertainment industry not allowed for from choreography, costume and architectural design, to club fireproofing and truss manufacturing. 35,000 square meters of displays and 30,000 punters from disco junkies to the serious traders and technicians made for an amazing experience over a four day period.

Most displays had hospitality lounges serving anything from expresso to exotic cocktails. These were generally at no cost to the exhibitor as the food and beverage supplier considers it good advertising. Another interesting fact was that most exhibitors actually owned the displays, unlike the booth rental situation in Australia, some of which were huge and usually contained several interview offices where one could sit down and do serious business. Interpreters were available by appointment if required, some exhibitors permanently staffing their displays with multilinguist's.

Some of the technical highlights follows.

**MOVING LIGHTS:** well it may be hard to believe, but yes - even more manufacturers of these ever so popular waggly mirror lights have appeared in the world market place. But the four main contenders being Clay Paky, Coemar De Sisti, Hi-End and Martin have held their positions.

The Clay Paky/ CPP Stand was the largest (500 square meters) and most sophisticated of these. Most product was on display with hands-on control made available to trade visitors and a huge quantity of staff (most conversant in English) acting in a advisory capacity. A tiered theatre was built within the display stand with Sony headphones and Italian/English translators built into each seat. A video AV presentation on the new Golden Scan 3 with a Masterpiece controlled Moving Lightshow featuring the Golden Scan 3 followed. This was most informative, so when you left the Clay Paky theatre you actually felt as if you knew something about the product, as well as knowing it performed well in most configurations. LD and Systems Analyst Terry Cox did a good job. (See the LD story this issue)

Coemar De Sisti presented a delightful lightshow to classical music, produced by LD's Carl Dodds and John Lindsell, in a single level theatre, controlled by Showcad. Various fixtures were made available for hands-on experience and multilinguist technicians were available to discuss various product. (See the LD story this issue.)

Hi-End Systems had a stunning show in single level theatre with Space Odyssey type design and music, combining moving lights with traditional luminaries, a different approach, - controlled by various Hi End Systems dedicated controllers and linked through an Avo Diamond console. LD Tim Grivas did a fantastic job. (See the LD story this issue.)

Martin had a different approach with a static display consisting of miles of white fabric draped vertically in the Gothic Roman style with various fixtures at floor level, focused up the length of the fabric. Very stylish and obviously cost effective. Being next to the Clay Paky stand it would have been futile to compete in scale, so I give them 10 points for style. ●

*All in all Rimini is an amazing trade show which if you have sixty odd travel hours return spare, is well worth a visit. Flying the Australian flag is important for our general trade position in the world market place and by attending such functions we give the appearance of not being a small trader at the end of the earth.*

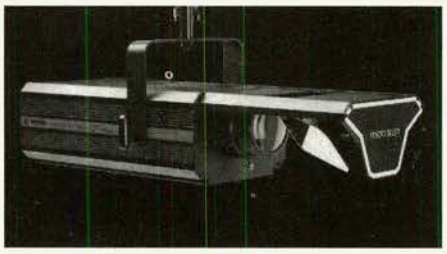
*Caroline Grafton visited Italy as a guest of Clay Paky.*

## NEW LIGHTING

There are so many different vendors at a show like this, we'll stick with the major players on the local scene:

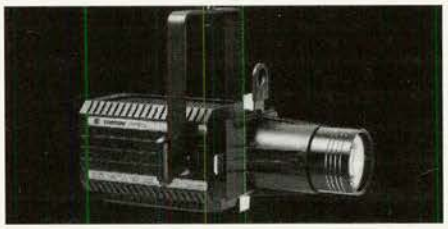
### *COEMAR*

The **MICROSCAN II** is an addition to the range, and boasts 10 colours and 10 gobo's - double the number previous. Lamp types are a 1000w tungsten halogen (vs. 650w before), and a 575MSR, vs. the previous 400MSR. More light. This is the action corner of the market, where Martins Pro 218, Clay Paky's Miniscan and High End System's



Trackspot do battle..

■ **Baby Colour Pro** has 10 dichroic colours - this is not unlike HighEnd Systems Colour Pro. 2 models, and a controller available. An interesting



product sector, one day every luminaire will change colour on demand like these do.

■ **Centro** is a cute 500w compact profile spot, accepting an M/40 lamp on a GY 9.5 lampbase.

■ **Versatile** is a fixed light beam effect not unlike the Spartan or the Multitunnel. With a 650w mirror bulb especially made for Coemar (ask Peter Kemp how much a replacement lamp costs, and how many he has on the shelf!) the thing is said to be .. well, bright.

■ **Mini Ultra Scan 200MSD** is actually a TAS creation, TAS being part of Coemar. Teattro is part too, they have several 'divisions'. The Mini Ultra Scan 200 MSD is a moving light with a Philips 200MSD lamp, 10 colours, 10 gobo's.

■ **Samurai** was shown, with the 1200MSR the interest point. This 1200w moving light has the ballast split remote from the head to save space. *Coemar is available locally from Coemar DeSisti Australia, (03) 467-8666.*

Sound, Lighting .... ACTION!

# RIMINI SIB TRADESHOW: ITALY

## NEW LIGHTING

### *Clay Paky*

■ **Golden Scan 3** was the talking point of the show, this new fixture looks similar to the previous device, which has been very popular with pro hire firms here downunder. It's different inside, though, the 575 HMI lamp is 30% brighter, and the 1200 HMI also brighter due to revised optics. The fact it has four gobo's does not disapoint when you realise they rotate in both directions- and the speed can be varied! The movement of the gobo position can be stored to a very tight resolution, say Clay Paky. 24 colours, and a great frost effect make the thing much more versatile, and the new machanical dimmer allows 0 - 100% dimming. They say the scan is accurate to .4 of a degree, and it is very smooth indeed to see. The device comes in two versions, 'Disco' and 'Pro', the Pro device has a lamp hour counter. We think the fact it looks the same as the previous edition is an oversight, a new case would excentuate the fact this is almost a totally new machine.

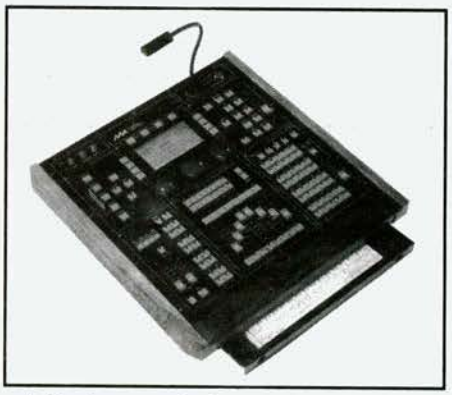
■ **Piper I.C.C.** this years colour changing fixture, 7 colours, HTI 150w lamp or 24v 150w.

■ **Shadow** is, um, strange. Maybe not. It's a moving light without a waggly mirror. You do the moving, because it's a followspot. The controls are on the back. Interesting. 575 & 1200w HMI.

*Clay Paky comes from LAVA in Sydney & Melbourne. Call (02) 816-4444, (03) 819-6916.*

### *The Rest*

Possibly the best value moving light control package, the MA Lighting Scancommander, is still awaiting an Australian importer. After much rubbing of hands at LDI '92 in Dallas last November, the two interested parties have not yet consumated a relationship with the German manufacturers. The board, (pictured right) is



suitable for control of up to 16 x 15 channel moving lights, with another 96 channels of DMX control.

■ **MARTIN** didn't have anything radically new, the Pro 218 was released last year and was the top selling device on the Martin stand at Rimini.

■ **HIGH END SYSTEMS** likewise didn't have anything new, they operate into Europe via a firm operated by a former Clay Paky partner. Trackspot & Intellabeam do sell against the Italian product, much to the chagrin of the Italians!

*FREAK CORNER*

*One in every croud. This THING is made by WR Elettronica. Thankfully it's not available here!*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# Inside Clay Paky: Italian Hi-Tech

Situated in Northern Italy in a town known as Bergamo in which the original Old Town has been restored and is still resided in, I was wined and dined, danced and treated to a guided tour by the remarkable team from Clay Paky. How they found time to give me these delicious morsels of fun, education and history I'll never know, but their time and knowledge is appreciated.

The Clay Paky factory is situated in Pedrengo not far from where I was residing and covers an area of 4,200 square meters. Like their products, the Clay Paky factory is stylish, well designed and extremely organised. The ambition of this company is perfection and if they haven't achieved this yet, at least they are conceived as trying to achieve this goal. Managing Director Pasquale Quadri (known to most as Paky) himself is a man who expects perfecto' and no less is accepted from either product or management and staff. The Administration areas both open and private offices are carefully arranged for fluency of operation, yet are personal enough to feel comfortable in. The staff have all had three months motivation/efficiency/quality training and the whole entity runs with an ease that most business's would covert.

General Manager Pio Nahum took me on a guided tour of these amazing premises and looking back on my past manufacturing experiences I realized where I went wrong. Clay Paky boasts a staff level of sixty people and considering the quantity of product that is shipped from the premises that is not a very high number. How do they do it? Employer/Employee dedication, to each other as well as the product. I will add here that the staff actually gave up their Saturday mornings with no remuneration for the course I mentioned in the previous paragraph.

Research and Development is an never ending task and Paky himself has a keen hands on interest in this area. Drawing boards abound in spotless design rooms as most products are hand drawn until prototype stages are complete. Then computer technology takes over. I asked Pio how many concepts fail ever to see the light of day and he smiled. "Many" was the response "but usually because of costs not technical failure".

The manufacturing system Clay Paky use is different from anything I have ever seen in Australia. Now imagine the full range of lighting fixtures produced, multiply that by the number of components, now divide that by the number of converging componentry, and you end up with thousands of tiny and not so tiny separately manufactured components. Now obviously for any one company to produce all those bits you would have to have a factory covering several square miles and tooling fit out that would be financially staggering, not to mention staff training and possible down time for maintenance. So what do they do? They contract out all component manufacturing and always have an alternative supplier in mind. No one contractor has the ability to bring business to a stand still. As the components are delivered from hundreds of suppliers they are carefully stored and coded and stay in that state for as long as possible. All fixtures are built to customer orders, delivery in two weeks from order, thus minimising the cost of having a completed fixtures sitting around unshipped for any length of time, as "time" is one of the highest costs involved in manufacturing and payable weekly. Advance purchase ordering, always kept to a minimum, is controlled by a complex specially designed stock control system which is in the final stages of being bar coded.

The assembly area has specially designed benches not allowing for mistakes, as each bench is fitted out to perform a specific task in the operation. Some componentry is pre-assembled but only on the top selling items. At each stage of assembly the staff treat each other in a supplier/customer situation so quality control is perpetually in motion. An interesting method and it works.

After final assembly the product is tested exhaustively through an automatic program featuring multi voltages, Analog, DMX and run by a (Pulsar) Masterpiece for a minimum of one hour in each phase.

Then out to the loading docks and on to the purchaser, but the Clay Paky attention to detail doesn't stop there.

Pio is insatiable when it comes to building the Clay Paky market place and marketing for the already existing world wide distribution network. This man has concepts that dazzle, and considering the language barriers just within Europe, marketing becomes an endless task. He is assisted by the lovely Laura Sarti who is delightfully candid and tirelessly efficient. At any one time technical and marketing literature has to be translated into Italian, English, German, French, Spanish, Japanese, Chinese and Czechoslovakian as 90%-94% of manufactured product is exported. The translation rules also apply to marketing and training videos, so you can see what I mean by endless task.

All in all I'd say it is obvious why Clay Paky do well in the world market place for Moving and Effects lighting and Pio summed it up when I asked what his key words were for the company. His response "Design, Quality and Marketing".

All I can say is PERFECTO.

My thanks to,

| | |
|---|---|
| Pasquale Quadri | -President |
| Pio Nahum | -General Manager |
| Renato Ferrari | -Italian Sales Manager |
| Rod Salmon | -Lights Audio Video Australia |

# THE RIMINI LD'S

**CLAY PAKY LD and Systems Analyst is Terry Cox** of Leisure Systems based in England. He has been working with Clay Paky and Andy Graves, Projects/Sales Manager of Pulsar, to design lightshows and push the control concepts as far forward as they possibly can. The relationship with Clay Paky Pulsar otherwise known as CPP has been going on for quite some time now, but officially doing the shows for just on a year.

He used:

28 * Golden Scan 3
8 * Superscans
2 * Superscan MRG's with rotating Gobos
8 * Tigers
3 * Tornados
2 * Bazookas
12 * Pin Scans
400 * Channels (approx.), controlled on a Pulsar Masterpiece

*Terry Cox*

**HI END SYSTEMS LD Tim Grivas**, was limited with his design, he tells me, working to the equipment available from Hi End's local distributor in Switzerland. Amazingly, it only took one day to design the show in terms of fixtures and another day to design an amazing rigging system. This really shocked me because to see this mobile rig in action was quite something. Tim, I will admit is a master at understatement but when I re-quizzed him on the design time he stood fast.

The Hi End show, Tim believes is the only one at Rimini, that is not automated. Tim I might add is one of those "showmen", and watching him dance around the board and controllers, calling cues to the mech's was also very entertaining.

Some of the content in the Rimini system:

24 * Trackspots
24 * Intellabeams
80 * ColourPro
33 * Data Flash
13 * Emulators
3 * Multi Flash
6 * Multirays
64 * Par 64
180 * Channels

*Tim Grivas*

The control system included various HiEnd dedicated controllers thru an Avo Diamond console to call all the cues.

**Coemar De Sisti LD's Carl Dodds and John Lindsell**, of Making Light Work, based in England, have been designing for the Coemar approximately six months. Prior to that they had worked as designers predominately in theatre. I spoke to Carl in a very noisy backstage office. The Rimini show is the fourth show Carl and John have designed for Coemar commencing with

*(continued over)*

*(LDI's at Rimin. Continued)*

Plaza then LDI 92' and SEIL in Paris in 93'. The Rimini show was no less than beautiful. One of the prettiest things I've seen in a long time. Giant waves of warm colour and a scrim curtain, used as a kind of soft focus filter, lulled your senses into a state of well being, only to be beaten into submission by a blinding lightning storm in next instant. Rimini system: 16 * Samurai 1200 MSR, 16 * Microscan 2 575MSR, 8 * Microscan 2 1000 halogens, 48 * Baby Colour, 4 * Synchro Digital 76 * Versatile, 4 * TAS Windy, 798 * channels controlled through Showcad.

*Carl Dodds and John Lindsell, Coemar LD's.*

## Coemar 60

'93 heralds the 60th anniversary of Coemar De Sisti which by lighting industry standards is quite an achievement. Worldwide, lighting manufacturers appear, disappear and sometimes reappear at a rate that is sometimes startling and even a bit perturbing if your standing there with an non-endorsable warranty card in your hand. But this tenacious Italian company has survived to become one of the world leaders in effects and moving lighting.

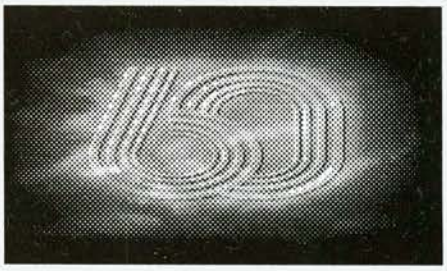
In 1933 Coemar, then based in Milan, commenced by producing various mirrors and lenses, eventually the company expanded into producing projectors and luminaires for the Italian Theatre community, the Italian Armed Forces and somewhere that you really can't afford to screw up, the Vatican.

Coemar has always had a strong sense of direction with research and development in the fields of mirror and optic technology and electronics, which allowed the company a stronghold in theatre, TV studio, night club and discotheque lighting. The entertainment industry is ever expanding however and Coemar now find themselves retaining their traditional customers as well diversifying into more areas including live Rock and more alternative forms of theatre and dance.

The dynamics of company President Bruno Dedoro, who has been with Coemar for 25 years, has been both inspirational and instrumental in the development of many Coemar lighting concepts. Bruno commenced as Chief Technician in charge of product development, finally aspiring to the position of President in March1984. His technical ability is one of the ingredients that has allowed Coemar to excell in their chosen field.

Coemar now resides in Castelgoffredo where the rest of the recipe is completed in large modern premises. Innovation, dedication and professionality are the final ingredients and time has proven them to be the qualities required for a successful business.

Happy 60th Anniversary from Connections.

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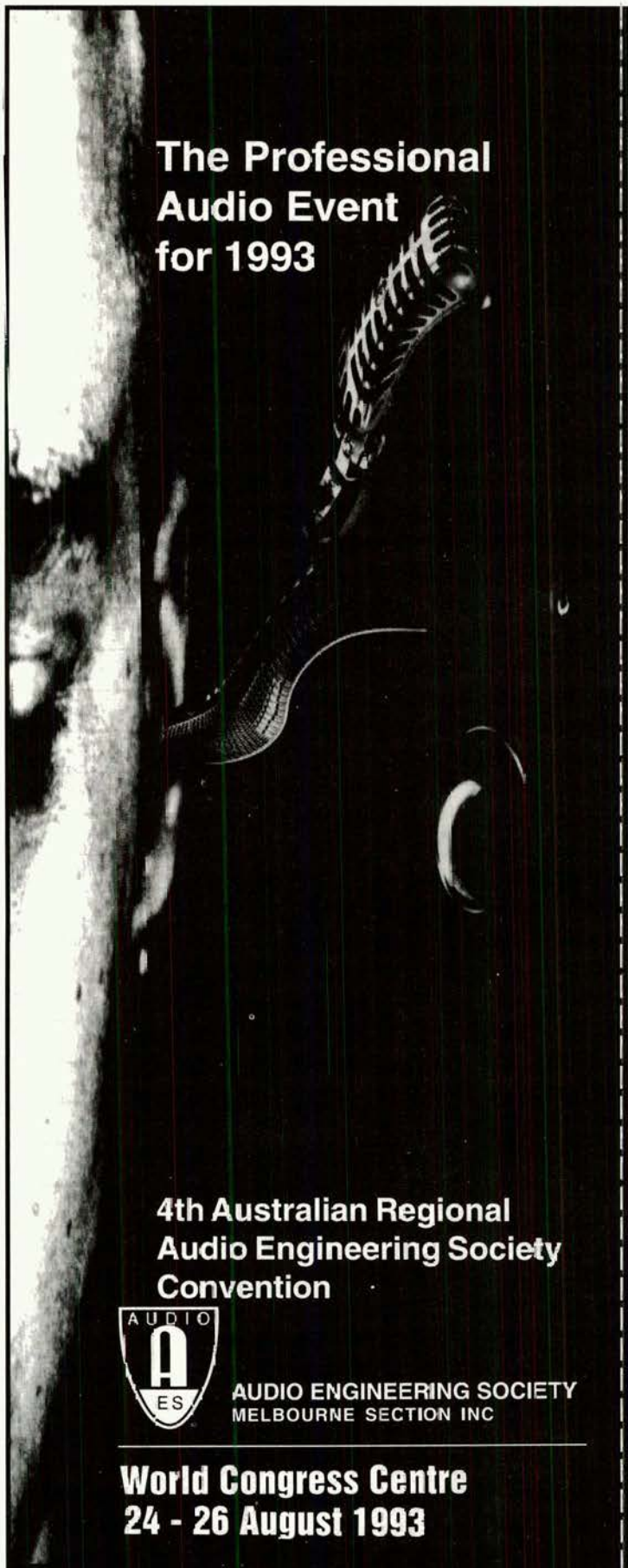

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# The Psychology of 'The Punter'

*Connections reader **Graeme Hague** of Mackay, Queensland give further insight into the inner workings of 'The Punter', a subject so close to all our hearts.*

### *Sound Familiar?*

Everyone in the business should dedicate at least one thought a day towards the humble Punter. All our lighting rigs, sound systems, and stage designs would be pointless without paying public, who are prepared to hand over their hard-earned dollars to see the show. Although the punter may be staggering and soaked in beer, vomit is splattered on their shoes, they are experts in sound engineering and concert lighting- because they are invariably "used to be in/worked for a famous band"- we the Workers should always smile agreeably (because the dickhead's scotch and coke, at an acute angle, is dangerously close to the mixing desk), and tell them they could, without doubt, do a better job than yourself and no, you haven't got any drugs you can sell them.

**The Punter**, like the proverbial 'customer', is always right. We should be forever grateful for their patronage and be enduringly patient, even if they stray slightly to the wrong side of good behaviour and you find yourself to considering them mildly annoying, under certain circumstances.

In reality we all know Punters are a pain in the arse. I'd quite happily shoot the lot of'em, if they weren't quite so necessary to the scheme of things.

For instance, we have the **Intelligent Punter.** This guy (let's not be gender-correct, for Chris'sakes. Let's face it- ninety percent of painful punters are male. I'll deal with the other ten percent soon) who wanders into a main venue from the Public Bar in the early afternoon. He's surrounded by roadies, gaffing, hanging and carrying much band-like equipment. The Punter will most likely stand right in the path of the load-in ramp and he looks slightly alarmed when a roadcase nearly flattens him into the carpet. Speakers and racks of lights are scattered from dunny to doorstep. So what's the first words of incisive deduction to come from his mouth- "Is there a band on tonight?"

**The Singer Punter**: One of the worse kinds. When the band launches into a rendition of some particular, popular number there's bound to be an idiot in the crowd who wants to sing it. He'll grab the mic stand in the Jimmy Barnes double-handed grip and proceed to shout with appalling talent the wrong verse. Meanwhile the rest of the band are desperately ducking the mike stand's base, which our Singing Punter has forgotten is still at the opposite end to the microphone itself and is scything at head height across the stage. Venue glass-collectors and appointed bouncers will all be extraordinarily busy at this moment and unable to help. Roadcrew who should be on hand to rescue the band will be outside behind the truck.

**The Dancing Punter** is unique to venues with no stage at all, where the band sets up on the floor-level. Inspired by the music, alcohol and maybe more, the manic Dancing Punter gyrates in front of the band like a person possessed, with the band warily watching and knowing that sooner or later this dickhead is going to trip on one of the floor monitors and become part of the act.

**The Requesting Punter**- Playing in a duo consisting of a piano, drum machine and a bass guitar, I've been asked for AC/DC, the Angels. Our one piano player alone, playing in a quiet cocktail bar, got asked for Duelling Banjos.

**The Deaf Punter**, thank God hadn't got the brains to sue the lot of us. He stands smack in front of the speaker stacks and watches the whole show, calmly resting his beer inside the speaker when he lights his cigarette.

**The Friendly Hanging-On Punter** is the guy who drifts around the bar after the gig, giving you a helping hand and completely stuffing up your truck pack. In fact he's hoping that all sorts of illicit consumables might appear when all the work is done and he wants to help you consume them. To be fair, the band and roadies are never very quick to piss him off, because he is stupid enough to lift heavy boxes without getting paid for it and there's always the outside chance *he's* got a pocketful of filthy substances he's willing to share. Once everything is understood he's usually left standing in the middle of a pitch-black carpark, waving the truck goodbye, and trying to convince himself the band were good guys after all.

Last, but not least, we can mention that final ten percent of painful punters- **The Screaming Drunk, Out-of-Control Female Punter**. These ladies create havoc in any venue. They knock off tables, steal everybody's cigarettes, get half the band threatened with mutilation and death by a jealous boyfriend, and alternate between Dancing Punters and Singing Punters. However, because the girls usually have breasts and legs and things- and it appears they won't particularly notice if the entire band stuck their hand up her dress at the same time- the S.D.O.C.F. Punter is often treated with a remarkable degree of tolerance, despite circumstances and behaviour that would normally see their male counterparts tossed off the Harbour Bridge. It's not a fair world, after all.

The list could go on forever and never be complete. Everybody's got their own nasty memory of a particular vile type of Punter, which comes close to swearing you off the business for life. Suffice to say the old adage still applies I suppose- if you can't stand the heat, get out of the kitchen. I think it's a shitful adage. It doesn't make me feel better at all. And I guess there's got to be some Nice Punters out there somewhere... I've just seen the bastards.

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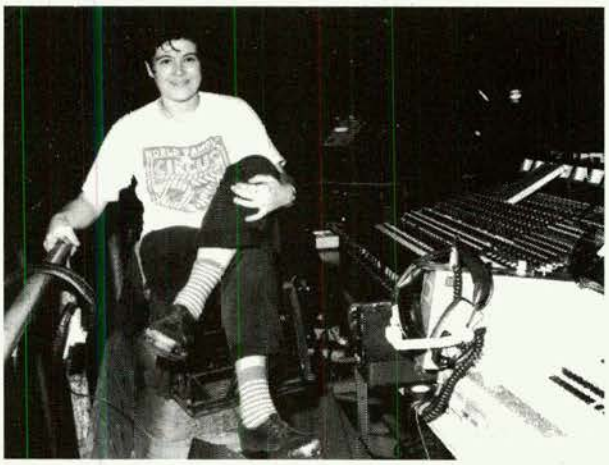
# Circus Oz : Sound in the tent

*Julius Grafton talks to a woman who knows her gig - and it's a surprisingly complex gig at that!*



Clare Gallager is the Audio Director for Circus Oz, an innovative, lean and mean touring machine that presents in a circus tent - or indoors.

"We toured Columbia, in fact spent 3 months in South America recently. I asked for an EV Deltamax system or equivalent, and the sound contractor turned up three days late. I called him 'Caesar the patroniser'," says Clare.

Clare is down to earth and down to business, an integral part of the 17 strong company, where musicians double as ushers, and everyone lives in caravans - just like a traditional circus.

The audio for Circus Oz is actually quite complex, with a lot of sound effects and a multi-instrumental live band to mix. Clare mixed the current tour on a Yamaha PM2000 24 channel console, before this leg she needed 32 channels. The PA was hired from System Sound in Melbourne, who Clare is very happy with.

"I prefer actually touring a PA system rather than picking one up in each place. We are able to do this because of a favourable deal worked out between Yamaha and System Sound. System really helped me figure how to use the PM2000 to best benefit, I really love the Matrix outputs".

The actual sound system comprises a flown 270° cluster of three Yamaha 450 cabinets - running from a customised joystick 'sound panner' arrangement designed by System. Clare has effects cues, and an intro tape that has a lot of modulation on it. "In the blackout, it sound like sound is coming from everywhere".

The rest of the system is made up of a left/right conventional arrangement either side of the stage. These are Yamaha 1520 active processed speaker cabinets, hidden behind scrims.

There is much mic swapping, with two main Audio Technical wireless mics "the 16 channel diversity model, so I can choose a frequency that won't sqelsch out!". The band has saxes, flute, cello, congas, 44 gallon drums, mandolin and all kinds of electric instruments - "I've got a huge dynamic range to deal with", Clare said.

The actual mixing position is at the top of the tent, and in Summer it is just broiling hot. "The gaff actually MELTS some days!"

It's an interesting gig for Clare, touring overseas and to such places as Arnham Land, with the rest of Australia thrown in.

"I started doing voluntary work at a Youth Arts Centre in 1985. I was originally looking for a musical role, and did a short course on sound & lighting. It didn't really teach me much! I was touring doing sound with Nunsense and got this job out of the paper!"

Clare suggests voluntary work is a good 'in' for young people starting out, and doesn't think females should be deterred. "Trust your abilities, in the end your ears get you the gig."

Good advice - next time Circus Oz visits your town, say g'day!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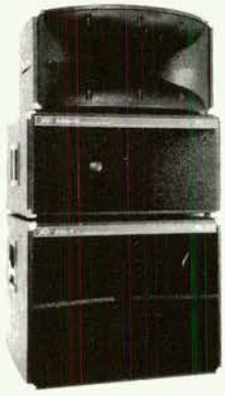
**AN EDUCATION IN SOUND**

**By Marty McCann**



**The seminar will be an in-depth learning experience for the working musician and sound person.**

This seminar will be conducted by clinician, Marty McCann, a member of Peavey's Factory R & D and Engineering Groups. Mr. McCann's vast experience as a sound engineer and his dedication to the continued performance of live music and entertainment permits him to present many aspects of this subject in a clear and concise way that can be of real interest to both the amateur and professional as well.

TOPICS: BASIC INTRODUCTION TO THE PHYSICS OF SOUND • THE PHENOMENA OF HEARING • THE DECIBEL • STAGE EQUIPMENT • THE AUDIO CHAIN • MICROPHONES — TYPES AND APPLICATIONS • CABLES • BALANCED LINES • MIXERS • GRAPHIC EQUALIZERS • EFFECT DEVICES • CROSSOVERS • BI-AMPING & TRI-AMPING • POWER AMPLIFIERS • POWER DISTRIBUTION • LOUDSPEAKERS — APPLICATIONS AND LIMITATIONS • MONITORS — NEEDS AND APPLICATIONS • QUESTIONS AND ANSWERS

*THIS SOUND SEMINAR IS FOR ALL MUSICIANS AND SOUND PERSONS SERIOUSLY INTERESTED IN BASIC, INTERMEDIATE AND ADVANCED INFORMATION THAT WILL ENABLE THEM TO OBTAIN THE BEST POSSIBLE PERFORMANCE FROM THEIR SOUND EQUIPMENT.*

• *"I expected a four-hour sales pitch on Peavey and 20 minutes of worthwhile discussion on sound. I am happy to be wrong in that expectation. I found it extremely gratifying that a company such as Peavey would take the time and money to put on a clinic such as this."*

• *"I enjoyed the seminar, and I feel this only shows you (Peavey) care about the people using the equipment and not just about profit margins and stock quotas."*

• *"Our band was brought to this seminar to learn, and the material was presented extremely well and easy for the lay person to comprehend. No sales pressure was notable, and we all felt this was an excellent learning experience. Thank you!!"*

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or at the door

# Auditoria & Sound System Design - Is it really that simple ?

*By Glenn Leebruggen & David Conner, from Elecoustics, Consulting Electro-Acousticians.*

This month we're going to talk in overview terms, so there won't be much of the hard facts, just concepts and terms. In the months to follow we'll expand on these ideas and get closer towards the nitty gritty of designing a sound system to suit the acoustics of a venue.

The first thing to handle is that it's no longer good enough to blame bad amplified sound on the auditorium's acoustics and, as it's unlikely that you will be able to change the acoustics to suit the sound system, we'll tackle the subject of how to make a sound system work in any acoustic environment. It is possible to design a sound system to work well in almost any room. By this we mean that the amplified sound will be acceptable to the audience in terms of clarity and quality. To do this you must design the electro-acoustics to match the room acoustics and this means considering a lot of factors that aren't commonly taken into account.

This procedure cannot start without an extensive and complete set of performance goals. There was a time when *as good as possible* had some meaning, but if you include the acoustical performance of a sound system (that is what it actually sounds like at the seats) then there are some very important trade offs to be made. To commence a loudspeaker system design without performance goals is like starting on a trek without a map. You may have a lot of fun, but not end up where you wanted to go.

We've all been to gigs and installations where the sound quality *should* have been better ... after all, the set up had the best components around, good mics, desk, amps, speakers. Or we've walked around an auditorium and found great sound towards the front and middle only to be disappointed by the sound quality towards the back or sides (and there were speakers facing that way). It may not have been the auditorium's fault ... it may be the sound system design ! It all looked very simple, but was it ?

Sound quality in auditoria is the combination of a lot of sound elements including loudspeaker component interaction, electronics and room acoustics, and these elements may combine happily, destroy each other or do something in between. With an increased number of elements come an increased number of problems and an increased number of specifications to define them.

**Performance Parameters For Auditoria Sound Systems.**

These are the basic specifications for defining sound quality from a loudspeaker system in an acoustic space.

**Acoustic Gain:** A sound system amplifies the sound from the singer or orator and this increase in level effectively moves the listener closer to the orator. Acoustic gain is the difference between the acoustic sound level (from the singer's or orator's mouth) and the amplified sound level at a given listener position. Acoustic gain is expressed in dB at every position in the auditorium.

It can also be expressed as equivalent acoustic distance (or EAD) which is a really useful criteria for assessing systems used mainly for speech. The EAD for a given position is the *apparent* distance that the listener is from the orator when the sound system is operating. This is calculable. As all live sound systems have the potential for acoustic feedback, the spec. for acoustic gain must be accompanied by a statement of the stability margin of the system at this gain. This is the difference (in dB of fader travel) between the normal operating level and the level when continuous feedback just starts to occur.

**Coverage:** This relates to overall sound pressure levels and the spectral distribution of the sound. Coverage is broadly split into two areas.

1. Broadband SPL throughout the auditorium. eg., SPL variation is ± 5 dB SPL for 90% of the audience, ± 10dB for 100% of the audience ('A' weighted).
2. Spectral energy (bandwidth ± tolerance) throughout the auditorium. eg., Coverage is 40Hz-15kHz ± 5dB direct field for 90% of the audience, ± 10dB for 100% of the audience.

These are both expressed as a nominal specification with a variation tolerance over the listening area. The statement of spectral energy at each listener must reflect what we hear, and this often means that the direct field, not the reverberant field, should be stated.

**Maximum SPL**

This is expressed as maximum sound pressure level (dB SPL) with a given weighting, distortion and meter time constant over the listening area.

Eg., Maximum SPL = 110± 5 dB SPL for 90% of the audience, ± 10dB for 100% of the audience ('A' weighted at 10% THD when set to "fast".)

The maximum SPL of a system should be expressed for both the direct and reverberant sound fields in the venue. It should be known at the amplifier's clip point or the driver melt down point (whichever comes sooner) or at any frequency when the excursion (or cone travel) of the loudspeaker driver exceeds its rating.

**Source Localisation:** Source localisation describes a system where the perceived origin of amplified voice is associated with the artist. This relates both to the listener and the artist. There are three goals of this parameter:

- to provide a high degree of correspondence between the visual and aural for the audience.
- to provide a minimal time difference between when the artist speaks, and when he hears his voice returning from the loudspeaker.
- to prevent the amplified sound being heard as an echo of the unamplified sound, or the reverse.

There are criteria for the assessing the audibility and degradation effects of echoes. For mini-

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mum psychoacoustic disturbance due to echoes, the maximum time between the unamplified and the amplified sound should not be greater than 25 ms. For delays greater than 25 ms, the difference in the levels between the amplified and unamplified sound comes into play.

**Intelligibility:** This can be expressed in two forms; either percentage loss of consonants (%ALcons) or as RASTI, and relates to a given listening position. Basically, the consonants in words are the key elements in intelligibility and as they are transient sorts of sounds, their time behaviour and frequency content are both very important. The %ALcons is predicted for a given combination of venue and loudspeaker types and locations at any listener.

**Directionality and Positioning of Loudspeakers**

a) Late reflection (echo) control.

Loudspeakers need to be positioned and their directionality chosen so as to minimise the excitation of late reflections off surfaces in a venue. Late reflections are heard as echoes and degrade intelligibility and clarity and cause damage to percussive sounds such as snare drums. Almost every venue has at least one surface that creates serious late reflections.

b) Feedback minimisation.

Loudspeaker coverage into the area where the microphones are located needs to be minimised such that narrow band peaks ($^1/_{12}$ octave ) do not deteriorate the overall acoustic gain that has been calculated as necessary for adequate performance.

c) Direct to reverberant ratio.

This is the difference between the direct and reverberant sound fields at each listener in each frequency band. The greater this ratio, the better the intelligibility and the overall clarity and punch of the sound. This ratio should also be constant over the entire listening space.

We have seen a significant number of sound system proposals with glib answers to complex acoustical problems, which would obviously have not worked. It appears that some contractors out there are only using the technology they know about or have on the shelf, rather than applying modern principles of design which can offer a solution which works.

The parameters above are able to quantify the sound quality in terms of clarity, reproduction accuracy and amount of available sound level. You *can* know what the system will sound like before the client spends their money !

By specifying an installation well, you can also confirm the quality of the design work and installation at the completion of the project ... relieving a lot of the guesswork from a major tender. A potential sound system installation which does not specify these parameters cannot be called to account if the resultant sound quality is disappointing.

We are fast approaching the time when sound systems must be designed carried out using predictive techniques and the wet finger approach is eliminated.

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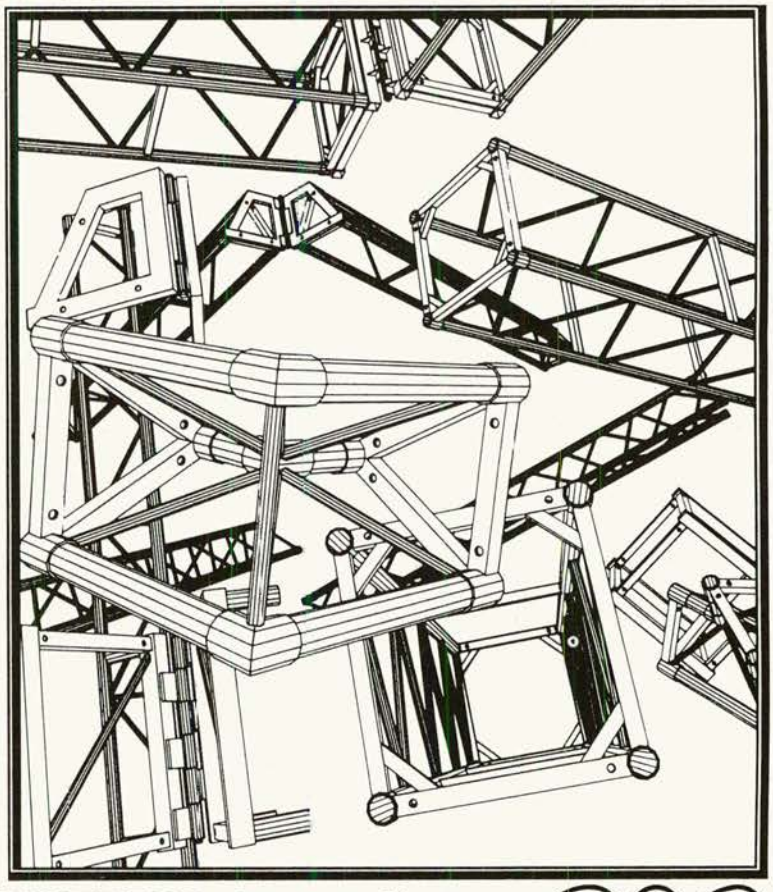

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*With Bruce Waite & Dave Macken.*

# Enhancers

## APHEX TYPE C

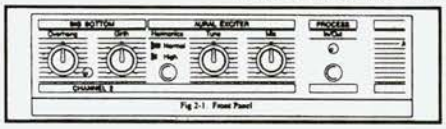
**APHEX** are no stranger to the enhancer market with their design origins supposedly dating back to the early NASA days. This new MODEL 104 is sold as the TYPE C2 with 'BIG BOTTOM' and is loosely based around a model that's existed for some 8 years now. For years most enhancers have had a drive control for setting the amount of processing to be done, yet APHEX have decided to do it for you on this model with a "level tracking circuit" and instead only let the user select "Normal" or "High" harmonics.

Well after selecting "Normal" and "High" for about ten minutes we decided there was no difference and went on to the "BIG BOTTOM" section to see if we could scare our monitors. The low frequency controls on this unit are supposed to "revolutionize processing of low frequencies" and to enable this you get an "Overhang" and "Girth" dial. The girth control seems to adjust the drive of the low process whilst the overhang setting adjusts the "sustain"(or sludginess if you prefer) of the whole affair. As with nearly every sizzle box we've used, the low frequency setup simply has no attack potential and invariably muddies-up the clarity below about 100Hz. In a live situation this "BIG BOTTOM" may well soup-up your sub's but we found that the use of a medium to high settings of "Overhang" made the unit emit a wash of low band white noise.(We could have got a faulty one I suppose.)

The TYPE C2 does give you a tunable high end and a mix control and for the price is probably the quietest enhancer we've heard.

Overall this device is generally what one would expect; it didn't blow our minds or anything and it's got one of those annoying external power supplies but it does add a good dose of that fresh mountain air to your treble.

*REC. RETAIL $629.00*




### *APHEX SYSTEMS RESPOND:*

It was highly irresponsible of the magazine to let people who do not read instruction manuals review a product, then criticize the product for effects the manual warned against.

Specifically, the Girth control is the mix of the effect, not the drive. The Overhang is the drive. The manual clearly states that the Big Bottom is particularly useful as it does not substantially increase peak power as an equaliser or sub-harmonic generator would. The increased noise is not unexpected when there is as much as 20dB of gain in the overhang circuit and up to 12dB in the Girth circuit. When both are cranked to maximum it is conceivable that 32dB of gain would have some effect on the noise floor, but again, that is not how the unit was designed to be used. When the peak power is substantially increased due to the misuse of the controls, the effect will not be as musical or natural as originally intended. Another unique characteristic of the Big Bottom circuit is that it does maintain the attack of the bass by using a re-entrant enhancement signal. Of course, if the controls are set so the sustain from one bass note masks the attack of the following note, the effect is 'sludginess', but again, that is not how the unit was designed to be used.

Any review of an enhancement circuit should disclose the source material and playback equipment. Also, the reviewers should disclose their methods of varying levels, peak and average, to assure a 'level' playing field for all units under test. This was not done for one of two reasons, incompetence or the reviewers were purposely trying to discredit the company and the product.

Their allusion to early NASA days is confusing to me and I started with the company 18 years ago with the inventor of the Aural Exciter.

**Martin Caesar, Aphex Systems, Sun Valley, CA.**

*We don't make pretences about doing scientific reviews, ours are user reviews, aimed at anyone using their ears. We put ourselves in the position of a purchaser, exploring the product.

If a dial goes all the way, why won't the circuit? We explore a device to it's full potential, like any end-user would. We used single sounds like toms, kick and staccato bass note.

I note no reply to the low band white noise, and an alternate unit hasn't been offered. They have no interest in saving grace. We had the 'manual', an A3 sheet of paper without specs. Our test facility comprises mid to top range equipment, typical of any user. **-Bruce Waite.**

(Bruce & Dave are **independant** reviewers. -Ed)

*APHEX is distributed in Australia by East Coast Audio. Call (03) 428-9797.*

## BBE 862

**BBE** have also been making sonic enhancers for quite a long time now, and claimed for quite a while that they were the first.( Not true!! ) The company have sold a heap of 422's and 822's for years now and Sydney's PAYTONS & SONS must be happy to have recently acquired the dealership from the last guy who had it.

The latest addition to the "Pro" BBE range is the 862 Sonic Maximiser with jack and balanced XLR terminations. Maximiser is probably a good description of all the BBE's because they tend not to enhance the whole signal but rather they extend the sound colour to the very ends of the frequency range. Furnished with a clip light, a 4 segment LED ramp, a "Lo-Contour" and a "BBE Process" dial the 862 couldn't be easier to use.

Bass processing on this system is a lot tighter sounding than on most enhancers, however, it is also a lot less dramatic and sounds more like an E.Q. boost rather than some elaborate "sludgifier". The high end section is only a one dial affair and it is surprising at this point in the market that there is no addition of a tunable enhancing range..... but it was not to be!

The 862 sounds great on cymbals and was extremely quiet when set to process without any signal present. Also.. nothing to do with the sound, but a good feature all the same, is the ability to use the jack sockets without defeating the XLR connectors. As shown in the comprehensive applications drawings that come with the BBE this makes it possible to enhance a live mix and take it to tape from the jack sockets at the same time.

The drawings and the notes that are supplied are a welcome addition to the product because even though enhancers are simple to run they are so easy to use incorrectly. The 862 from BBE does get very aggressive around 3kHz if you decide to get carried away with the process level, however, it is a fine example of a professional enhancer .

It must be said also, that if the previous models are anything to go by then this unit is probably never going to breakdown.

*REC RETAIL: $1285.00*

*BBE is distributed in Australia by F.Payton & Son. Call (02) 439-1822*

*With Bruce Waite & Dave Macken.*

# HOF AUTOMIX

*We interview 'Mr X' (no relation to Malcolm) as he winds up a session at Sydney's Troy Horse Studios using the latest "HOF AutomiX" resistive MIDI mixing control system. He details the pros and cons of the system.....*

*What kind of package is the HOF AutomiX?*
*Mr. X:* The unit comes as a basic one space audio insert device and relies entirely on controller messages derived from a MIDI sequencing device to perform fading and channel mutes. This sequencer must then be synchronised to the master tape as a means of keeping the mix in time.

*What sequencer are you running off?*
*Mr. X:* Troy Horse use Cubase on an Atari system and have files pre-stored to enable instant access to the relevant MIDI Mixer page.

*How many channels are you controlling and how much control do you have over each channel?*
*Mr. X:* The system is currently available over 32 of the 64 inputs and Tony the tech has custom wired defeat/enable switches for the whole 64. When AVD import the balance of the HOF section the whole desk will have automation. Each channel has continuous fading and muting. The fader on the screen is shown as 127 steps and snapshots can be taken and pasted at various points. The box itself has some huge-o thousands of steps and a tricky fader rate versus current volume protocol that allows a far greater resolution than any other standard MIDI to audio fader setup.

*Are all functions operated and viewed on screen?*
*Mr. X:* As a standard system the HOF operates from the computer across the channel inserts and commands are effected using the mouse. The particular system I'm using is actually wired up to replace the channel faders and I believe shortly that Johnno from "The Snapping Arseholes" is to construct a set of four real faders to let you input data using real buttons.

*Will this lead to real time fader control from the desk?*
*Mr. X:* It would be possible to wire up such a configuration however there are times when not programming a channel would be a lot easier. A set of four external faders would be more than enough.

*We noticed that Michael's desk has had a bit of customising - what's the story with the multi core running from inside the desk rather than to the inserts for VCA control?*
*Mr. X:* Troy horse have taken the HOF system a bit further whereby the MIDI faders aren't simply inserted over the channel but they actually replace the real fader in the desk. The lack of V.C.A. control is due to "AutomiX" being based on what is known as a resistive ladder which is basically thousands of switchable volume points which chain together to simulate a fader. By getting Tony the tech to bravely modify the actual mixing console in this manner you effectively get no added circuitry and more importantly the lack of an extra active gain stage as with V.C.A. systems.

*Some of the other automation systems we've come across on PCs have tended to glitch when they have the fader down low, have you discovered any little treasures yet ?*
*Mr. X:* Not that I could hear. As I said before the system has thousands of steps. Whilst controller resolution is only 7-bit the HOF seems to suss out how fast you've moved a fader from one point to another and it seems to coast to a pleasant halt. Normal MIDI controlling has a higher density of divisions around the 60-90% region which is why when you do slow fade downs or low fader settings they seem to glitch because less steps have been allocated to the 0-20% area.

*Have you preferred using this as opposed to a VCA system?*
*Mr. X:* No comment! (*Reviewer:* We checked Mr.X's credentials and, no he's not involved in any wholesale rivalry.)

*We understand you've been pretty busy of late but did you get time to see the Jackson family story on the television?*
*Mr. X:* Well David, the wife and I did take time out from our busy lives to make sure we didn't miss that particular special event. We haven't stopped marvelling at the magnificent production standards and the total absence of boom mics in any of the shots. I'm only sorry it caused me to miss out on working for some shitty band who wanted me to do a 1AM forty dollar walk-in at the "Pigsty" in Main Lane. Yourself?

*I watched in wonder as the gloved one got weirder and weirder, I mean who do you get to feed your backyard full of wild animals while your on tour?*
*Mr. X:* Dunno... s'pose Germaine's not doin' much ! (Much laughter)

*Anyway back to the matter at hand, now, you seem reasonably comfortable with the operation side of things though what about the audio quality considering the HOF is an outboard unit?*
*Mr. X:* Once I'd settled on a fader value that I was happy would represent a unity fader setting on the actual console fader, I was pretty pleased with the lack of any colouration. Whilst I haven't done any test measurements it seemed to me, as time progressed, that switching in the MIDI fader actually made the channel slightly quieter. This seemed strange though it could be put down to a fortunate altering of impedance or the AutomiX module may well have a slightly restricted frequency response. Overall I could notice no obvious alteration in the sound.

*After having had the last few days on the AutomiX at what point have you found yourself requiring the assistance of automation ?*
*Mr. X:* Not liking to make things too complicated I left this device till last. Had I been doing bounce downs I would definitely have used it well before mixdown, however, I've found it's better to get the mix as good as possible and well rehearsed and then program automation only as required, to really follow the song! I haven't worked out how it will help yet, but I do know that the HOF also continuously mixes your channel levels to it's own internal stereo buss, this in itself must have many applications which I look forward to discovering and keeping to myself.

*In that case is there any dirt you can give us, that you might be keeping to yourself ? You know spice things up a bit.*
*Mr. X:* Not really, the unit seems to function as advertised.

*With studios getting smaller and their requirements becoming larger do you think PC driven automation is catching on or is it just for gadget wankers ?*
*Mr. X:* It's definately going to catch on, it definately adds much more creativity and there really is nothing like hearing a mix go down while you sit back and truly monitor. I don't think it's made me a wanker though, do you ?

*No comment !*

*Details: Audio Visual Designs Pty Ltd, (02) 550-0982.*

## Peter Kemp

At first I contemplated writing about the recent SIB Rimini (Italy) show, however as Caroline Grafton personally covered the show I have chosen not too.

My article this month relates to recent changes/advancements in Control Protocol.

As most lighting people would be aware DMX-512 has become a industry standard (whether liked or disliked). In regards to DMX-512 I must say that my technical knowledge is limited, though I am very pleased to see that Gary Pritchard of LSC has been providing an explanation of DMX-512 in Connections, Gary has a wealth of knowledge in regards to DMX-512.

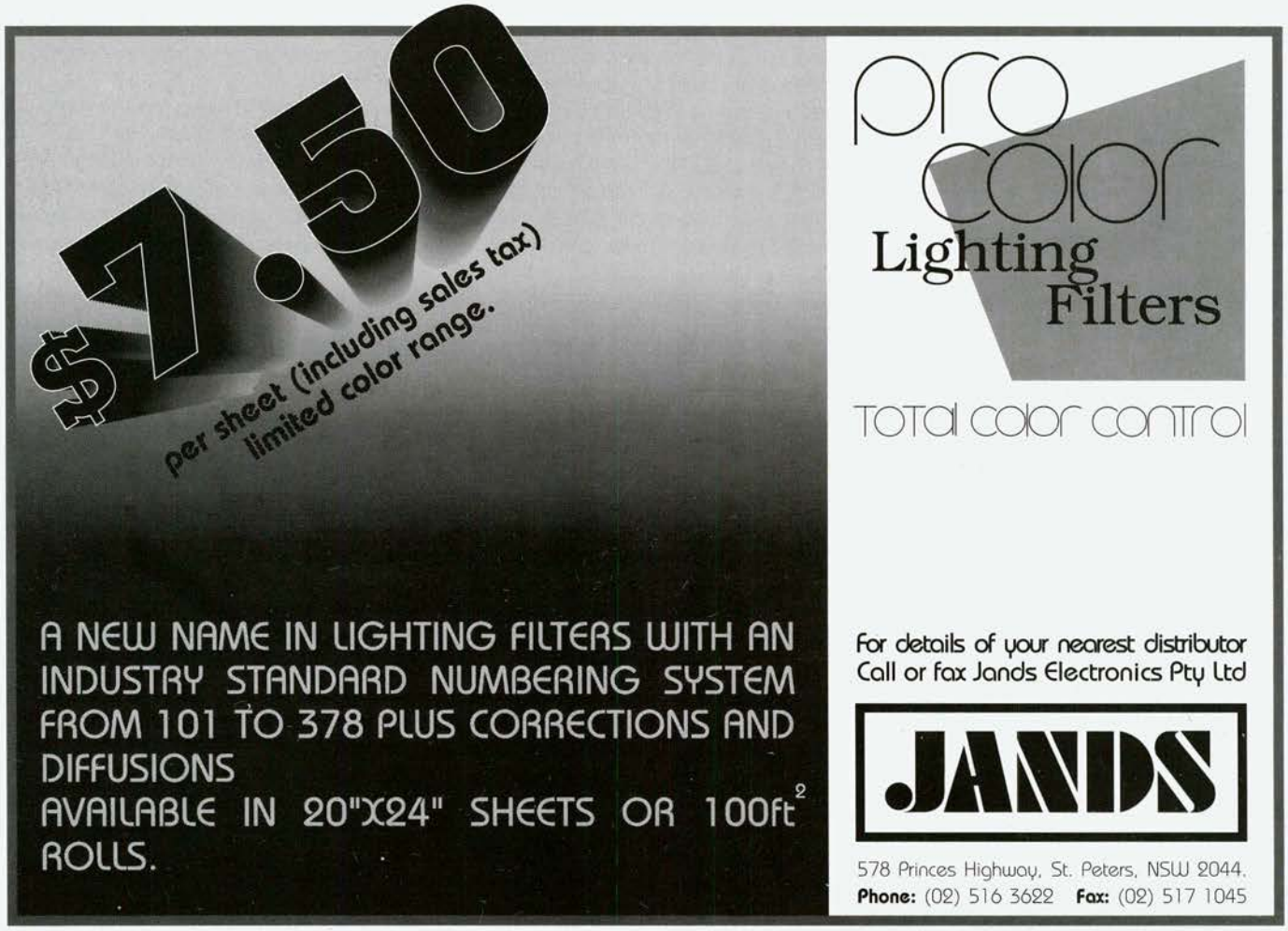
One of the bones of contention regarding DMX-512 seems to be in regards to moving lights, a purpose which it was never intended, the main problem is it being low on resolution. While it is the only common protocol we have got, it will have to do, but something better must be a matter of urgency. Out of frustration both, ShowCAD, Wholehog and Navigator will be offering a 16 bit solution within DMX, if there are any instrustments out there to receive it. I have heard that High End have a higher bit resolution DMX-512 solution to control of their fixtures, however this has not been confirmed.

Another part solution maybe the new protocol by Pulsar UK being PMX (Pulsar Multiplex). Pulsar have enbarked on a policy wereby they felt DMX protocol was somewhat limited for what they wanted to achieve and didn't really provide for very great expansion, accordingly they have developed PMX as a means of coping with much larger lighting systems which can talk intelligently to each other. However, it is interesting to note that Pulsar are keen on 'open' systems which allows interconnection of their products with anybody else's and therefore will continue to make their products able to be interconnectable to recognised industry standards (DMX at present) as well as PMX.

In reading about Pulsar PMX it is interesting to note that theoretically, beyond 200 channels, with many levels changing at once, the lower baud rate of PMX would begin to produce jerky movements and fades. On the plus side the PMX baud rate is 9600 and only the data changes need to be sent, so the products main micro is able to transmit or receive PMX and perform all its other tasks simultaneously. PMX also allows branching of the line, no termination is required for the end of the line and it allows up to 14 bit resolution should it be needed. Another big advantage is that PMX can be generated by any IBM or other computer. In addition to Pulsars's PMX, High End have a dedicated control protocol for their products as does Vari*Lite.

I am sure there will be other attempts by manufacturers to come up with a solution to the short comings of DMX, however in the mean time it will have to do, and accordingly it is my belief that all manufacturers need to have DMX control as a standard feature within their products, not an add-on interface unit.

*Peter is the big wheel at Coemar DeSisti Australia, the Aussie arm of the Italian end. Call him on (02) 467-8666.*



# MUNCHY Bytes....

For two months, we have promised to bring you some feedback on this year's SIEL exhibition in France. Well, here we go.

Ted Fregon (joint owner and Engineering Manager) and Patrick Bravard (International Marketing Manager - Europe) carried the flag for Bytecraft. In fact, being the only exhibitors from this great land of Oz, they also found themselves carrying the flag for Australia.

"What was SIEL like?"

"Cold, it was so bitterly cold" was their principal reaction.

"No - I mean. What was the exhibition like?"

"There was no doubt that this year's show reflected the depth of the recession in Europe. This was particularly evident with a large number of old players missing. In fact, in many ways, the participation was rather dissappointing. Bytecraft's participation was equal to any other and created a great deal of interest".

The centrepiece was the international release of the *Bytesize TR* dimmers drawing an enthusiastic reception from the large number of visitors. The *TR* is a derivative of the established *Bytesize* dimmer product, providing an extensive range of traditional *Bytesize* features yet designed to meet the needs of users who do not require the total sophistication offered by the parent product. Available in 12 channel 2.5 kVA and 6 channel 5.0 kVA versions, vertical or rack mounting formats, *Bytesize TR* accepts a variety of recognised control sources providing compatibility with virtually any control board.

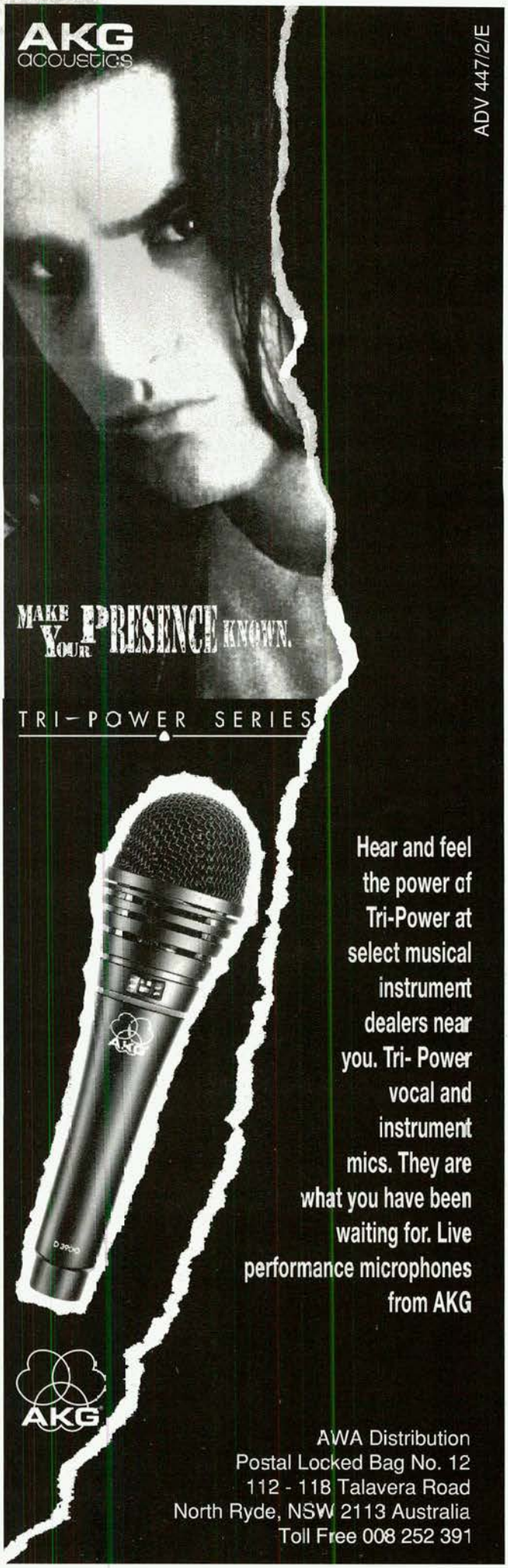
SIEL also generated a number of enquiries for Bytecraft's *State* Stage Movement (flying) system. This has resulted in the commencement of negotiations on several exciting European projects. Bytecraft's new generation *Sage* 483 protocol converter with integral soft patching also created a great deal of interest and is, in fact, already in wide use across Europe.

This leads us into the tip for the month.

Controlling mechanical devices, such as scrollers or moving lights, using DMX can often result in jitter caused by small variations in the control signal. These DMX signal protocols (eg.DMX 512) are designed to support dimmer control and such variations would normally go unoticed. However, when applied to the control of mechanical movement, this jitter can be noisy, annoying and can subject the controlled equipment to unnecessary and potentially expensive wear. Bytecraft's *Sage* includes a sophisticated "anti-jitter" algorithm which, when enabled by the user, will provide stable, jitter free, control of scrollers, pan and tilt movement, etc.

The big moves are on the way with Joseph hurtling down the Pacific Highway from Brisbane to Sydney. Of course, there is none bigger than the impending shift of the Phantom of the Opera from Melbourne to Sydney. For Bytecraft's Murray Rogers, this is already a full time job, planning the bump-out and then bumping in to a new theatre of the extensive stage movement system. Talking about big, by the time you read this, Sydney will have seen one of the largest company promotions ever staged. L'Oreal have been travelling Australia, finally finishing in Sydney with a gala "party" on the pier at Circular Quay.

**BYTECRAFT** *are the Strand agents for Australia, and also manufacture lighting control equipment. Call them: 03- 580-7690*




CIRCLE 103 ON READER SERVICE CARD

# Great Mistakes

***I LEARN'T something ... (I think!)***

## The Great Tivoli Disaster of '85

You had to be there. Really. A winters night in 1985, a Monday, and Sydney's Tivoli nightclub had gratefully allowed Graftons the use of the place for a trade night. Not only was there to be a display of static equipment, but also a live demonstration of the then new Renkus Heinz Smart System.

Invitations were sent, full page advertisements were placed in On The Street, and Posters plastered all over the city. The music biz was abuz, planning was frantic.

"We need a Band", so suggestions were tossed around. What about (band name deleted), someone said. "Well, they Hire from us, and they're always in arrears, so we could credit out what they owe us against them playing the gig" suggested Caroline. Of course! (Who works on Monday night anyway?)

The Band, who we shall hereafter call "Stormy Someday" were very (sort of) enthusiastic. Big Harry, the singer and organiser (?!) called and suggested a set list, and at the same time asked a lot of questions about the drink rider.

Staff, suppliers and crew worked at fever pitch readying the venue for the night. The whole back area of the gig was sectioned into shell stands, each stand occupied by a supplier complete with an array of goods. Lighting was carefully and tastefully rigged, to a careful plan.

The foyer was adorned with promotional material, neatly lit by shuttered profile spots. The entrance was decorated and manned by the most desirable and good looking individuals possible.

But, like the sumptuous spread of hors-douvers, dips and canapes, this was all but a sideshow for the main event.

The stage was lit with almost the whole of the companies inventory, the lightrig you put together in your dreams. Either side sat the New P.A., the boxes proudly lit. Behind the curtain, the band were setup and soundchecked.

All was in readiness.

By 9pm, the place was full of industry types, and the bar was doing good business. Now it was time for the hard sell.

The lights dimmed, and an audiovisual presentation occurred, politely endured by the now expectant mob of drunks and cynic's who represent the trade. The last slide faded, the screen flew up out of sight, the curtains opened, and the band launched into "The Heart of Rock and Roll is Still Beating".

3 milliseconds later, a tremendous " .... CRACK!" rent the air, followed by Audio Mayhem. "CRACKLE ..... FIZZLE ..... POP ..... BUZZ ..... BANG .... SPLATTER" and all at 120dB. The Band soldiered into the fourth bar, Caroline feinted into the arms of a woman who's advances she'd just finished rejecting, and your writer fled down the fire escape.

Running out into the bright lights of George Street, back through the front entrance and up the stairs, I entered the back of the room, from which perspective the scale of the disaster was appallingly apparent. The Band played on, the audience were in one of two states of reaction. The first state was wild mirth and laughter. The second state was acute embarrassment.

The Sound Engineer had by then identified the problem.

Stormy Someday had a keyboard player, who played an ancient Rhodes piano, mainly because he could perch a schooner of Bourbon and Coke on top of it. To his side he had a Roland Synth, and behind a very clapped out Peavey Combo Amp.

If there were roadcases for these keyboards it wasn't apparent, such being the sad state of them. The problem was simple, the Roland's piggyback plug had a (very) loose screw on the active terminal, which waited with impeccable timing until then to produce partial continuity, which put simply means "a lot of arc's and sparx".

Of course, once UNPLUGGED, the noise stopped, and the event continued. It does take a short time, once having ascertained the source of the problem at the FOH desk, to actually get the offending electrical item unplugged.

The problem wasn't helped by uncertain grounding protocol within the (new) P.A. system's Smart Processors, which tended to go into spin mode when attacked by such an audio disturbance. The irony was we had planned redundancy, with four processors rather than two!

Anyway, after this amazing start, the band played an hour, the sound was really very good, and the audience mostly realised the problem lay with the stage gear. We sold two systems that night, and went ever onwards regardless.

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CIRCLE 129 ON READER SERVICE CARD

# Duncan Fry

*Duncans Book, 'Live Sound Mixing' is available by calling (03) 555-7859.*

Each year in the USA the National Sound and Communication Association has an annual meeting and exhibition, and each year ARX has a booth there. This year it was in Orlando, Florida, so it entailed quite a bit of plane travel. I don't know who it is that chooses the movies for the planes these days, but I saw quite a few of them as I flew around, and they're not doing much of a job.

On the way over we suffered through the remake of John Steinbeck's supposed classic of the Depression era 'Of Mice and Men'. Depression is the correct word alright. I don't know (or care) whether old Steinbeck's still alive, but he had a particularly grim view of life. Shit, the book was heavy enough going when I had to read it for school, but this new movie version was so depressing I kept expecting all the passengers to tear off their headsets and start jumping out of the plane windows to end it all! Still, it is hard judging movies by the versions you see on the planes. All the juicy bits are carefully excised so there's nothing left that might offend anyone's maiden aunt.

I saw 'Sea of Love' on one flight, and thought that it was an alright sort of film, but nothing to get too excited about. However, when I rented the video it was like watching a completely different movie! Lots of naked bodies thrashing around, plenty of gratuitous violence and absolutely no redeeming social values whatsoever. I loved it!

Orlando is to the Europeans what Anaheim is to the Australians -the closest place to see Mickey Mouseland. (Or, as the people who work there call it: Mouseshwitz. (Yes, I know there's EuroDisney but that's in France, and a lot of people have trouble with the concept of Mickey Mouse smoking a Gauloise and squealing 'Zut Alors,' and not 'Hi there folks!')

So there are direct charter flights there from all over Europe, and the airport has grown to service this business. It is absolutely Ginormous! Like Melbourne, Sydney and Brisbane airports all rolled into one! Robot controlled trains shuttle you from one part of the airport to another, and arty sculptures of abstract mouse like concepts are everywhere, subtle reminders of who's in charge.

All this grandeur has to be paid for, of course, and one way is an airport tax. Not when you arrive, but when you rent a car!Here's the deal: If you rent a car less than 48 hours after arriving, you get an airport tax added to your car rental charge. It's a neat concept. They know that if you don't rent a car and get out and about a bit you're going to go stark raving mad when you realise you're trapped in your hotel surrounded by a sea of geriatrics.Because, if Orlando has got one thing in abundance, it's got Old Farts. Really old. So old they make the cast of the Golden Girls look like pre pubescent teenagers. And not just old, either, but old and stupid.

Hell, I'm old, we're all going to get old, but there must be something in the sunshine that really pickles the brain out there. Locals call them Wobblers, because of the way they get around, whether walking or driving. God knows how many accidents they must cause. I was nearly knocked over twice by old folks running red lights in their motor homes, road maps spread across the wheel and the strain of having driven all night to get there starting to show. I reckon you'd be safer walking through downtown Hollywood after the Rodney King verdict than crossing the road in Orlando.

There are no mountains in Florida. It's mainly flat swampland that's been reclaimed. I think the highest point in the state is about 430 feet above sea level (120 metres for all you post metric yougsters!), and the roads are all new and big, so it's easy to get around. I had a day spare after the exhibition was over, and I heard that the space shuttle was going to be launched that night at about 3 am. Well, I thought I might as well go and see it since I was there, and Cape Canaveral is only 45 miles (70 k) from Orlando. It would be unlikely that I would be there again for a while, and it was an opportunity not to be missed. So, I went out and rented a video camera to record the great event, and a car to drive out to the launch site.

Well, I certainly wasn't alone in wanting to see the shuttle launch. Thousands and thousands of other people had the same idea, and the traffic backed up solid about 8 miles out from the Space Centre. I gave a lift to Richard Woolley from Sound and Video Contractor magazine, who turned out to be not a bad bloke for a Pom, and he snored in the passenger seat while I parked the car by the side of the road and waited.

The launch was supposed to be an awesome thing to behold, especially at night when it would light up the whole sky. In fact, locals said that you could hear the thing take off back in Orlando, so I figured that from 8 miles it would sound pretty good.The countdown ticked away minute by minute live on the radio, and as the final seconds drew near I started up the video camera, pointed it in the general direction, and waited for the rumble and sheet of flame that would herald the launch.Then, at 3.30 am, with 11 seconds to go, they aborted the launch due to high winds. An immense groan of disappointment rose up from the waiting crowd, and, like a monster Le Mans start, everyone leaped into their cars and zoomed off back down the road.So that was it. No launch. I caught the plane the next morning, bleary eyed and tired, but when the movie started I managed to get some sleep. It was called 'A River Runs Through It,' a heartwarming piece of soporific drivel about two kids growing up in the early 1920's, who discover the true meaning of life and personal fulfillment through fishing. A load of crap? You got it!And the NSCA exhibition?

Oh, it was good. But my main concern is whether NASA will refund the $19 I paid to rent the video camera!


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CIRCLE 157 ON READER SERVICE CARD

*Yup, Production Values count at every show. Even when the show is all about, um, sex.* ***Catriona Forcer*** *says: "there wasn't a dry seat in the house". Read on if you dare..... about:*

# THE *THUNDER* FROM DOWNUNDER

Being an old married lady who is usually tucked up in bed by 10pm, it was not without trepidation that I agreed to visit a male strip revue. With a girlfriend in hand and a few gin and tonics inside me, I set out for the St. Georges League club in Kogarah, Sydney. It was there that 'direct from Surfers Paradise' Manpower Australia were presenting their latest 'international extravaganza' entitled 'World Fantasy'. The interview had been set up for me by the manager Mr Billy Cross who, as I discovered on the night, was also one of the strippers. It's rather difficult to deal with someone professionally when you have just witnessed them gyrating their latex clad groin on stage.

So here I was surrounded by 850 hormonally charged women who, I have to say, had probably had more than their fair share of their favourite tipple too. Safely tucked into a dark corner of the vast room, I prepared to watch the worst ie. I had another gin and tonic. Unfortunately as the lights dimmed I was led by the tour manager to a couple of vacant seats at the front with an obscenely good view.

Prior to this, lighting designer and sound operator Frank Nolan attempted to add a cultural aspect to the show by playing the guitar and singing a few mellow songs whilst everyone was seated. Unfortunately, as he was rather a hunky looking guy it was like dangling a carrot in front of a donkey and chants of 'get your clothes off' over shadowed his brave performance. Later Frank confided in me that he had no desire to join the guys on stage.

The show was compered by a slick, game-show-host-type-of-a-man who began the set by announcing there were two things the night didn't have - husbands and boyfriends. That set the mood for the night as we were taken on a world fantasy trip. This involved various members of the troupe performing fantasies in a pseudo foreign setting. So we were treated to stripping matadors in Spain, stripping chicos in Mexico, stripping cowboys in America, stripping sheiks in the desert and.....well you get the picture. The 'fantasies' were some what marred by the presence of a film crew on the stage but then again perhaps that's someone elses fantasy. As the night steadily progressed downhill, various excited members of the audience were, with little persuasion, invited on the stage to participate in the show. One lady must have been about fifty years old and appeared to thoroughly enjoy all the sexual innuendo thrust her way.

The afore mentioned Frank Nolan was originally in a band which split up and eventually he ended up doing lighting and sound for other bands. During the show he operates both the lighting and the sound which is fairly straight forward being only tapes and a radio mike.

"I'm from the Gold Coast and I heard there was a male revue going on the road that needed someone to take care of the lighting and sound," said Frank, who obviously got the job. "In the last four years this is the fifth show that they have done in terms of costumes, choreography, music and all the characters that they play. This year is the 'World Fantasy' as far as each character is from a different part of the globe and also different stages."

At St. Georges League Club most of the equipment used in the show belonged to the club itself with Frank bringing in a few specials like strobes, moonflowers, pinspots and a few rays for more effect. In Sydney there were only two other clubs they used gear in - Penrith Panthers Club and Revesby Workers club.

"If we're in one spot for a length of time, like a casino show room, then we can specify extra lighting and then we can do a lot better, " Frank explained. "But when you're on the road doing only one nighters everywhere you have to stick to a basic plan - enough cans for a wash and specials. The schedule is very tight and can get very tiring, don't get many days off on tour."

In fact the tour in Sydney played twelve dates in thirteen days which is quite a tough schedule.

"Basically when we put a new show together the guys rehearse all their new routines and we run through together what would look best and where," said Frank. "As we start the tour, within the first week or two we might change a few things around to see what works best. The guys are pretty good, they do the same routine every night and so they know the spots to stand and not to stand. We still put a couple of marks here and there on stage for them. I soon get to know how the tapes are edited together and when the changes are coming up."

I couldn't help notice, among other things, how vital the cueing was when the stage had to be in near total blackness. This was inevitably when one of the strippers did lower their g-string and the result was a lot of disappointed ladies.

"There are a lot of quick changes, a song will be really up and then suddenly can cut into something else so I have to be fast on the cues," said Frank.

Another occupational hazard was the frequent dashes into the audience when many an inebriated woman would try to rip off a g-string or bear hug the hapless stripper. Frank admits that often the guys can't get back on stage in time for their cues.

"The girls probably wouldn't notice it that much but from this point of view we notice it if they're not on stage for the right cue," he said."They just carry on. This stage is quite large for us as some places we play, especially when we get to Melbourne where it's pubs and they don't have clubs like this there, there are only 400 seaters and the stage is only half the size."

If you're disappointed at missing the revue don't worry because the film crew was busily shooting the show for a future release.

"Extra smoke was used for more effect," said Frank."The show was bright enough in fact sometimes it was probably too bright. They came along last week to take a video of it to see what we do and get an idea of what they'll be doing. This afternoon we took a few levels and they said at times it might be a bit bright."

"Sometimes the crowds are more livelier than others especially at the late shows when the girls have been in the bar a few hours before hand," laughed Frank."They're all primed up and ready to go. Although some girls get a bit too rowdy. There was one time on last years tour at Bankstown Sports Club when they were doing the finale at the end about sixty or seventy girls flooded the stage. The two security guys at the front couldn't do much about it."

It was nearly 2am by the time the show finished and I must admit, while the show did nothing to get me going, there was a massive queue of girls waiting to have their photos taken with the guys. It was, as my friend commented, a case of not a dry seat in the house.

# Contractors: work without a legally binding CONTRACT - and go broke!

*Connections editor Julius Grafton suggests you stay in business ...*

I've met some unhappy people in the sound & lighting industry over the years, and the greatest upset of them all is the Installation-Gone-Wrong. The joy at winning a $50,000 job can quickly turn to horror - and worse - if things don't go as anticipated. Marriages break up and businesses go bankrupt. It's THAT risky.

Rule 1. Cover yourself with a contract. You don't need to engage a solicitor everytime you win a job, just use some sense. Think about what happens if the building burns down while you are still working on the installation? What if the customer goes broke before you get paid? Who pays for the stolen amplifier before the job is commissioned?

When my former sound and lighting firm started to win work we had a few of the very experiences mentioned above, then we got smart and prepared a standard contract. If the customer didn't sign, we didn't work. Guess what? They ALL signed it - because it was presented as a standard contract! It was just the done thing.

**THE CONTRACT PARTS: What YOU need.**

1a: Customer name, address and site address defined.
1b: Order to commence work and supply goods.
2a: The equipment to be supplied, listed and described.
2b: Reference to alternative choices of equipment, & right of refusal.
2c: Definition of where the equipment is to be supplied.
2d: Description of drawings and reference to customer signing these.
2e. Confirmation the installation site is the same as 1a.
2f. The price for supply of goods and installation.
3a. Payment schedule : Deposit on signing of contract.
3b: Payment on commencement of work on site.
3c: Progress payment during work defined as completion of wiring.
3d: Final payment at handover defined.
3e: Delay in payment, reference to completion date being extended.
4a: Variations due to late payment by customer (more than 7 days late)
4b: Variations due to customer requesting delay to start of work.
4c: Variations caused by other trades delaying work.
4d: Changes in specification by customer, variations defined.
4e: Delays on site, definition of your clear access to site required, power.
5a: Times and dates you need clear access to site.
5b: Customer to provide electricity.
5c: Customer to secure site and bear loss due to theft.
5d: Customer to ensure no one else interferes with your staff on site!
5e: Title to equipment does not pass to customer until all paid.
6a: Commencement date for work, completion date for work.
6b: Definition of firm completion date,
6c: Penalty you will pay per day the work is uncompleted.
7a: Provision for customer to terminate contract in writing with notice.
7b: Definition of all your costs plus work to date customer must pay.
7c: Definition of fee payable if contract cancelled before commencement.
7d: You can cancel if the customer commits an act of insolvency.

The contract needs to be initially constructed with the help of a solicitor, then stored on your word processor. Be sure the customer signs properly, if a company get two directors to sign, under the company seal. Have the signing witnessed, be sure to sign and seal the thing yourself. They MUST have a copy.

If your customer is leasing the equipment, too bad. Stick with the deposit payable on signing (10%), Commencement payment (30%), Progress payment (30%) and handover payment (30%). They'll just have to finance these payments themselves, because a lease is not finalised until you have been paid in full.

A lease firm asking you for a pro-forma invoice is NOT anything like a completed deal. The customer could still fail to complete the lease, the lease firm could decline to complete AFTER the customer has signed. It has happened to me, it CAN happen to you!


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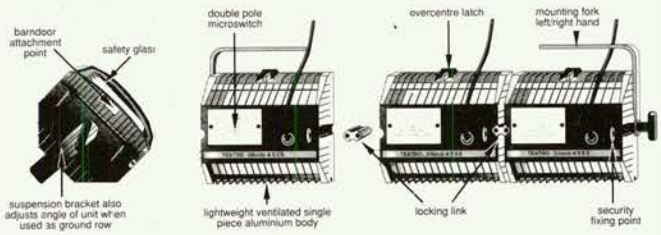
**500w + 1000w Asymmetric & Symmetric Floodlights**




## Diluvio is unique !

**The Diluvio range is the only modular system of floodlights available today.**

How often have you wished your three compartment cyclorama flood was a four compartment, & vice versa ?
How many times have you needed single floods and only have battens in stock ?
Can you convert your single floods into battens or cyc lights ?

**With DILUVIO these problems no longer exist !**

**FLEXIBLE**
The 500w & 1000w Diluvios have identical profiles so they can be locked together in any combination in rows up to eight units long and then suspended in complete safety. If used as a ground row the number of units in a row is as long as you need.
A 'square four' accessory frame is available to mount either the 500w or the 1000w Diluvio in two vertical groups of two for saturation floodlighting.
An accessory four leaf barndoor is available.

**SAFE**
Each Diluvio is constructed of lightweight diecaste aluminium. The front is enclosed by a tempered glass window which provides complete protection against inadvertant lamp explosion. When the front is opened a double pole switch is automatically activated, isolating the mains supply. This guarantees complete safety when replacing the lamp.
The Firecel® cable is totally flame resistant and does not emit any toxic fumes when subjected to a naked flame.
Excellent ventilation is achieved by virtue of the ribbed construction of the diecaste body.

**ECONOMICAL**
Since Diluvio can be made up into different combinations fewer units need be stocked to achieve the same results as many of the competitions 3/4 fixed compartment cyc/flood lights. This is of particular interest to Rental companies.
The heat absorbing tempered glass front extends the life of colour filters.

**EFFICIENT**
11,000Cd with a beam angle of 110° from the Diluvio 1000 Symmetric. Similar performance from the Asymmetric when lighting a cyclorama from the top and the bottom.

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# ACTIVITY FUN! PAGE

## PUNTERS CROSSWORD

The Punter was before the beak in the local court during deadline week. We called his QC and left a message to the effect that if the Crossword didn't arrive in time we'd have no choice but to dedicate this space to a full and complete coverage of the trial, including extracts from transcripts. Sadly, the QC pointed out the difficulties of us avoiding a contempt of court charge if we unwittingly caused the trail to be aborted by misreporting the gritty details.

With this in mind, we decided not to outline the trials and tribulations of our poor Punter, who really didn't mean to assault the other party. Isn't it ashame a good old fashion whack in the chops leads to expensive and time consuming court action?

There must be more to this, we suspect. After all, in this business the odd stoush happens every other week, and if they all ended in court the nation would grind to a halt. Maybe the Punters court tale isn't THAT simple ..... after all, it wasn't like he hit a girl, now was it? Hmmmm .....

### *JOIN THE DOTS*

Well, if we couldn't have a crossword, we figured this was the next best thing!

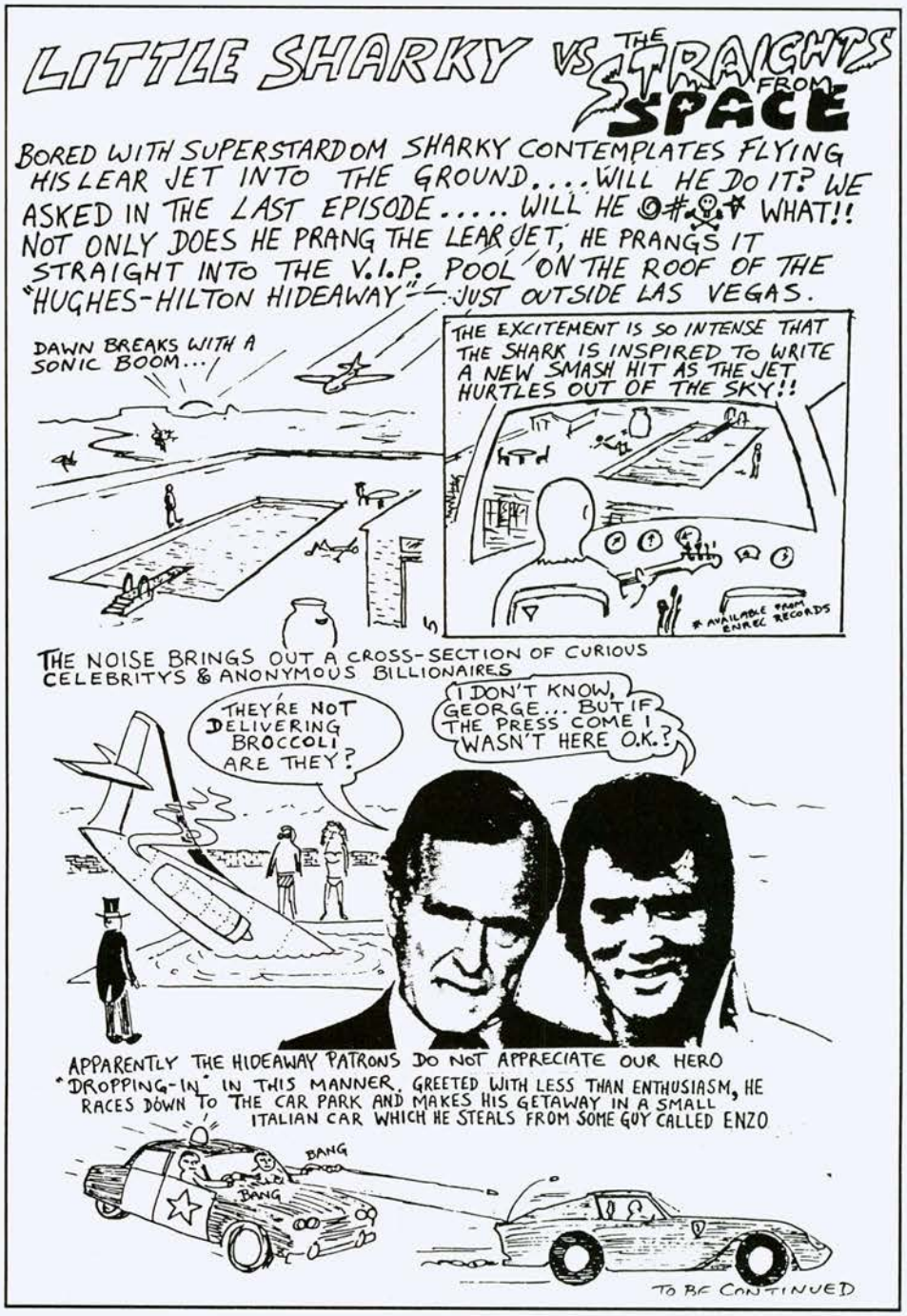
**Q:** What's the difference between a drum machine and a drummer?

**A:** You only have to punch the information into the drum machine once. Yuk Yuk!

*Last issue's 'THEATRE' crossword. The Answers*

Across
3. Flat
5. Gobo
8. Gel
9. Scenery
10. Lee
11. Wardrobe
15. Fat
16. Plot
19. Bumpout
20. Barrell
25. Bar
26. Usher
28. Curtain
29. Scrim
30. Trap
31. Gods
33. Tungsten
34. Tab
37. Circle
38. Preset

Down
1. Regent
2. Riser
3. FOH
4. Aisles
6. Barndoor
7. Flown
12. Drape
13. Op
14. Cyclorama
17. Lux
18. Queen
21. Pantograph
22. Spotbar
23. Bumpin
24. Stage
27. Her
32. Stalls
35. Prop
36. Late



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

## *Directivity of Circular Radiators*

Figure 3-6 shows the sharpening of on-axis response of a piston mounted in a flat baffle. The wavelength varies over a 24-to-1 range. If the piston were, say 300mm (12') loudspeaker, the wavelength illustrated in the figure would correspond to frequencies over the range from about 350Hz to 8kHz.

Among other things, this illustration points out why 'full-range', single-cone loudspeakers are of little use in sound reinforcement work. While the on-axis response can be maintained through equalisation, off-axis response falls off drastically above the frequency whose wavelength is about equal to the diameter of the piston. Note that when the diameter equals the wavelength, the radiation is approximately a 90° cone with -6dB response at ±45°

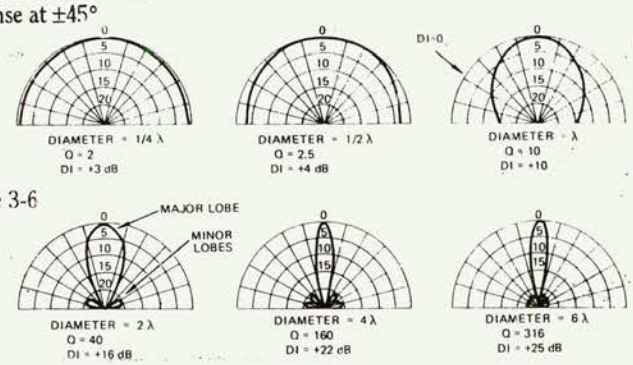


Figure 3-6

The values of DI and Q given in Figure 3-6 are the on-axis values, that is, along the axis of maximum sensitivity. This is almost the case for published values of DI and Q. However, values of DI and Q exist along any axis of the radiator, and they can be determined by inspection of the polar plot. For example, in Figure 3-6, examine the polar plot corresponding to Diameter=l, Here, the on axis DI is 10dB. If we simply move off-axis to a point where the response has dropped 10dB, then the DI along that direction will be 10-10dB, or 0dB, and the Q will equal unity. The off-axis angle where the response is 10dB down is marked on the plot and is about 55°. Normally, we will not be concerned about values of DI and Q along axes other than the main one; however, there are certain calculations involving interaction of microphones and loudspeakers where a knowledge of off-axis directivity is essential. Omnidirectional microphones with circular diaphrams respond to on-axis and off-axis signals according to the data shown in Figure 3-6. Let us assume that a given microphone has a diaphram about 25mm (1") in diameter. The frequency corresponding to l/4 is about 3500Hz, and the response will be quite smooth both on and off-axis. However, by the time we get up to 13 or 14kHz, the diameter of the diaphram is about equal to l , and the DI of the microphone is 10dB. That is, it will be 10dB more sensitive to sounds arriving on axis than to sounds which are randomly incident to the microphone.

Of course, a piston is a very simple radiator - or receiver. Horns such as JBL's Bi-Radial series are complex by comparison, and they can be designed to maintain constant HF coverage through attention to wave-guiding principles in their design. One thing is certain: no radiator can exhibit much pattern control at frequencies whose wave-lengths are much greater the circumference of the radiating surface.

The Importance of Flat Power Response

If a radiator exhibits flat power response, then the power it radiates in all directions will be constant with frequency. Typical compression drivers inherently have a rolled-off response when measured on a plane wave tube (PWT), as shown in Figure 3-7A.

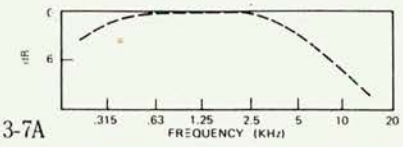


Fig 3-7A

When such a driver is mounted on a horn such as the JBL model 2350 radial, the on-axis response of the combination will be the sum of the PWT response and the DI of the horn. Observe at B that the combination is fairly flat on axis and does not need additional equalisation. Off-axis response falls off, both vertically and horizontally, and the total power responses of the combination will be the same as observed on the PWT; that is, it rolls off above about 3kHz.

Now, let us mount the same driver on a Bi-Radial constant coverage horn, as shown at C. Note that both on-axis and off-axis response curves are rolled off but run parallel with each other. Since the DI of the horn is essentially flat, the on-axis response will be virtually the same as the PWT response.

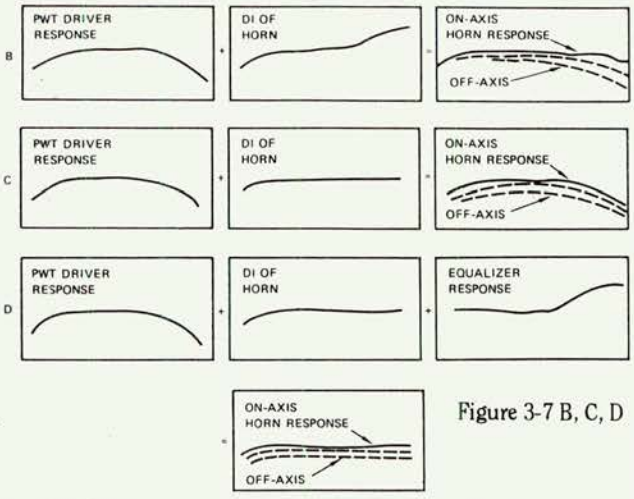


Figure 3-7 B, C, D

At D, we have inserted a HF boost to compensate for the driver's rolled off power response, and the result is flat response both on and off axis. Listeners anywhere in the area covered by the horn will appreciate the smooth and extended response of the system.

Flat power response makes sense only with components exhibiting constant angular coverage. If we had equalised the 2350 horn for flat power response, then the on-axis response would have been too bright and edgy sounding.

*(Continues)*

# NATIONAL TRACKING GUIDE

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| ARTIST | PRODUCER | ENGINEER/S | NOTES |
|---|---|---|---|
| **New South Wales** | | | |
| **All Music Manufacturing** | **Contact Geoff Sturre** | **(02) 557-1169** | **Mastering** |
| Yellow Majic Orchestra | N/A | Paul Bryant | 9 Record Set Masters |
| Gezabel Dinosaur | N/A | Paul Bryant | CD Master |
| Dirt Cool Fight | N/A | Paul Bryant | 7" Master |
| Scourge | N/A | Paul Bryant | 7" Master |
| Mike Anderson Comp. | N/A | Paul Bryant | 12" Master |
| **Bush Traks Recording Studio** | **Contact Ruth Miller** | **(066) 89-1290** | **24 Track** |
| Pagan Love Cult | D.Highet/ N Pike | Dave Highet | Music Video Tracks |
| Peter Pix | P.Peart/D.Highet | Dave Highet | Album Tracks |
| Risky Business | Risky Business | Dave Highet | Demos |
| Great Divide | D.Dutton/H.Vann | Dave Highet | Album |
| **Charing Cross Studios** | **Contact Gordon Hervey** | **(02) 387-8362** | **16,24 Track** |
| Nikka | Electric Hippies | Martin White | Tracking |
| Burning Orphans | Carl Christie | David Quinn | EP |
| Electric Hippies | Electric Hippies | Martin White | Album |
| Sweet Lip | Karen Banks | Julian Slade | EP Mixing |
| Greg Gunston | Gary Kurzer | Gordon Hervey | PreProduction |
| **Damien Gerard Studios** | **Contact Elia Bell** | **(02) 660-8776** | **16/32 Track** |
| Maybe Dolls | Chris Morrow | Michael Wood/Dave Trump | Album |
| Kcrunch | Kcrunch | Michael Wood | Album |
| Succotash | Succotash | Russell Pilling | EP |
| Jon Stevens | Stevens/Stuart Fraser | Pilling/Trump | Album |
| Bob Armstrong & Friends | Bob Armstrong | Russell Pilling | Single |
| **Enrec Studios** | **Contact Ed Matzenik** | **(049) 36-1376** | **32 Track** |
| John Shellys Idols | Steve Newton | Steve Newton | Album |
| **The Giant Production House** | **Contact Paul Dawkins** | **(02) 555-899** | 36 Track Digital |
| Matt Finish | Peter Dawkins | Paul Grant | Album |
| Duality | Paul Dawkins | Paul Grant | Singles |
| Secret | Paul Dawkins | N/A | Midi Program |
| **Hullabaloo Music** | **Contact Glenn Heaton** | **(02) 684-2039** | **24 Track** |
| Mike Harvey | Mike Harvey | Glenn Heaton | Corporate Song |
| Shelly Hindle | Heaton/Geoff McGarvey | Glenn Heaton | Demo |
| Maui Band | Maui Band | Lucci | Demos |
| Oz Force | John Berrick | Glenn Heaton | Disney Show S' track |
| Brian Kirby | Brian Kirby | Glenn Heaton | Conference S' track |
| Slipstream | Slipstream | Lucci | Demos |
| Shattered Image | Shattered Image | Lucci | Demos |
| **Main Street Studios** | **Contact Rob Specogna** | **(042) 83-4515** | **16 Track** |
| Strumettes | Strumettes | Rob Specogna | Album CD |
| Liz Spira | Liz Spira | Rob Specogna | Album |
| Odins Gate | Odins Gate | Rob Specogna | Demo |
| Avent Music | Rob/Tim Dutton | Rob Specogna | Album |
| Bootleg | Bootleg | Murray Nicholis | Demo |
| Shanghai | Shanghai | Rob Specogna | Demo |
| Settlers Match | Settlers Match | Rob Specogna | Album CD |
| **Megaphon Sound Recording Studio** | **Contact Guy Dickerson** | **(02) 516 3917** | **24 Track** |
| Falling Joys | Falling Joys | Paul McKertcher/Shane Fahey | Album |
| Jackson Code | Jackson Code | Guy Dickerson | AlbumKer |
| Jon Stevens & Co. | N/A | Kevin Shirley | Album |
| **Rich Music Studios** | **Contact Elise Huntley** | **(02) 2647734** | **24,32 Track** |
| Holly Golightly | Ted Yanni | David Lumpstone/Fraser Stuart | Mixing |
| Matt Schlemmerl Band | Band | Tom Kazas | Recording |
| LA Maid | Linsay Jehan | Scott Christie | Rehearsal/Mixing |
| **R&R Recodings** | **Contact Robert Zimola** | **(02) 624 4484** | **16 Track** |
| Nina Dusir | Robert Zimola | Robert Zimola | Demo |
| Rick Brunetto | Brunetto | Robert Zimola | Demo |
| Cathy Morrison | Robert Zimola | Robert Zimola | Demo |
| NuSkin | Robert Zimola | Robert Zimola | CorpTraining |
| Vadim Szulzcyk | Szulzcyk | Robert Zimola | Album |
| Rida Saleeb | Saleeb | Robert Zimola | EP |
| **SAE Studios** | **Contact Tom Misner** | **(02) 211-3711** | **24 Track** |
| Willie & The Drought Breakers | Michael & Joe | Oscar Gaona | Single |
| Chilli Vandals | Chilli Vandals | Jason de Wilde/Anthony Novak | EP |
| Felix Cuba | Felix Cuba | Oscar Goana | Album CD |
| Winterhouse | Tom Misner | Jason de Wilde | Album |
| Zac Scales | Zac Scales | Jason de Wilde | Demo |

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# EX-TRACK

## National Studio Roundup

**WHO & WHERE**
**By Caroline Grafton**

**Platinum Aust Pty Ltd**, Victoria, currently have full utilisation of studios one and two. That's not too unusual in itself but both studios being booked by the one band, Crowded House. The band are recording in studio two and mixing in studio one, concurrently. I hope it all comes off OK but with the professionality of both artists and engineers there really is little doubt. Call Gary Moorhead (03) 827-7483.

**Grevillea Recording Studios**, Queensland, fared well in the recent "BASF Sunnies Awards" with seven of the twenty-seven awards going to artists who recorded at Grevillea, including "Best Producer", which went to Steve Kinney and Malcolm Jacobsen for the album "Salvation". Good one guys. I'm also a little bit envious of the Jacobsen guys working with George Benson, editing tracks for his album due out later this year. Call Malcolm Jacobsen (07) 262-8422.

**Troy Horse Studios**, NSW, now have all 32 channels full automated. They have also installed a new Berringer Compressor, a Berringer Single Ended Noise Reduction and a BBE Sonic Maximizer. Katie Blackman is really happy with the purchase and the results thereof. Call (02) 557-3129.

**Trinity Noise**, NSW, as well as their 16 and 24 track digital facilities have 2 Audio and 3 Midi Suites as well as various digital

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

Pro Tools available. Call David White (02) 957-2270.

**Skyhigh Recording Studios**, NSW, would like to wish assistant Craig Beck, all the best for his future. Craig, Rob's highly regarded assistant, has left Skyhigh to chase fame and fortune in Sydney. Good Luck from Connections as well.

**The Giant Production House**, NSW, have finally completed their MIDI Suite. The Mastering Suite has also been upgraded to 20 bit with 2 Gigabytes of on-line storage. Call Paul Dawkins on (02) 555-8999.

**Enrec Studios**, NSW, Yidaki/ Digeridoo star Mark Atkins managed to cram into one month, Aboriginal Music performance in Singapore for Qantas, a Classical and Opera concert in Newcastle and Rock'n'Roll gig with his band "Kooriwadjula in Sydney and Canberra. They say diversification pays, I just hope it paid well. Call Ed on (049) 36-1376.

**Damien Gerard Sound Studios**, Sydney NSW, and Connections would like to welcome to the fold their new assistant engineer, Dave Trump, who started at DG's approx. 1st of April. Damien Gerards have also been appointed Australian distributors for "Mini-Flex" acoustic guitar and instrument microphones, currently all the rage in the USA. Call Marshall Cullen for more details and trade enquiries on (02) 660-8776.

**Under New Management**, Cremorne NSW, have been busy completing and commencing various projects. *Mark Moffatt*, as well as working with Anne Kirkpatrick, is working on his own project. Lets hope it is as successful as his previous solo project "The Monitors" which went to #1. *Tom Colley* is currently working with "Barefoot" having completed work with "Happy House". *Ted Howard* has been working with


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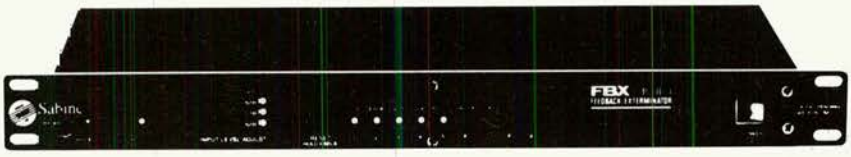


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| **Skyhigh Recording Studios** | **Contact Rob Taylor** | **(049) 50-1574** | **8,16,24 Track** |
| Guriel Ali | David Henderson/C Greenhalg | Henderson/Greenhalg | Album |
| Swoop | Swoop | Rob Taylor | AlbumMix |
| DEF FX | Sean Lowry | Rob Taylor | 12" Remix |
| Mantrasonic | Sean Lowry/Rob Taylor | Rob Taylor | Mixes&Edits |
| Gadflies | Gadflies | Rob Taylor | EP |
| MeMeMe | Rob Taylor | Rob Taylor | EP |
| **Sony Music Studios** | **Contact Ross Ahern** | **(02) 332-0320** | **24 Track** |
| Dreaming Genies | Tim Whitten | Tim Whitten | EP |
| Whippersnappers | N/A | Rob Rowlands | Demos |
| Big Heavy Stuff | Tim Whitten | Tim Whitten | Album |
| Daisy Chains | Rob Rowlands | Rob Rowlands | Album |
| **The Vault Cremorne** | **Contact Gina** | **(02)953-0332** | **48 Track** |
| Anne Kirkpatrick | Mark Moffatt | Ted Howard/Greg Henderson | Album |
| **Trafalgar Recording Studios** | | **(02) 660 0385** | **24 track** |
| John Charles | John Charles | Jim Bonnefield | Soundtrack |
| John Williamson | John Williamson | Peter Walker | Jingle |
| Chosen Few | Chosen Few | N/A | Demos |
| **Tracking Station Studios** | **Contact Martin Cass** | **(02)281-8899** | **24 Track** |
| Pat Drummond | Martin Cass | Steve Pomfrett | Album Mix |
| Run Away Babe | Ray Vandery | Steve Pomfrett | Demos |
| Stringy Creek Cousins | Martin Cass | Anthony McKenzie | Demos |
| Various | Martin Reeves | Steve Pomfrett | Album |
| Don Spencer | Don Spencer | Martin Cass | BBC Tracks |
| **Trinity Noise** | **Contact David White** | **(02) 957-2270** | **16/24 Track Digital** |
| Park Shop-Hong Kong | DDB Needham Agency | David White | TVC |
| Foot Locker | George Patterson Agency | David White | TVC |
| IMB Building Society | Doorly Buchanan Agency | David White | TVC |
| Schweppes | DDB Needham (Melbourne) | David White | TVC |
| CC's | Pod/Campaign Palace Agencies | David White | TVC |
| Sanatize | Pod/Sucler&McHenessey Agencies | David White | TVC |


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

Rick Brewster and Kirk L'Orange, but has left Oz for a break in India for a few weeks and should be back on deck mid May and ready for any new projects. *Brendan Morley* is off to the States to work during May. *Brent Clarke* is due back from the UK at the end of May. Brent has been having a break after completing the Oils latest album. *Garth Porter* is about to start work on a film soundtrack before commencing several high profile projects yet to be advised. *Greg Henderson* has spent the last few weeks producing and engineering an EP for Zillion and the Zig Zag Men and is currently working with Alan Barnes. *Mark Ovenden* a specialist in Remixing and Programming has most recently been working with Radio Freedom and Yothu Yindi. *Angelique Cooper* is the latest edition to the New Management stable having worked with such acts as Style Council, Paul Kelly, Prince & The New Power Generation, Ratcat, Caligula and the Rockmelons to name a few. Angelique is currently remixing at 301 recently completing Neil Murrays "Holy Road". *John Jopson* is still in the States having completed projects with Genisis and Van Halen among others but is hanging out to spend some time on Australian soil. *Kevin "Caveman" Shirley* has completed work with Billy Squire and is currently in Canada producing the new Rush album. For more info contact Gina Karpman on (02) 953-0332.

**Caama Music**, Alice Springs NT, have been working with Blek Bala Mujik, on an EP which will soon be released as a video clip. Its always good to see and hear fresh talent come out of the territory. Stanley Satour and Mark Manolis of Caama are always very supportive of local talent. Call (089) 52-3744

# NATIONAL TRACKING GUIDE

Fax 02 876-5715

| ARTIST | PRODUCER | ENGINEER/S | NOTES |
|---|---|---|---|
| **Trinity Noise (continued)** | | | |
| Paper Jam feat:Etcetera | Much Ado | David White | Film S' track |
| The Opposite Sex | Robin Hughes & Assoc. | David White | Film S' track |
| **Troy Horse Studios** | **Contact Katie Blackman** | **(02) 557-3129** | **24 Track** |
| Hummingbirds | Waite/Simon Holmes | Bruce Waite | Album |
| Feel Machine | Rique Weinman | Colin Wright | Album |
| Kaktus Mantras | Bambi | John Rafferty | Album |
| Upsidasium | N/A | Michael Levis | Album |
| Sneeze | Nic Dalton/Tom Morgan | Michael Levis | Album |
| Psyclone Smyle | Psyclone Smyle | Michael Levis | Demo |
| **Wirra Willa Studios** | **Contact Will Rout** | **(02) 605-1203** | **8,16,22 Track** |
| Karen Dunshea | Karen Dunshea | Will Rout/Sharon Markut | 2 SongDemo |
| Rod Dye | Rod Dye | Will Rout/Sharon Markut | 2 SongDemo |
| Malcolm Baxter | Phillip Stien/Baxter | Ian Cooper | Album |
| Steve Wisbey | S.Wisbey/S.Markut | Sharon Markut | Radio Demo |
| Allan Walsh | A.Walsh | Sharon Markut | Compil.Album |
| **Northern Territory** | | | |
| **Caama Music** | **Contact Stanley Satour** | **(089) 523744** | **24 Track** |
| Blek Bala Mujik | P.Miller/A.Murphy | MarkManolis | EP CD |
| **Queensland** | | | |
| **Grevillea Recording Studios** | **Contact Malcolm Jackobson** | **(07) 262-8422** | **24 Track** |
| Cry Wolf | Ian Taylor | Taylor/Bruce Jacobson | Album ReMix |
| James Black | James Black | Malcolm Jacobson | Demos |
| Andrew Young | Nick Coetzee | MJacobson/Murray Lalor | Album Trks |
| Mojo | KeynoteAudioProductions | Rod Herbert | TVC |
| George Benson | George Benson | Bruce Jacobson | Album Demo Edits |
| **Suite 16 Audio Productions** | | **(07) 369-8661** | **24 Track** |
| Australian Pavilion Korean Expo | Garry Smith | Julian Lynch | Audio Visual |
| **Victoria** | | | |
| **Gotham Audio** | **Contact Kerri Minchin** | **(03) 696-2111** | **48 Track** |
| John Farnham | N/A | N/A | Lock Out/ Writing |
| **Metropolis Audio** | **Contact Kerri Minchin** | **(03) 696-2111** | **48 Track** |
| Black Sorrows | Joe Camilleri | Ian McKenzie | Single |
| Cosmic Psycho' s | Mike Mariconda | Mariconda | Demo |
| The Fauves | Robbie Rowlands | Rowlands | Album |
| Steve Wade | N/A | Robin Mai | Demo |
| Bad Loves | Doug Roberts | Roberts/Greg O' Shea | Album |
| Shotgun Alley | Greg McAnish | Mat Thomas | IndeEP |
| Outlaw | Cameron Craig | Craig | Album |
| Steve Romig | Doug Brady | Brady | Album |
| Cruel Sea | Tony Cohen | Cohen | Album |
| Richard Pleasance | Pleasance | Doug Roberts/Mat Thomas | Album |
| T Bones | N/A | Nigel Derricks | EP |
| Rhonda Birchmoore | Mike Brady | Doug Brady | Single |
| Heartbreak Kid | John Clifford-White | Nigel Derricks | S' track |
| Have A Nice Day | Mark Dearnley | Dearnley/Greg O' Shea | Album |
| Blue Ruin | Marshall Cullen | Cullen/Arron Humphries | Album Trks |
| Stiff Kittens | Nigel Derricks | Derricks | EP |
| Josie Jason | Mat Thomas | Thomas | Demo |
| "Gross Misconduct" | Bruce Rowlands | Ian McKenzie | Trailer S' trk |
| "Mars" | N/A | N/A | TVC |
| "Telecom" | N/A | N/A | TVC |
| "Lifesavers" | N/A | N/A | TVC |
| "Jeans Plus" | N/A | N/A | TVC |
| **001 Recording Studios** | **Contact Phil Pomeroy** | **(03) 348-1300** | **16,24 Track** |
| Marjan | George 001 | Mal Dennis | Album |
| Tlot Tlot | Tlot Tlot | Mal Dennis | Album |
| Freakshow | Freakshow | Phil Pomeroy | Tracks |
| Quarter Acre Dream | N/A | L Maddy | Tracks |
| Andrew Houghton | N/A | Phil Pomeroy | S' track |
| Gus | Gus | Phil Pomeroy | Tracks |
| Klang | George 001/Sam Melamed | Mal Dennis/Phil Pomeroy | 12" Remix |
| Technocolour | George 001/Sam Melamed | N/A | Album Preprod. |
| Rob Clarkson | N/A | Mal Dennis | Remix |
| Touch of Class | A Chidiac | A Chidiac | Tracks |

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# NATIONAL TRACKING GUIDE

Fax 02 876-5715

| ARTIST | PRODUCER | ENGINEER/S | NOTES |
|---|---|---|---|
| **Platinum Studios** | **Contact Gary Moorhead** | **(03) 827-7483** | **48 Track** |
| Crowded House | Youth | Greg Hunter/Kalu Tonuma | Album Rec.Studio 2 |
| Crowded House | Crowded House | Bob Clearmountain/Chris Corr | Album Mix Studio 1 |
| **Sing Sing Studios** | **Contact Mark Wood** | **(03) 428-4622** | **24,48 Track** |
| Tanya Lee | N/A | Trevor Reading | EP |
| Stev Hoy | N/A | Trevor Reading | Demos |
| Feelino Groovies | N/A | Trevor Reading | Album |
| Daisy Chain | N/A | Roby Rowland | Album |
| Jetty | N/A | David Davis | Album |
| Killyous | N/A | Phil Butson | Single B Side |
| Rosie | N/A | Stuart Day | Demos |
| **Studio 52** | **Contact Paul Higgins** | **(03) 417 7707** | **16, 24 Track** |
| Who' s Muddy Shoes | Barry Hills | Trevor Carter | Indy CD |
| Various | Barry Hills | Trevor Carter | RealAust.BluesVol2 |
| Various | Trevor Carter | Trevor Carter | NuMusic7 |
| Shanks | Shanks | Trevor Carter | Demos |
| War Cry | War Cry | Trevor Carter | Demos |
| 3RRR | Andrew Parkes | Paul Higgins | CD Mast.Live Comp |
| **Studio RBX** | **Contact Ross Burton** | **(03) 429-6199** | **16,24,32 Track** |
| Tina Arena | Ralph Carr | Mark McDougall | Demos |
| Jade | Doug Brady | Doug Brady | Demos |
| Andrew Stenford | A Stenford | Mark McDougall | Album |
| Paul Gleeson | P Gleeson | Mark McDougall | Demos |
| Anthony Boccari | A Boccari | Mark McDougall | Single |
| What the Moon Saw | Frank Howsen | Mark McDougall | Film/Post |
| Kole Dysart | Ross Burton | Mark McDougall | Film S' trk |
| Brady/Copping/Strangio/Burton/Champion | BCSBC | Various | Jingles |
| **Western Australia** | | | |
| **Planet Sound Studios** | **Contact John Villani** | **(09) 382-2211** | **24,32,48 Track** |
| Book of Funk | Jason McGann | Les Williams | Single |
| Street Band | Sue Mack | Les Williams | Singles |
| Chunky | Ben Glatzer/Chunky | John Villani | CD EP |
| DM3 | Dom Mariani | Les Williams | Album |
| Mariko | Osuma Hosogai | Villani/Williams | Album |
| **Lost the Plot** | **Contact Kira Mead** | **(098) 41-8192** | **16 Track** |
| The Orana Cinema | Success Advertising Agency | Warren Mead | Cinema Commercial |
| Ian McCauley | Ian McCauley | Warren Mead | Single |
| Hot Frost Duo | Hot Frost Duo | Warren Mead | Remix |

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## EX-TRACK

*(...continued)*

**A Letter from Bandit Audio to Ex-Track:**

To the self centred, belligerent, ignoramuses who complained that Bandit was not a recording facility; (A) It would be nice if you identified yourselves rather than hiding behind Caroline Grafton's skirt. Caroline has enough to do without having to deal with your microscopic intellectual dilemmas. (B) Bandit has had recording facilities here since 1986. Equipment including Otari 8tk., recently updated to digital 8tk.,with lock-up to facilitate 16 or 24 track recording, Urie monitors, multi effects units, Soundcraft desk, digital mastering and editing facilities. Cubase sequencing with the associated samplers and sound modules. The studio is primarily used for pre or post production however, has completed final product for many artists. To this myopic skirt grabbing coward I say"..."( Censored by Ed.)

**BRETT COUPLAND**
(No...Not Stuart Coupland.)

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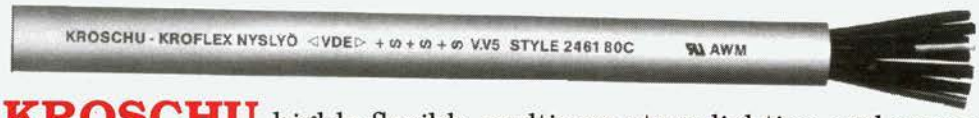
# BREAK A LEG, BUT DON'T BREAK THE CONNECTION




**KROSCHU** highly flexible multicore stage lighting and power cables can be supplied from 3 to 60 cores in cross sections 0.5mm² to 2.5mm² and 4 to 50 cores in 4mm². Core sheaths are black with white conductor numbering and green yellow earth with a tough grey PVC outer sheath (12 and 18 also in black).

**CONTACT** professional quality rectangular multipole connectors are perfect for use with Kroschu flexible lighting cables. This Industry Standard connector is stocked in a wide range of housings and insert combinations and is available in 6 to 48 pins. Cables can be screw terminated or crimped. Crimp pins are removable and can be soldered if desired.

**MULTI-CONTACT** 280amp, 14mm insulated single pole plugs and sockets are an integral part of many of the power distribution systems in the Industry.

Positive locking is achieved through a simple push/pull lock. Panel sockets, both male and female, can be colour ring identified. Line plugs can accommodate flexible cables in crossections of 70mm², 95mm² and 120mm². New **waterproof** line plugs and sockets are now available with protection to IP67.

**LAPP SKINTOP®** Cable Glands are patented and internationally approved with protection to IP68. This versatile design has sealing, fixing and strain relief in one simple movement. The glands are secure with smooth turning, multiple threads and a large variable clamping range. They are made of strong high impact polyamide.

CATALOGUE INFORMATION CAN BE PROVIDED UPON REQUEST FOR ALL PRODUCTS ADVERTISED.

MC AUSTRALIA

## Multi-Contact Australia Pty Ltd ACN 001 312 438

SYDNEY
53-55 Whiting Street
Artarmon NSW 2064
Ph (02) 438 3600
Fax (02) 438 4737

MELBOURNE
10 Nicholson Street
Coburg Vic 3058
Ph (03) 383 3733
Fax (03) 383 4526

BRISBANE
3/80 Webster Road
Stafford Qld 4053
Ph (07) 856 4200
Fax (07) 856 4681

PERTH
3/1904 Beach Road
Malaga WA 6062
Ph (09) 249 3003
Fax (09) 249 4912

**CIRCLE 152 ON READER SERVICE CARD**

SPECIAL FEATURE

# CABLE TOPICS: We quiz the Lighting firms

We asked some leading lighting firms:

**1. What is you general percentage of capital outlay on cabling and power distribution?**

*CLS* - Difficult question to answer as luminaries can cost between $150.00 (par can) and $25,000.00 (PC Spot). Outlay to cable one par can or 2K instrument might average $200.00 plus patching $100.00, dimmer $125.00, power distribution $50.00 and mains cable $50.00.

*Arena Technical Services:* - 30% of the instrument cost.

*Laser Light & Sound,* Brisbane: - Approximately 10%.

*East Coast Lighting,* Brisbane - About 10%

**2. Which cable and connector brands do you prefer and why?**

CLS - We use Olflex multicore cable for power distribution from our dimmers to luminaries. It is a high quality PVC cable and it is economical. Naturally synthetic cable would be better but are extremely expensive when you consider the quantities that large rental companies keep in stock. I am sure many UK and USA companies believe that it is better to invest in high capital outlay in "Rubber" cables and achieve a longer life from that product.

We use Socapex multipin connectors exclusively. They are superior to Weiland, allowing us to run 6 x 3 wire circuits per cable. They are robust and can be done up with one hand and are considered industry standard in the UK. The SL-61 series connector that we use has gold plotted 30 amp pins. New versions are now available with crimp in contacts.

*ATS* - Socapex because of their international standard.

*LASER* - Kroschu and Wieland as they are flexible, hard wearing and the most common standard in Brisbane.

*SHOWCORP* - Clipsal plugs and sockets, Multi-contact and camlok 3 phase mains connectors, Multi-contact, Wieland and Socapex multipin connectors, Kraflex multipin cable and Belden control cables.

*EAST COAST LIGHTING* - Wieland connectors, Kroschu cable and Multi-contact Australia.

**3. Time and Labour - how much time does it take to make cable looms?**

*CLS* - We believe that it is important to spare "no-expense" terminating cables which must also be done to exact company standards. Five minutes saved in the factory could cost someone hours lost trying to track down a fault on site. making looms out of cables also saves a lot of time at each set up. However it is generally uneconomical to prepare looms for one off shows. Touring is different. Multiple set ups mean well prepared looms save time and money and reduce the chance of wiring errors.

There are many considerations to be made in preparing cable looms such as lengths required, route to be taken on and above stage, are dimmers going to be relocated at any venue because of stage access or house mains supply, and how much slack is required. It is because of the many variables to be considered only one person who has had a lot of hands on experience will be in a position to prepare a neat set of looms.

*ATS* - On average one cable takes about one and a half hours. Common sense required.

*LASER* - Typically we do 6 to 8 looms in a day, 12 - 16 headers/tails. Can be done by anyone with sound wiring and technical skills.

**4. Who is the cable making 'star' in your company?**

*CLS* - Our cables are prepared by a number of people in a systematic order. Production Managers Richard, Grant and Louise make experienced decisions as to length and layout and hand "loom lists" on to Joe and Kim to prepare. Our newest employee and qualified electrician Leigh, is our socapex 'star' having completed 26 headers in two days.

*ATS* - Michael Hewitt.

*LASER* - All of us! (Modest, huh?)

**5. How much have you spent in recent years upgrading power distribution to comply with standards? And have you any general comments on electrical standards/laws/industry practices?**

*CLS* - CLS have always maintained a high standard of safety in both rigging and electrical equipment. To date we have a perfect safety record and shall continue to listen to both our customers and the authorities to ensure it remains that way.

There will always be some trade offs between complying with all authorities and what is practical for temporary installations. Sometimes it is less expensive to bring in hired generators rather than comply to authorities rules and regulations for tapping mains supplies, even when they are just where you need them.

Queensland's regulations on tagging all electrical equipment seem like they were designed for other industry. A large lighting rig may contain thousands of individual cables and electrical instruments with authorities requiring everyone inspected and tagged each time it is hired out. The banning of the 'piggy back' plug was obviously to protect the amateur handy man but has made life a little more difficult for many industry professionals.

*ATS* - We have spent about $50,000.

*LASER* - We have spent approximately $10,000 and I think their fair and practical although 463's (piggy backs) are a problem.

*EAST COAST LIGHTING* - In the last three months we have spent $25,000. Laws are fine as long as everybody sticks to them.

**6. How much power would you need for a: a small show (ie:30 amps or 55 amps per phase for lighting), b: a large show and c: what is the maximum ever requested?**

*CLS* - Two things need to be considered here. That is, power required to run the desired equipment and power available. Our shows have required power from 10 amps single phase to 1200 amps per phase over multiple three phase supplies.

*ATS* - a: 90 per phase b: 200 per phase c: 300 per phase.

*LASER* - a: 30A/phase b: 55A/phase c:55A/phase.

*EAST COAST LIGHTING* - a: 30-55 b: 100-300 c: 500/phase

**7. How much money would it cost in power consumption to run the shows above?**

*CLS* - No idea.

*ATS* - a: $300 b:$600 c:$1000 (2 hrs + reh.)

*LASER* - a: $100 - $200 b/c: $500.

**8. Which vendors have the most reliable and cost effective power sets?**

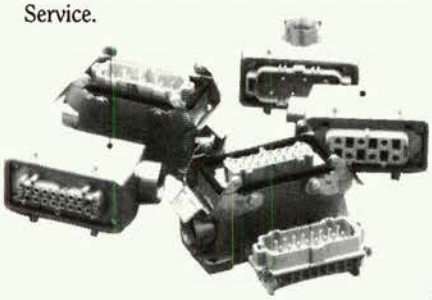
*CLS* - Aggreko must be one of the worlds' leading suppliers of silenced generator sets. They have a lot of very new units in Australia.

*ATS* - Aggreko Generator Rentals.

*LASER* - McFarlanes in Brisbane.

*SHOWCORP* - Aggrecko and McFarlanes.

*EAST COAST LIGHTING* - Generator Hire Service.



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|---|---|---|
| N.S.W. | Turramurra Music... | 449.8487 |
| | Parramatta Fre Sound... | 633.5244 |
| | Muso's Corner... | 049.29.2829 |
| | Music Headquarters... | 049.529.222 |
| VIC. | Brashs Music... | 654.6544 |
| | Allans ... | 654.8444 |
| | Music City... | 529.6474 |
| S.A. | The Rock Shop... | 212.7933 |
| | Pro Co Stage Sound, Whyalla... | 084.459.967 |
| QLD. | Video Pro... | 236.2933 |
| | Video & Audio... | 870.0300 |
| | Musicians Pro shop... | 854.1577 |
| | Musicians Pro shop... | 075.753.955 |
| W.A. | Music Man.. | 451.8944 |
| | Sound Barrier... | 090.217.791 |
| | Sound Barrier... | 099.642.548 |
| | Collins Music... | 097.212.020 |

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# WATERTIGHT CONNECTORS

Multi-Contact A.G. of Switzerland have introduced a new watertight single-pole line connector protected to IP67, with contact diameters of 10mm and 14mm for current ratings from 130 to 280 amps, depending on the conductor cross section selected (25, 35, 50, 70 or 95 mm²).

Special rubber contact carriers are employed, keeping all water, dust or dirt away from the contacts.

The contacts are the well proven MC® Multilams which are currently employed in power systems around the industry. Locking to prevent inadvertent disconnection is achieved through a snap-in lock within the rubber contact carrier.

Multi-Contact A.G. are represented in Australia by Multi-Contact Australia Pty. Limited. Telephone: (02) 438-3600

## *H-BE EPIC SERIES RECTANGULAR INSERTS*

Contact of Germany have released new rectangular inserts for their H-BE Epic series connectors, utilising high quality machined contacts that can be rapidly inserted or removed with the half turn of a standard flat head screwdriver.

This efficient system allows for fast contact replacement by the insertion of the minimum number of pins required for the job. Male or Female pins can be crimped or soldered. Single or double earth variations are available. These new inserts fit into Contact's industry standard housings and are available in 6, 10, 16, 24 and 48 pin configurations.

Contact are represented in Australia by Multi-Contact Australia Pty. Limited Telephone: (02) 438-3600.

# GOING DIGITAL?

## *Advice From Gotham*

As we all know,, the AES-EBU Digital Audio format is a square wave signal running at up-to 60MHz, configured for a balanced 110 ohm impedance line and connected via XLR connectors.

The common procedure is to use any available balanced cable. This is not the sensible approach.

The use of standard two conductor microphone cable for digital signals will result in poor transmission, loss and corruption of data due to the impedance mismatch between the cable and transmission system and the skin effect at high frequency. These problems are particularly acute when the cable length is greater than the signal wavelength, typically 3 to 5 metres.

The ideal transmission line would be a coaxial cable as used in video, but unfortunately this is not possible due to the balanced format requirement.

Gotham Cable has specially developed a 2 x 0.34mm (2 x 22awg) double shielded digital cable with a 110 ohm twin-ax design which permits AES-EBU transmission over long runs (100m) without problem.

*NB: Some systems are configured for 240 ohm impedance; these should be terminated with a 203 ohm resistor to configure the system for 100 ohm use.*

More info from Southbank Trading, Phone (03) 699-7809.

# New Multicore

Gotham have released the long awaited GAC12FB (0.5 foil) multicore cable.

Construction is that of a strong outer case/jacket which contains 12 internal microphone cables, each with separate shield and separate jacket. This cable is specially designed to be used for fixed audio connections, mainly in broadcast stations employing the Krone-LSA connection technique.

The cable retains the unique feature of Gotham's internal dry lubricant to assist with flexibility and help maintain integrity.

It is said to be extremely fast and easy to terminate and should reduce the installation time of most jobs considerably.

With advanced orders flowing -some in excess of 10,000, *(10,000 WHAT? Metres, miles, inches ....? Editor.)* Gotham are already touting GAC12FB as being a winner.

*Further information can be obtained from: Southbank Trading Ph. (03) 699 7809*

## *New Idea For Determining Cable Lengths!*

For all the engineering and maintenance staff who failed the Commonsense course at school, Gotham have come up with the solution.

On the new multicore cables, Gotham have striped the cable with a continuous numbering system to help check cutting lengths when making up new multicore cables.

This should help reduce the risk of cutting cables too short, thereby saving large amounts of money. *(It assumes you CAN count!)*

It also saves the embarrassment of looking like an idiot when your caught standing about 4 feet away from the termination point with the end of the cable in your hand.

*Asia's Largest Professional Sound & Lighting Event*

# Pro Audio & Light Asia '93

The 5th Annual International Trade Exhibition for Professional Recording, Sound Reinforcement, Duplication, Lighting, Lasers, Special Effects and Associated Equipments for the Leisure, Presentation, Entertainment and Related Industries for the Entire Asian Region

## JULY 7-9, 1993
## WORLD TRADE CENTRE, SINGAPORE
### *(NEWLY - CONSTRUCTED EXHIBITION HALLS 4, 5 AND 6)*

Heavily promoted throughout the entire fast-growing Asian region, this exhibition has been quickly established itself as a crucial platform for expanded sales in the area.

Official group participation from the UK and Italy will again support this important annual event. Response from the rest of the industry is also highly positive. Confirmed individual participation already includes international manufacturers from Continental Europe, USA, Japan and Australasia. As such, there are only few stands left. We are now also looking at various options of having an overflow area in order to cope with the increased demand of stand spaces from exhibitors.

If you wish to consolidate your market share in the rapidly-expanding Asian market and meet the entire Regional users, then you must let us know immediately to guarantee your space reservation.

## LIST OF CONFIRMED EXHIBITORS (as of Feb 28, 1993)

### UK Pro Audio & Lighting Group

Organised by Professional Light and Sound Association (PLASA) with the British Government. Many well-known manufacturers will be participating in this Group. The UK companies who exhibited at the '92 show were:

| | | | |
|---|---|---|---|
| AMEKTAC | Cloud Electronics | Lighting Technology | SCIF |
| ARRI | Drawmer | Martin Audio | Soundcraes |
| C-Audio | Expotus | Millibank Electronics | Tricent |
| Celestion | Gerriets | Omniphonics | Wharfedale |
| Cerebrum | Hill Audio | Saturn Research | Zero 88 |
| Citronic | Laser Systems | | |

### Italian Group

Organised by the Italian Institute for Foreign Trade (I.C.E.) in co-operation with the Association of Italian Discotheque and Theatre Equipment Manufacturers (APIAD). Participating companies will include many well-known manufacturers. The Italian companies who exhibited at the '92 show were:

| | | | |
|---|---|---|---|
| Best Light | FAL | La Novalight | SGM |
| Clay Paky/Pulsar Light | FLY | LED | Spotlight |
| Coemar | Griven | Lampo | Studio Due |
| CTM | King's Sound | | |

### Individual Exhibitors & Represented Manufacturers

| | | |
|---|---|---|
| Acustica Beyma (Spain) | Gauss (USA) | Nady (USA) |
| ADC (USA) | Gemini (USA) | Nexo (France) |
| Adtec (Germany) | Geni (Taiwan) | Neo-Neon (Hong Kong) |
| Alcatel (Australia) | Globe Precision (Singapore) | Nobler (USA) |
| Altec Lansing (USA) | Heino Ilsemann (Germany) | Numark (USA) |
| Amcron/Crown (USA) | High End Systems (USA) | ODME (Netherlands) |
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* *With the show still several months away, many more international companies will be participating. Their names are not currently listed above pending final decision.*

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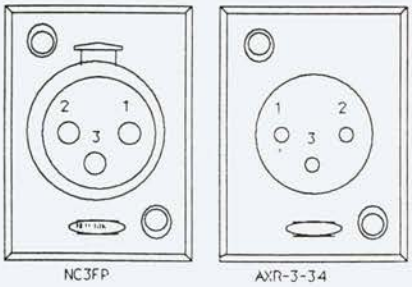
# Standards and Conventions, audio cables

### *Microphones*

All professional low impedance balanced microphones use the XL type connector. There are some semi-domistic 9high impedance, unbalnced) microphones that use 6.5mm jack plugs.

There is a common myth that there are two standards for microphone wiring, but there is only one, IEC 268(i), issued in 1975 and signed by 17 countries including Australia, the USA, the UK and Japan. That just about covers the civilised audio world!

This is how you wire a microphone XLR:




| | |
|---|---|
| PIN 1 | GROUND / SHIELD |
| PIN 2 | SIGNAL HOT / IN PHASE |
| PIN 3 | SIGNAL COLD / OUT OF PHASE |

The sex of the connectors is also dealt with in the standard. This is:

| | |
|---|---|
| Mic output: | Male 3 pin chassis. |
| Mic end of mic cable: | Female 3 pin cable. |
| Stage box end mic cable: | Male 3 pin cable. |
| Stage box, wall box input: | Female 3 pin chassis. |
| Mixer end of multicore: | Male 3 pin chassis. |
| Mixer input: | Female 3 pin chassis. |

General interest: XL type connectors have Pin 1 longer than the other two, this causes the earth to be connected FIRST, eliminating bangs and plops. Neutrik, Switchcraft and Alcatel all make XL connectors, also known as 'Cannons'.

### *CRAPPY OLD STANDARDS:*

NSW Government once had a dopey standard that microphone connectors were wired Pin 2 Hot, but with a female to female format. The ABC once had a standards where Pin 2 was earth.

### *JACKS*

Well, the tip is always HOT, or +. If it's a 3 contact jack, then the end is the tip, the centre is the ring (usually - or cold) and the sleeve is the earth or sheild.

### *SPEAKERS*

***Cannon AXR***

Here you get every possibility known to man. It's fun trying to sort this lot out!

For many years Jands used the 3 pin XL as a speaker connector, and specified as follows:

Pin 1: common or -,
Pin 2: no connection,
Pin 3: Hot or +.

This speaker wiring convention has a female XL type connector at each end. There are some variations to this:

### *BOSE: XL standards.*

The standard for Bose, including the 802 which is very prolific, is:

Pin 1: common or -,
Pin 2: Hot, or +,
Pin 3: Hot, or +.

In fact, pin 2 & 3 are linked.

There is today a new BOSE variation, used on the new PanArray loudspeaker. This is:

Pin 1: common, or -,
Pin 2: Hot, or -,
Pin 3: common, or -.

This is Pin 1 and Pin 3 linked.

### *Good advice re. speaker cables:*

Connect all three XL pins. Do not bridge, or link, any pins on your speaker cable. Wire your speaker cables using 3 core, 10 amp mains flex, with the XL at eack end, not a mains plug!

### *AVOID THE XL CONFUSION: USE SPEAKON!*

The Neutrik Speakon, is fast becoming the international standard in loudspeaker connectors.

It is a four pin, high power handling connector and very robust. One problem with the connector is the twist action required once inserted, many first encounters with Speakon assume the thing isn't working when connection isn't made - a twist is required to lock the thing into place.

Thankfully an industry standard has arisen, which is:

Pin 1+: Hot, or +
Pin 1-: Common, or -
Pin 2+: no connection,
Pin 2-: no connection.

There is also a bi-amped standard for this Speakon, and also an 8 pole version, which is naturally enough, a larger connector.

### *Speakon Bi-Amp and 8 pin wiring:*

The NL-4 is often used for bi-amped wiring, in this case the Pin 1+ and 1- operate to the woofer, and the 2+ and 2- pins operate to the horn.

For up to 4 way speaker cabinets, the Neutrik NL8 can be sued, wired as follows:

Very low: Pin 1+, 1-, L/F: Pin 2+, 2-, High freq: Pin 3+, 3-, very high freq: Pin 4+ & 4-.

-SEE PAGE 65 for EP CONNECTOR WIRING-

## Hype & Reality.

Do HiFi enthusiasts really get value when they speand as huge money on Monster type cables for their home rigs? Not likely.

What you need is plenty of current handling capability. Typically 10 amp cable is perfectly OK for running most PA cabinets. If the run is more than 20m, use 15a cable.

## Solderless XLR!

Alcatel announce the AC Audio connector, which is solderless. You simply insert your wires (un stripped) into the head of the connector, then screw the end cap on tight. The effort required is greater than you'd expect at first, but you are clamping the thing onto the un-stripped cable, which is forced to make positive contact with the connector, so the effort is rewarded. A shifter is the best insurance for a good connection.

Alcatel make a couple of auto-tightening type machines if you are in the business of wiring a lot of connectors - but for you and I, out in the field, no machine is needed. Just shove the wires in, and tighten. It works, we've tried it!

The AC takes about 30 seconds to wire once you are in the groove- it is truly a time and hassle solver! If you make multicore cables, it is a serious money saver. Call your Alcatel office, or phone (03) 555-1566.

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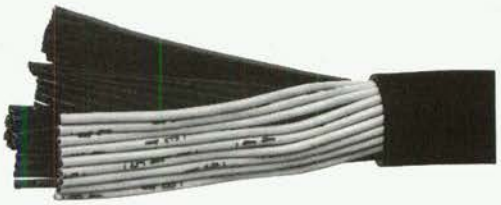


### *High Definition Microphone Cables*

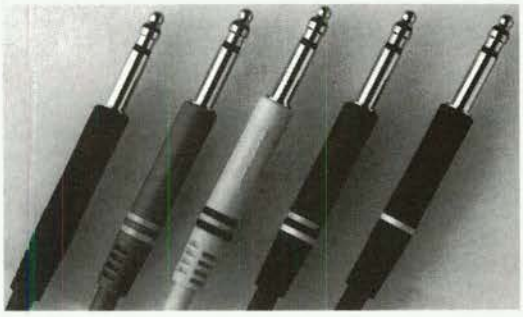
Mogami's microphone cables feature "Neglex' OFC (Oxygen Free) manufacture providing maximum definition and fidelity. Well suited for use in Live Stage and Broadcast applications. Available in Quad and balanced version, the range of microphone cables are very durable and remain extremely flexible due to their rubber-like PVC jacket. All Mogami's microphone cables use special XLPE insulation which provide excellent electrical characteristics and prevents shrinking during soldering. Available in various colours and diameters.

### *"Neglex" High Definition Speaker Cables*

Designed to give maximum performance from state-of-the-art tri-amp systems. These cables offer true audiophile performance with clear transparent response and a rugged super flexibility for the most demanding applications. Each conductor features 224 strands of "Neglex" OFC. The outer jacket is a tough, high profile matte black super flexible PVC, Available in 2, 4, 6 & 8 conductor sizes.

### *Long Frame and Patch Leads*

Mogami Patch Leads are the world's first definition patchleads for recording and broadcast studios and other professional applications. Features a super-flexible Quad "Neglex" OFC cable moulded to a durable nickel plated T/R/S connector. Interchangable colour coding rings allow for easy identification. Available in five colours and various lengths from 30cm to 180cm.



### *AES/EBU Digital Audio Cable*

Specially designed for use in digital audio applications, this new cable meets AES/EBU specifications for digital audio transmission. Because of it's exact design specification it alleviates problems that are associated with using standard microphone cable for digital transfer. With an overall diameter of 5mm, the cable is easy to terminate to all professional connectors including standard AXR plugs. Construction consists of two conductors and a drain wire with an overall shield.

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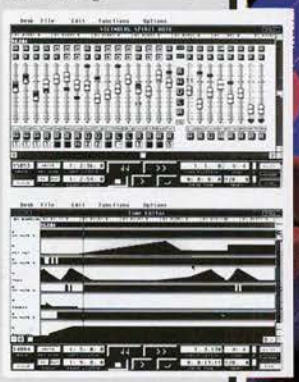

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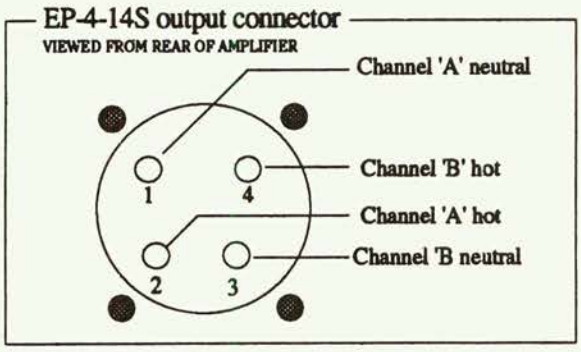
CIRCLE 122 ON READER SERVICE CARD

# EP Speaker Connectors: standards and wiring




The basic Cannon EP range of connectors come in a number of pin configurations, but the most commonly used are 4 and 8 pins.

**For bi-amp, 4 pin wiring, we suggest:**

| | |
|---|---|
| Pin 1 | Low frequency, common |
| Pin 2 | Low frequency hot |
| Pin 3 | High frequency common |
| Pin 4 | High frequency hot |

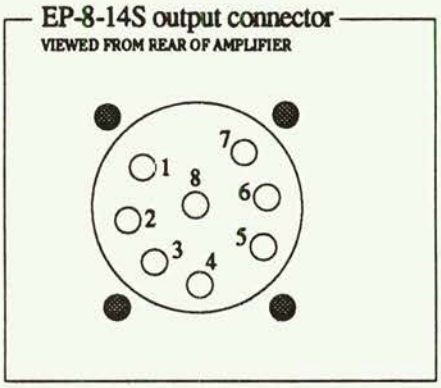
The most common variation of this wiring is a reversal of the phase on Pin 3 & 4.

A 4 pin EP cable is usually constructed female to female, with both amplifier and speaker cabinets being fitted with chassis male connectors.

**EP-8, 8 pin.**

This is often used on three way active PA enclosures. Jands use this on AP series cabinets, and Jands Production Services use it on the Clair Bros.S4. Most Turbosound TMS-3 cabinets in Australia also use the EF-8. The Jands standard for three way active wiring is:

| | |
|---|---|
| Pin 1 | Low freq, common |
| Pin 2 | Low freq, hot |
| Pin 3 | Mid freq, common |
| Pin 4 | Mid freq, hot |
| Pin 5 | High freq, common |
| Pin 6 | High freq, hot |
| Pin 7 | no connection |
| Pin 8 | no connection |




*From 'The Connector Bible', by W. Peter Twartz, available for $10 from Jands, PO Box 171, St Peters 2044 NSW.*

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CIRCLE 114 ON READER SERVICE CARD

# Inside the Sydney Entertainment Centre

On May 1st Sydney Entertainment Centre celebrates ten years of business and it was recently Performance Magazines 'International Facility Of The Year' award winner. It finally broke the monopoly of The Wembley Complex in London which had won the award every year since 1988. In the year 1991/92 gross box office sales totalled $28,100,467, an increase of 8.8% over the previous year. In 1992, The Sydney Entertainment Centre also achieved the coveted No.1 position as the top grossing venue in the world in the category of venues with an audience capacity of 10,000-15,000. It's top grossing show was Jesus Christ Superstar followed closely by Neil Diamond.

Denis Braham is the Technical Director with Arena Management Pty Ltd, who are the operators of the Entertainment Centre, and he has held this position since that opening ten years ago.

"My main duties are to look at the on going and long term technical maintenance of the building," Denis said. "That involves basically keeping the building up to scratch in all technical areas. The building has been a very flexible building from the point of view of the different sporting events, family shows and rock shows it has with the different seating modes. Subsequently there's quite a lot of on going work as far as maintaining that flexibility with entertainment shows having different requirements all the time.

*Upgrades are planned for the near future . A reappraisal of the acoustics is in the pipeline!*

A really memorable event revolves around audience reaction, just the overall aura and vibe you see and get from an audience. Up until this point in time, I personally think one of Jeff Fenicks early title defences he had once particularly memorable. Obviously he was defending his title against an overseas opponent and had the crowd on his side but to have over 11,000 people chanting his name was really quite, to me, overwhelming. I thought a similar type of vibe was the crowd reaction on the last U2 show here and another overwhelming spectacular was Pink Flloyd back in 1988."

Denis claims that the most technically challenging event ever staged at the SEC was simply getting the building open with a fund raising television gala spectacular produced by Channel 9. It was a very involved show with a cast of thousands and it was designed in an arena mode where by the arena floor was the whole performing area. Even by todays standards the show was quite a fantastic event and very demanding. Apparently the producers relied a lot on what where in house facilities from in built hoisting equipment up in the roof to the lighting system installed in the building. Over night the centre had to go from being a building site to a venue.

"Rock shows are all touring events with full production so the building simply needs to accommodate them, " said Denis. "Those shows are technically demanding on the production company servicing the event. We upgrade three phase power supplies every month because of the different demands in staging, Vari*lites, audio etc. The other demands have been in just converting the building into the different modes we have here especially in the first five years when there were fewer venues around. We have an annual event called Super Cross when the arena floor is filled with dirt for the motorbikes. The event finishes on a Saturday night and, after a two day bump out, we've presented a philharmonic orchestra at the end of the week. There have been some very tight turn around usually with sporting events proceeding live entertainment.

Denis states that the building is not the biggest indoor arena in Australia and it's certainly not the newest but he believes that it's the most well oiled. Upgrades are planned for the near future to assist users of the building particularly rock shows which put the biggest demand on the building from the point of view of accommodating the production. Compared to other venues the roof is not too bad to hang out of and rig shows in. As rock shows get bigger in design and the stage grows wider, more rigging points are required so more steel webbing is going to be added to the roof. At the moment there is a reappraisal being done of the acoustics in the building whereby some seating samples have been taken to the national acoustics laboratory. Other measurements have been taken whilst shows are on in an effort to add some acoustic treatment to the concrete facers simply for when there are the subtle shows like Pavarotti. On the rock shows in particular, the base end rumble in the building is not liked by sound engineers and so that is being corrected with some acoustic treatment also to the concrete facers. The other maintenance programmes involve standardising the division curtains and adding some monorail tracks for them as opposed to being separately point rigged.

With promoters recently looking to outdoor venues like Parramatta and Eastern Creek, I asked Denis if it has effected business at the SEC.

"Events going outdoors obviously effects business here," he replied. "We're hoping that it's a trend for the current touring season and next year there won't be so many of them!"

There are seven other technical staff at the arena and they are Arthur Carruthers (Operations Manager), John Dedousis (Head Rigger), David Sykes (Head Mechanist), Robert Wozniak (Electrician), Steve Heveren (Electrician), Rod Starke (Mechanist) and Keith Cooper (Audio/Video Tech).

# DMX 512 Explained. Part 3

**By Gary Pritchard**

## What is DMX-512?

**SERIAL COMMUNICATION** *(continued)*

So recapping all of that we can now explain that DMX512 is a standard that specifies **D**igital **M**ultiple**X**ing for transmitting up to 512 dimmer levels down a single pair of wires. As well as the electrical specification, the DMX512 standard also includes definitions of the type and sex of connector and the pin connections that must be used.

It should be noted however that DMX512 is only one standard for doing this. Other standards for doing the same thing exist from various manufacturers. The bonus of DMX512 is that it is specified by an independent international body that makes no monetary or political gains from its specification or use. The standard was formulated and is monitored by an international collection of 32 committee members (of which I am one) that hail from various sections of the industry. These include manufacturers, lighting designers, specifiers and rental company operators. This makes the standard truly international.

**PRACTICAL APPLICATION:**

Having this cable that now has up to 512 dimmer levels being sent down it, how does any dimmer know which levels belongs to it and which don't? The electronics inside the dimmer has the ability to pick out any of the dimmer levels that it desires but we need a way to tell it which ones to use.

This is usually achieved by using what are termed address switches. These switches tell the dimmer which channels in the DMX512 data stream that it should use for its control.

In the case of LSC product, we use three switches on our digital products that can be set to select any starting address or channel number. Therefore if we selected 147 on these switches the first circuit on this dimmer would respond to dimmer level 147 on the DMX512 cable, the second to 148, the third to 149 etc.

Other manufacturers may do their dimmer addressing in a slightly different manner. What they provide is a set of switches that specify a dimmer pack starting number. Thus dimmer pack number one will respond to channels 1 through to 12 on the DMX512 cable; Dimmer pack 2 will respond to channels 13 to 24, etc. I don't believe this system is as flexible as ours but it is certainly a valid way of doing it.

A common situation arises when people are considering new equipment and would like to take advantage of DMX512. We often get the question "I have to replace my control desk but the dimmers I own are working fine and I don't want to (can't afford to) replace them. Can I buy and use a desk with DMX512 output"? The corollary to this is of course "I need new dimmers but I only bought the desk last year and it only gives an analog output. Can I buy DMX512 dimmers". As there are a large number of these type of situations existing the basic problem is to be able to convert from analog to digital or from digital to analog.

The answer to these questions is yes. Products do exist that will convert from analog to digital and vice versa. When converting from analog to digital the product is termed a Multiplexer and when converting from digital to analog it is known as a De-multiplexer.

We make a product called the LINKLIGHT that performs these functions. Although the front panel says it is a multiplexer the Linklight in-fact is switch selectable to be a multiplexer or a de-multiplexer. Again address switches are used on this product for address selection.

**ADVANTAGES OF DMX512:**

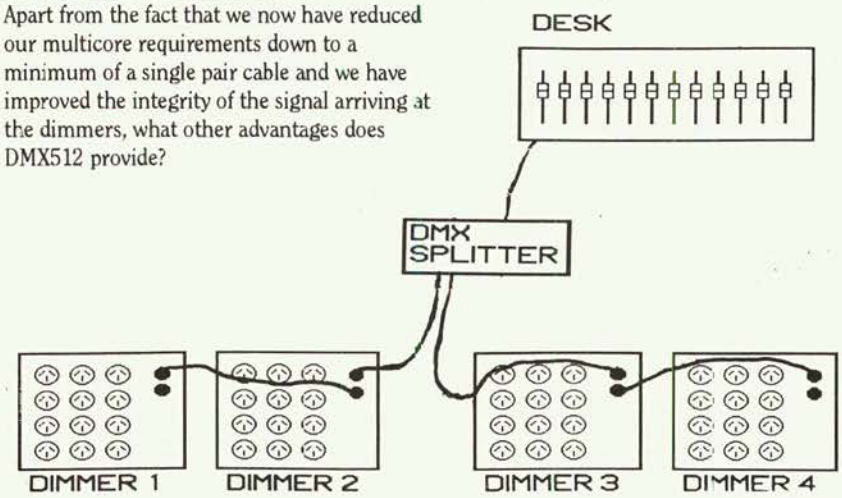
Apart from the fact that we now have reduced our multicore requirements down to a minimum of a single pair cable and we have improved the integrity of the signal arriving at the dimmers, what other advantages does DMX512 provide?

(1) Ablilty to parallel dimmers easily. It is fairly common in a lot of situations to run lamps in pairs one on each side of the stage. To achieve this we can run a 240 Volt cable from one side of the stage to the other and connect the two lamps into one dimmer circuit.

Alternately, we could place two dimmers, one on each side of the stage, and if they were analog dimmers, make up an ugly multicore to connect the two.

However if they were digital dimmers or analog dimmers and demultiplexers, all we need to do using DMX512 is to connect the dimmers onto the same DMX512 line and select the same address on both dimmers or demultiplexers.

(2) Distributed dimming. Consider the problem of lighting in a large arena. Here the best alternative to use is to distribute the dimmer racks around the arena in the locations that they are needed. If we used and analog system, the analog multicore wiring would be a nightmare. However, with a DMX512 approach the interconnection is simple. This is exactly what happened for the Opening and Closing ceremonies of the Commonwealth Games in Auckland last year. The lighting system set up and operated by Selecon, consisted of a control desk, a DMX512 splitter and two 1km DMX512 cable runs heading in opposite directions around the arena.

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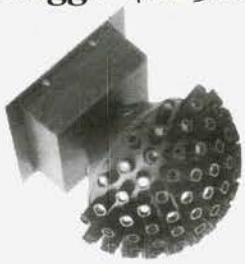

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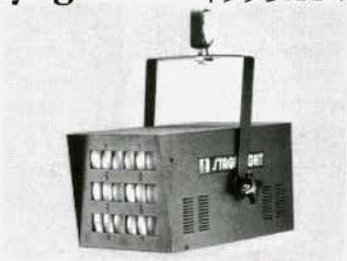

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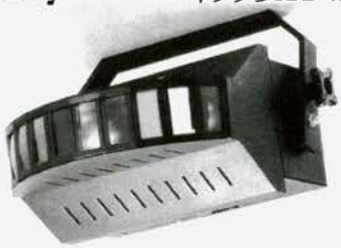


*Product Code EFFX20*

## Stormtrouper $1250 *RRP inc.tax*

*Product Code EFFX21*

## Ignitor / Jet Strobe

***Tubes*** ***$280*** *RRP inc tax*
*Product code STRO45*

***Pro Controller*** ***$699*** *RRP inc tax*
*Product Code STRO50*

***DJ Controller*** ***$325*** *RRP inc tax*
*Product Code STRO55*

***Various accessories available.***

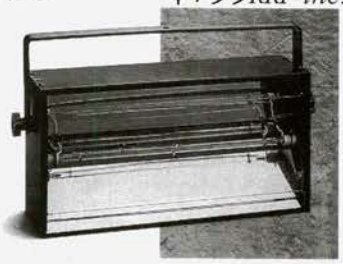
## Tricorno $995 *RRP inc.tax*

*Product Code EFFX22*

## Strobe $999 *RRP inc.tax*

*Product Code STRO25*

## Strobe $799 *RRP inc.tax*



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## Strobe $269 *RRP inc.tax*

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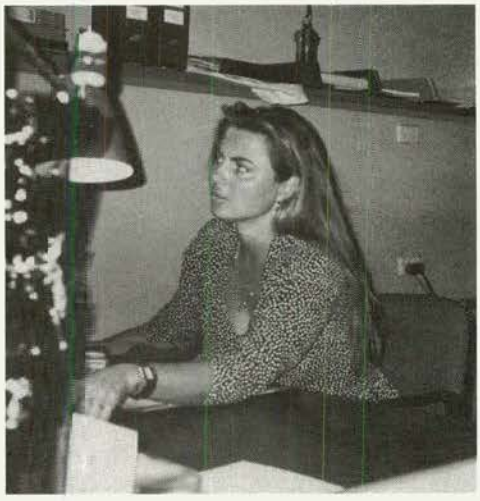
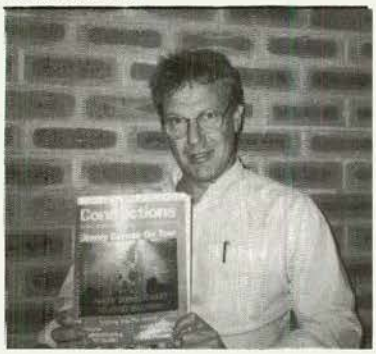
*Recording at Megaphon Studios in Sydney (Midnight Oil's favourite studio) are Michael Stringfellow (left) with Producer Wayne Connolly, and Mark Tobin of band SCARLET.*



*Liz Haussegger of 'Call Lizzie' (03) 696-2500 - production co-ordinator, casting & special studio projects. Melbourne based.*

*At Rimini: Jon Petts (l) and Mike Wood (right) of JEM, with LAVA boss and original Lightmoves founder Rod 'Golden Scan' Salmon.*



*Connections reader Denis Braham, pictured at ATS getting prepared for major lighting events on May at the Sydney Entertainment Centre. See UPDATE pages this issue.*

# DOWN AND OUT

*David Patmore & Tony McDowell from Music link, during a break in the crush at RAVA's MIDI show*

*At Rimini, Lightmoves Sydney boss Jonathan Ciddor (L) & Paul Owens, & LeMaitre expert (R)*

*Beau & Frances Smith, popular Sydney act. Worth catching somewhere soon.*

*Here is Braham Ciddor in Melbourne, at Lightmoves open house, awarding a door prize to Rob Viravec - of Disco World. The opposition!*

## *NOSTALGIA CORNER*

*Our faithful historian has found this mouldy picture of Howard 'The Legend' Page, taken circa 1974.* ***Place:*** *Roof of Sydney's Victoria Park swimming pool.* ***Event:*** *free Sherbet concert for Radio 2SM.* ***Sound:*** *Early Jones PA, complete with castors on the back of the 2482 horn flairs! (See Howard Page story elsewhere)*

*James Reyne's tour manager 'ROCKET' aka Gary Fox (we think) asked not be photographed. So here he is at left.*

# Connections
# National Classifieds

## EQUIPMENT FOR SALE

**24 track** 2" tape recorder. 3MM79. Spare parts machine. 50 x 2" tapes. $15000 ono. Vic Kasper-8 Kulan Cr Mudgeeaba, phone (075) 886 502

**Abbey Boogie** combo $600. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Alesis 1622** 16 channel console $1420 phone (03) 467 5346.

**Amcron PB1** 200 watts per channel power amp. $950. Melbourne PA & Stage. Phone (03)578 1234

**Amplifier**- Mosfet rack mount amp, stereo, 500 watts per channel, excellent for PA. $870. Phone Graeme (03) 783 7900 BH, or (03) 776 5429 AH.

**ARX 6 DI** $600 each . Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Australian Monitor** AM1200 Quad Amp. 4 channel @ 300watts or 600 watts/channel stereo. Great Monitor Amp. $2100. CC'S Light & Sound ph 008 803 064

**Brooke Sirens FDS320**. Stereo two way Crossover, mention this ad $1050. Melbourne PA & Stage. Phone (03)578 1234

**BSS 320-340** $1000. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Canare 32 Way Multicore**. New 15m Cannon AXR foldback split,quality cable. $650. CC'S Light & Sound ph 008 803 064

**Carvin 100** head, valve with graphic and reverb $1000, mint. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Crown DC300A** 300 watts per channel power amp. Excellent condition. $850. Melbourne PA & Stage. Phone (03)578 1234

**DAT Recorder** Teac DA-P20, portable battery or mains, balanced & unbalanced mike/line inputs, digital in & out, leather case, mains adaptor & 2 rechargable batteries, as new $1695> Phone (03) 696 7819.

**DBX 160X** compressors $1300 pair. Phone (043) 84 1546

**Digital Delays** from $250. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Digitech DSP** 256 delay $600. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Digitech RP-1**. New $1395. Only $1200 if you mention this ad. Melbourne PA & Stage. Phone (03)578 1234

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**DOD 31** Mono $300. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**DOD 31** Stereo $500. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Drawmer DS201** Dual balanced noise gate $850. Melbourne PA & Stage. Ph (03)578 1234

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**DSP128** $450. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Dynalite Tour Series**, 12 channel dimmer desk and multicore. $1800 the lot. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide

**Dynamix** 24-8-2 in road case $2200. Phone (043) 84 1546

**Etone** 12" horn, quality $500. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Etone** concert wedge $600 each. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**EV 3way TL**$1400 pair. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**EV FM12-2** wedge $400 each. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**EV TL** Bass box $450 each. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Fender Strat Plus** $1200. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Fender Strat**, early 70's, EMG's $995. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Gallien Krueger** 250ML guitar combo, great sound $750. Melbourne PA & Stage. Phone (03)578 1234

**Gibson Les Paul** mint $2000. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**H-H M900** Amps $1200. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Jands 510** Power amplifier. 500x x 500w. excellent condition $1490. CC'S Light & Sound ph 008 803 064

**Jands 516** $2100. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Jands 920** $1200. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Jands ESP 36** Lighting Console, analog & digital outputs. New in carton $2900. CC'S Light & Sound ph 008 803 064

**Jands J300** $400 pair, phone (08) 380 5518.

**Jands J600** $700. Phone (043) 84 1546

**Jands JM10** 12 channel like Soundcraft 200 $1400. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**JBL 1200 subs** $1200 each. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**JBL 2202** (2) and 2 Roys $800 pair. Phone (043) 84 1546

**JBL 2225** $350 Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**JBL 2440-41** $600 Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**JBL 2445** 2" compression .drivers $750 each. Melbourne PA & Stage. Phone (03)578 1234

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**AM500** $2500 pair. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**JBL E120** $259 Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**JBL K120** $200 Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**JBL System 1400** $2300 each. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**JBL wedges** $1300 pair. Phone (043) 84 1546

**Klark Technic** 30, 30-30, 360 $2000 each. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Klipsch** 600 watt 2 x 18" subs. Excellent condition. $3500 pair. Melbourne PA & Stage. Phone (03)578 1234

**Kodak Carousel** SAV-2000 Projector. Excellent condition, complete $550. Melbourne PA & Stage. Phone (03)578 1234

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**LSC Tour** Digital Dimmers 12 channel, Rack Mount & 3 phase fitted. $1890. CC'S Light & Sound ph 008 803 064

**Marshall** early 70's 100 watt head, mint condition $1200 Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Marshall JCM 900** 50 watts $1200. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Marshall JCM800** 2 x 12 " duo. Great condition. $950. Melbourne PA & Stage. Phone (03)578 1234

**Marshall JCM800** 100 watt bass head $695 Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Marshall JCM800** 100 watt head $850. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Marshall JMP** 100 watt head, sought after model. $950. Melbourne PA & Stage. Phone (03)578 1234

**Marshall** old quad $500 Fender twin black face, reissue, mint $1200. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.


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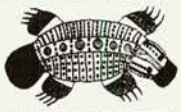

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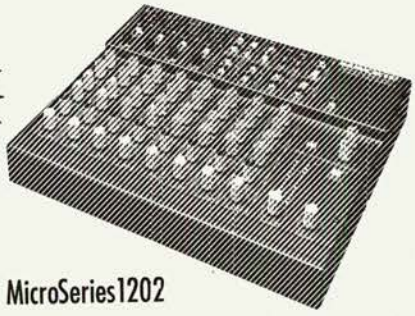

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**Peavey** 2 x 15-horn $2000 pair. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Peavey 112HS** Stage Monitor, 12 inch speaker plus horn with volume control. $325 ono (08) 276 7964.

**Peavey** ADDVERB Multi effects processor. $395. Melbourne PA & Stage. Phone (03)578 1234

**Peavey Bandit 75**, Excellent condition $600. Melbourne PA & Stage. Phone (03)578 1234

**Peavey** concert wedges $600 each. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Peavey MK III** 16 channel $1600. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Peavey Mk III** 24 channel $1800. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Peavey Mk III**, 12 channel $1200. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

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**Perreaux 6000** $1400. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

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**Phase linear power amplifier**, 400 watt, very stable in roadcase $600 ono.Phone (08) 380 5518.

**Polytone** 75 watt bass amp with 15" speaker, very compact, a little ripper. $750. Melbourne PA & Stage. Phone (03)578 1234

**PTM 31** band equaliser $750. Phone (043) 84 1546

**PTM 700** recond. $1000. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**PTM 950** $1300 each. Phone (043) 84 1546

**PTM 1000** $1200 each. Phone (043) 84 1546

**PTM 1200** recond. $1500. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**RCF 851** 18" speakers $550 each. Melbourne PA & Stage. Phone (03)578 1234

**Renkus Heinz SSD3301** 2" compression driver 8 ohms. $500 each. Melbourne PA & Stage. Phone (03)578 1234

**Revox B77** 19 inch rack mounting $167 ono (047) 59 2191.

**Rocktron RX20** Enhancer. New 25% off only $875. Melbourne PA & Stage. Phone (03)578 1234

**Roland cube** $450. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Roland D110** sound module, as new $450. phone (08) 370 9966.

**Roland JX8P** synthesiser. All extras, good condition. $1500. Phone (075) 353 895.

**Roland SDE100** digital delay. $450. Melbourne PA & Stage. Phone (03)578 1234

**Roland SDE1000** $400. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Roland SDE2500** MIDI $550. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

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**Ross 31** Graphic 2RU $260. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

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**Sound Tec quad** power amplifier, 100 watt stereo, plus Peavey compressor stereo unit, and 31 band graphic, all as new, $1500 ono. phone (08) 211 89837.

**Soundcraft 1S**, good 16 channel $1200. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Soundcraft Delta** foldback desk 24-10 $1600. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Soundcraft Venue** 32 channel $22000. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Soundtracks PC Series**, 24 into 16 MIDI Sound Mixer. $24000 New, will sell for $9500. Phone (02) 896 1464 or 018 469 096.

**Studer** Revox 8 track. model C278 with remote. Less than 50 hours use. Superb Condition $5000. Phone/fax Peter (02) 332 3908

**Tapco 500** $600. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Teac 3** Tascam Series 8-4 studio console. $850. Melbourne PA & Stage. Phone (03)578 1234

**Technics Turntable**. Direct drive SL 1200 Mk2. $450 Phone/fax Peter (02) 332 3908

**Turbosound TMS4**, compositi 3 way speaker boxes, two only. Excellent condition $2300 each. CC'S Light & Sound ph 008 803 064

**WANTED: Advent Videobeam** 100A Video Projector Screen in good condition, spare parts and circuits of Australian Modifications. Phone (058) 711 013.

**Yamaha 2031** graphics, new in stock, we have the only 8 units in Australia, good deals on Yamaha this month. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Yamaha 3112** 12" horn, 2 way PA combo $650 pair. Melbourne PA & Stage. Phone (03)578 1234

**Yamaha 4115** PA cabinets. $1200 pair. Melbourne PA & Stage. Phone (03)578 1234.

**Yamaha CBX 166** $900. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.

**Yamaha EQ1031** graphic equaliser $450. Melbourne PA & Stage. Phone (03)578 1234

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**Yamaha ITT44** 4 track with work station. $650. Melbourne PA & Stage. Phone (03)578 1234.

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**Yamaha R1000** $350. Phone (043) 84 1546

**Yamaha SPX9011** $700. Rock and Roll Music (02) 550 3828 or 008 804 994. We ship Australia Wide.


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# NEW AKAI SAMPLERS

At Presstime, a series of AKAI product release functions where being hosted across Australia and New Zealand by Australis. AKAI's product range has been joined by the S0-1 sampler (above), which is priced at under $2,000.

The product releases indicate Australis are serious about digital products, with a recent reorganisation resulting in Danny Dun now bearing responsibility as Digital Products Manager. (Danny debuts elsewhere in these pages as a contributing writer).

AKAI's S0-1 is a plug in and go machine, with eight sounds on board at once, loaded via a disk at startup. The 16 bit/32KHz sampling rate is more than adequate, a brief audition revealed full bandwidth, low noise and 15.6 seconds sampling time with the standard 1mb memory. This may be upped to 2mb, the unit can be activated by footswitch, and with 200 sound disks in the library now, is sure to be popular. It will also read S1000 series sound data.

Naturally you can record your own samples, and the DJ market is expected to make up a good chunk of S0-2 sales.

*Contact Australis for more information: (02) 938-3466 or in NZ: (9) 837-3230*

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# PRODUCTS

**MINI-FLEX** is a condenser microphone that you install INSIDE your acoustic guitar or hollow-bodied instrument. The guitar models install through the endblock in place of the strap-button, you can fit the thing to violins, banjo's, mandolins, dobro's and virtually anything with space. The mic element is on the end of a little gooseneck, so you move it about to get the right sound inside. Much better than a pickup!

Omni or Uni directional models are available. *More details from the importer, Damien Gerard Sound Studios, (02) 692-9915.*

**WAVESTATION SR** is the latest from **KORG** (below). With 550 sounds ready to go, it supports new Korg PCM cards, and has the same 24 bit processing and 32 voice polyphony as the rest of the WaveStation family. Korg have a bob each way, saying it's a programmers instrument but also offers more for the 'non programmer'! *Details from Music Link: (03) 429-9299.*

The GMega Synth Module (above) from **Kawai** has 32 voices, and is Kawai's first forray into the world of General MIDI. A 16 bit device, it allows users to instantly play (and create) song data from sequencers, computers or multi medai computer applications. 6 reverbs are on board. *Details from Kawai Australia: (02) 663-0571.*

**Mainly Multimedia** (formerly Mainly Multitrac) has 'Interludes' - music software for your PC. Four programs: NotePlay, EarPlay, RhythmPlay and Soloist combine interactive games and utilities to get you learning. At $95 retail each, the programs are suitable for anyone, no experience or understanding of music is needed. All you DO need is a soundcard for your PC - these vary in price. OmniLabs AudioMaster card won a PC'92 award, and it sells for about $450.

**Software:** *Mainly MultiMedia: (03) 558-1155,*
**Soundcard:** *Omni Labs Australia, (02) 319-2022.*

# HiTech Music Show

Bava's Music, a Sydney suburban music retailer, stunned the trade with a huge rollout for a suburban Computer MIDI Music Expo, held at Parramatta Park Royal Hotel in Sydney's West, on Sunday March 28th.

At the peak of the event it was difficult to move around the show, such was the crush. Roland staged practical demonstrations of their products, the star being the TD7 compact drum system - expertly presented by Jim Hare who proved a product is best presented by someone who is well versed in it. In Jim's case he is a good drummer, so that helped! Yamaha's SY85 keyboard/workstation was brilliantly demonstrated by Steve Smith, who is very well known as a keyboard programmer in Melbourne.

Eleven distributors took space, with Roland occupying half the ballroom. More than 700 punters paid $5 each to get in.

Products from Digitech, Omni Labs, Data Sonics and the Miracle Piano Teaching System made up a well rounded display contingent. A seminar was held each half hour from midday, with Your Computer Magazine's Eric Holroyd, Tascam's Chong Lim, David Patmore, Michael Allen, Roland's Rick Gell, Michael Hoare, Graeme Thomson, Billy Moore and Greg Cronan all hosting their own half hour seminar. Topics ranged from 'What is multimedia?' to 'MIDI and music education'. The show was a music technology tour de force!

Nick Bava is rightfully pleased he got so many people through the doors. "We're the mouse that roared", he told Connections!

✱ *Bava's Music Centre is at 92a John Street Cabramatta in Sydney's west. Call them on (02) 727-4999.*

*Nick Bava, looking triumphant outside his debut Computer & MIDI expo/show, where 700 punters paid $5 to see the latest.*

KEEP this page for future reference

# WHAT is MIDI and HOW does it WORK?

*part one*

**1. Conversation between Musical Instruments.**

Musical instruments finally started 'conversing' in the 1980's, a revolution in the world of electronic music. Now, one instrument can say to another: "play middle C, with about 60% strength, then play E4, a little louder". The second instrument 'listens' to this dialogue, and plays the notes in turn, as long as it can understand the language used. The 'language' that is now shared by all electronic musical instruments is called 'MIDI', and is featured here.

Even though the instruments can now 'converse', they still have no will of their own. In fact, the only link in the chain with it's own will is you, the musician or operator. Then the instruments interpret your performance by 'translating' it into MIDI. 'MIDI' is considered to be 'the language which is used to send 'performance information' from one instrument to another'.

Although MIDI is a relatively new concept, it has already become a household word in the musical instrument scene. It is one of the common features of today's musical instruments. For your reference, MIDI stands for 'Musical Instrument Digital Interface'.

**2. Applications of MIDI.**

MIDI is widely known as a 'language between musical instruments'. MIDI has expanded in such a short period of time, because it can be applied to many kinds of situations.

MIDI is a universal term. Although there are many different languages in the world, MIDI has only one language, and can therefore provide communication between Japanese and American instruments, or German and Italian instruments. More importantly, MIDI can even be used to 'talk' to instruments from different manufacturers.

Furthermore, MIDI can be applied to many kinds of instruments. In this way it is possible for an electronic piano to 'talk' to a synthesizer, or a drum machine. Consequently, MIDI has an enormous potential for growth and development, as you shall see in this series.

**3. What makes MIDI conversation possible?**

Just how is MIDI used to provide this 'conversation'? To explain this, look at the back of

your instrument. There are several connectors, including a MIDI IN, a MIDI OUT and often a MIDI THRU. These are the ears and mouth of the MIDI conversation, and are essential for any MIDI communication. The actual 'MIDI conversation' travels from the MIDI OUT of one instrument, to the MIDI IN of another, by connecting one cable between these two sockets. The cable used has five pins, matching perfectly the five holes in each of the sockets.

*NOTE: 'DIN SYNC' sockets look very similar to MIDI sockets, but have an entirely different function, so please don't connect a MIDI cable to a DIN SYNC socket.*

So why do we need three sockets? (MIDI IN, MIDI OUT & MIDI THRU).

MIDI In is for 'listening' to a MIDI conversation, that is, the entrance for MIDI information.

MIDI OUT is for 'speaking', to send the conversation from an instrument, and is therefore the exit point for MIDI information.

As you can see. MIDI IN and MIDI OUT are relatively easy to understand. MIDI THRU is comparatively more difficult. Next month we'll talk about why!

*(continues next issue)*

Roland

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# info freako

**With Danny Dun***

*Send your questions, comments, problems, abuse or even ideas for articles to us here at Music Technology.*

*Yes Punters, this is it! The regular column where you get a chance to exorcise those demonic "high-Tech" questions and problems that have been giving you hell and are bound to give me many sleepless nights! So get those pens, pencils, fax machines and other wonderful pieces of stationary smoking! The most innovative (read: "off the wall") formats are more likely to be read so get to work. To start things off lets have a look at some unwanted noises! Dear Danny? Simon Townsend eat your heart out!*

**Hiss**

Pretty self descriptive huh? Generated by random movements in the world around us! "Hey that sounds remotely like something to do with chaos theory?" I hear you cry, but lets not get into that now! Technically hiss is known as white noise. White noise has the quality of doubling in intensity each time the frequency doubles. This is opposed to pink noise which has equal energy per octave. This explains why white noise sounds quite "toppy" and pink noise has more of a low frequency emphasis.

Every component in the recording and sound production process from microphones to speakers adds hiss. Even digital gear adds a level of hiss, although this is very low. It may be possible to reduce the level of hiss but you can never eliminate it completely. If the level of hiss is extremely bad and assuming you are recording to analog tape, check you are using the right settings and tape for your machine. If all is well in this department the problems possibly background hiss. This is most commonly caused by poor gain structures and impedance mismatches.

To help track down the source of this hiss you should start at the end and work back! First disconnect the inputs to your monitoring amp, turn it on and turn the sucker way up*. Assuming you are using a relatively new transistor amp and are not

*(continued over)*

# info freako

*(from prev. page)*

**Dealing with Hiss**

*(continued)*

monitoring through a 10 000 W PA system all should be ok. If not there could be a problem with your amp.

**No problems?** Then start connecting the rest of you system components one at a time working back from your amp, ensuring that you turn the amp down before you plug or unplug connections. Note that as you add more components to the signal path the hiss will not get any better. Any excessive increases in hiss could indicate a problem with that component or the cables connecting components. *If your amp has a high input impedance around 22K ohms you may have to use a shortening plug (a connector with the positive terminal connected to ground) this should prevent hum from being picked up.

Gain structure in this case has very little to do with finances although stuff it up here and few will pay for your audio services! It's basically a map of the different electrical levels along the audio path throughout a system. The idea with gain structure in an audio console is to get the incoming signal up or down to the normal operating level early on in the signal path and keep it as close to this as possible throughout the desk. The idea here is to achieve a near constant headroom ( the audio space available above 0dBu) and noise floor (audio space available below 0dBu) to keep the dynamic range (audio space from the noisefloor to the limit of the headroom) as high as possible.

For each desk there are ideal operating levels. In most cases the channel faders would be set to 0dBu and the input and output gains at a maximum or some other position as recommended by the manufacturer. If the mixer controls are moved from these optimal positions you loose a degree of dynamic range, bummer huh?

As each mixer channel or other electrical pathway is introduced into the act the level of hiss is increased. As the level of hiss increases the all important dynamic range is reduced. For this reason it is a good idea to keep unused channels muted and unnecessary EQ sections bypased.

There are a variety of noise reduction devices that range form dedicated units to things like compressors and gates which are invaluable in systems with heaps of channels. Although each device adds a certain amount of *distortion* noise.

You can also try cutting 3 to 6 dB of high frequency when recording things like bass which do not necessarily have a heavy weighting in these frequencies. This should reduce the level of hiss significantly for this channel for the reason stated in the first paragraph above.

Impedance matching becomes very important when using transducers, things like microphones and guitar pickups. A mismatch in impedance may reduce the output of the device reaching the input at the desk. It then becomes necessary to apply heaps more amplification than is necessary to achieve even a modest signal. The result is increased hiss as this is also amplified! If you find that you have maximum gain on a channel just to get a useful level then you could have an impedance mismatch.

**Humdinger!**

Suffering from hum? No not the thing you do with your mouth! Oo-err! Often hum can be picked up much like radio reception by the device in question being placed close to the mains supply. The mains supply operates on a 50Hz cycle. It is this frequency that is picked up by equipment. Devices that are particularly susceptible to hum are those with inductors, magnetic transducers, an unbalanced mixing bus or signal transformers. Unfortunately this includes all mixers, tape machines, some equalizers etc. Even circuits without these components can pick up hum if the gain is high enough.

The key is to try and separate susceptible equipment away from the mains loop. About a meter will do. This is one of the reasons equipment uses a power supply remote from the main device eg. mixing console with a power transformer located in some remote location like the floor!

The infamous ground loop is a common form of hum. This usually happens because both the mains power line and audio signal cable are both earthed electrically to the same ground in some way. This in effect acts as a single turn transformer which picks up the mains hum.

Bored yet? Solution? Some just cut the mains cable earth lead and hence break the loop. Not...! A case where a little knowledge is very dangerous! If you don't know why just think about it! The best way is to identify the offending lead by simply pulling out the leads in your system one by one until the culprit(s) is/are found. A neat fix is to solder in series a 220 ohm or near resister between the shield and the connector this should help.

*Hint: If you're using a patch bay try wiring this mod in there.*

Buzz is similar to hum but also includes other frequency components and assorted garbage. Buzz is the noise you hear when a signal lead is pulled out of a source and left hanging. This often occurs when a grounding shield is broken. The solution is obvious. Fix the lead.

There is also *acoustic buzz* and it's the result of mechanical vibration. This usually occurs when transformers are connected to a dirty mains supply. This can be magnified as the steel plates in the transformer vibrate. A quick fix is to use a hammer and punch to bend the plates and "jam" them together. Well it seems to work! Oh yeah.. and make sure you try this with the mains lead disconnected!

---

**Danny Dunn** *is the Digital Products Manager at Australis, who import Peavey and Akai products amongst others. You can send him 'Dear Dan' questions (about anything!) to:*

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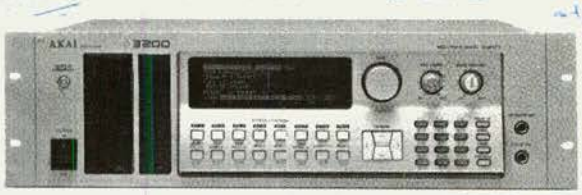

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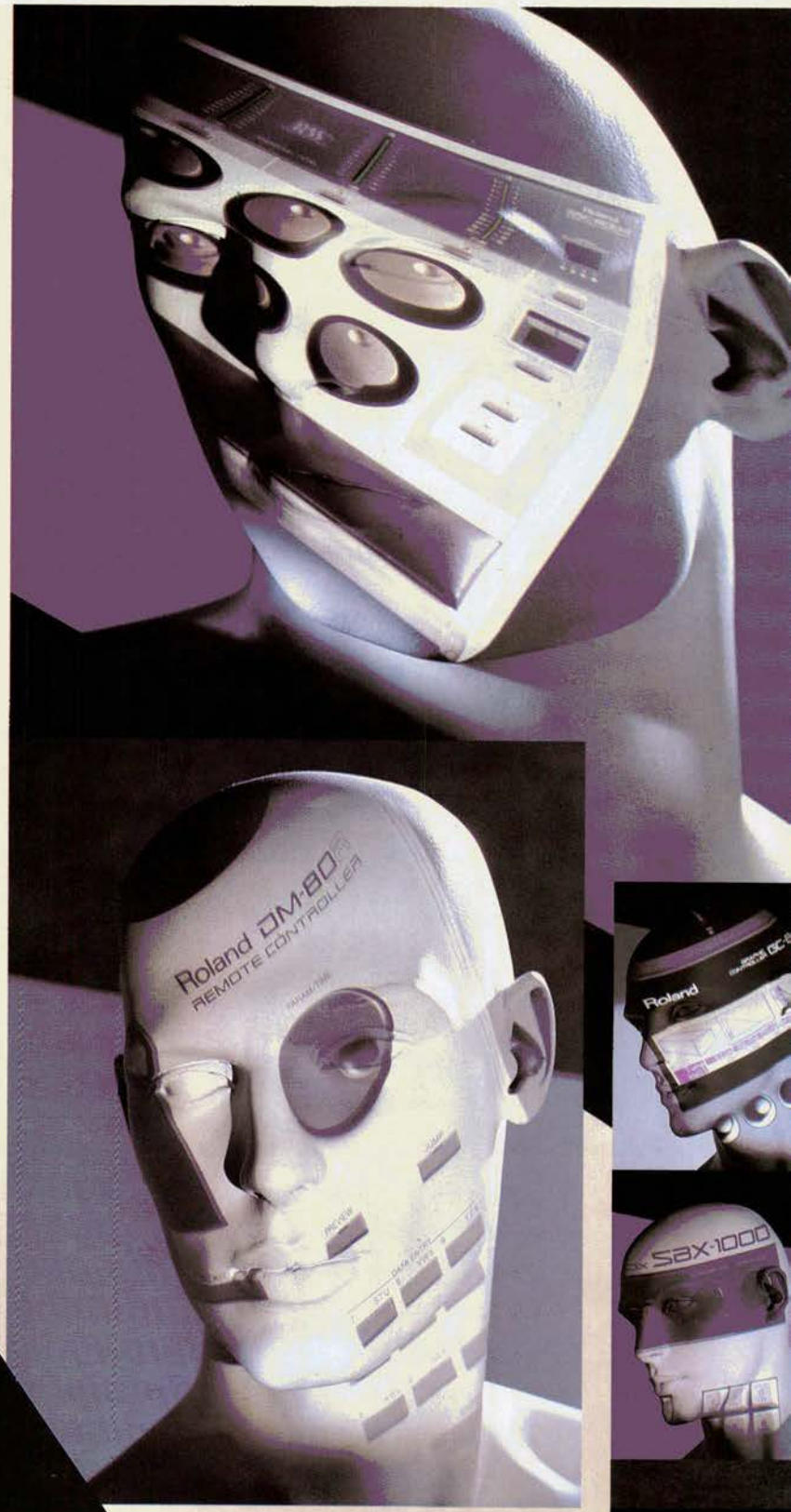


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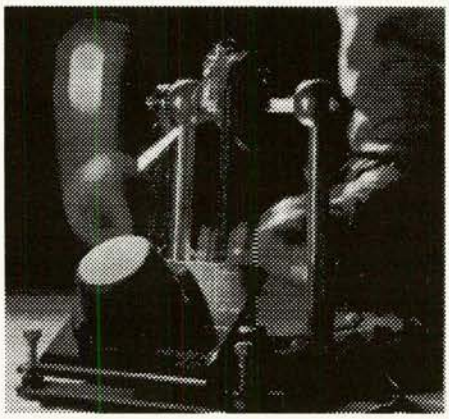
## End User Review

# Rolands Compact Drum System

The Editor said "**FORGET IT, DAVE!** Years of working with bands has left me believing all those drummer jokes are really true. I don't want drums in the magazine, the new section is about MUSIC TECHNOLOGY, not hairy, smelly mechanical stuff like DRUMS!" Then he accidently HEARD the sounds this new system makes. Dave Macken was then allowed to test Rolands new electronic drum system and write about it here. There is more than meets the eye .....



Some years ago the birth of electronic drums caused a sudden rush of poorly thought out products. It also, once everyone realised the infant state of these products, created an equally sudden departure. Most of the Japanese manufacturers popped something onto the market with one or two models actually surviving more than one product range, still these more popular devices weren't yet up to scratch. So while a lot of these companies repainted old models or moved away from electronic drums altogether others, namely KAT Products in America and Ddrum *(this is not a printing error)* in Sweden tried to address the real problems associated with making a drum pad come to life.

In almost a coming of age a few of the larger manufacturers have released some electronic drum related products, with Roland putting out a whole kit for public approval.

To examine such a product we'll have to break it down into a set of drum pads and associated hardware and take a separate look at the sound module that accompanies it.

**WHAT'S IN IT:** The "setup" as such consists of the TD-7 sound module, eight PD-7 drum pads, a KD-7 kick drum pad, FD-7 hi-hat pedal and an MDS-7 rack for mounting everything on. Construction of the three sided Roland rack is adequate and by borrowing more than a few design ideas from Gibraltar Drum Stands, should be able to stand up to most levels of punishment. Drum and cymbal pads are clamped to the bars of the rack or short boom arms so a personalised setup is quite quickly and easily put together or pulled down. The kick drum pad and hi-hat pedal remain on the floor and are independent of the rack though as they and the other pads are MIDI triggers they are wired to the sound module, the rack being a neat place to run your cables.

From a strictly hardware point of view, Roland have obviously researched some of the more efficient drum mounting designs, altered those designs to suit the application and along the way got it right by coming up with a stage persons dream and possibly the nattiest multi clamp in the last few years. By way of a small multi clamp that mounts the sound module to the rack, the player can operate sound and MIDI parameters without getting up, bending down or turning around.

The playing surface of the mounted drum pads is a 192mm (7 9/16 inch) rubber disc with a slightly higher rounded lip that can be set as a second trigger enabling rimshot and cymbal choking effects. The inclusion of this raised lip or rim, even if it is a little small for serious real time drumming, has got to be Roland's way of apologising for the below average rim idea it had with the pads of yesteryear as this time around it works quite well in less frantic situations. Stick rebound is quite controllable on the rubber surface, with

only a small amount of compensation needed to achieve a "real feel", once again a vast improvement over previous efforts.

**PECULIAR AT FIRST:** Due to the painful fact that not many of the new drum pad innovations are really seen in this country the Roland kick drum pad may appear a little peculiar at first with it's small rubber pad fixed to a housing no bigger than a couple of guitar pedals. As the strike or beater surface of this pad is actually on the floor and facing up in the air when attached to the pedal, a special bent beater is needed to reach it. Strange as it may look to play a kick pedal that strikes downwards and forward of you it is actually one of the better ways to get accurate triggering as a lot of the leg jarring characteristics of vertically set kick drum pads are eased, with the extended travel of a bent beater giving the pedal more of a natural feel

While one foot may want ten minutes practice on the kick drum pad the other will have no trouble getting used to the hi-hat pedal. Used in conjunction with a mounted pad, the pedal -and that's all it is- operates just like the real thing using open, close and foot modes depending whether the pad is struck or not struck while the foot plate is up or down. The weighting or resistance of the foot plate is also adjustable to provide further realism, the idea being that it's akin to setting the distance between a real top and bottom hi-hat cymbal.

*(continues over)*

## End User Review

# Rolands Compact Drum System

**SOUND MODULE:** Enough about the plumbing what about the "brain"? In this case the brain is the TD-7 Percussion Sound Module, a 1 unit high, half rack width module which as mentioned before attaches to the rack so you can play with it while you're playing the pads.

The TD-7's front panel layout is simple and to the point with nice size LCD display dominating the left side with data entry and function buttons to the right. Using the multi-menu design common to a lot of MIDI equipment the TD-7 is not only easy to get the hang of operating but can be easily seen, which is a nice change. Before we get to the sound or sounds of the unit let's see what else it does beside make noise.

To understand what can be achieved with the TD-7 you have to look at it in a few different ways, firstly it has three main modes; *Standard Mode* which lets you trigger TD-7 sounds from the pads as well as incoming MIDI say from a sequencer, *Sound Module Mode* for fast response allowing the TD-7 to act as a module only and *MIDI Interface Mode* that turns all the internal sounds OFF letting you use the pad setup though trigger THRU the TD-7 out to another sound module for instance.

Further to this you can sequence internally by recording drum, bass or melodic phrases up to 16 bars long. These phrases can then be controlled at the pads with a start/stop function. To better record these sequences a few different tempo clicks are provided as well as the setting of time signature. Add to this the ability to monitor an external audio source via the AUX IN and you've got yourself a pretty powerful practising or performance tool.

**THE SOUNDS:** Now for the crunch, what does the TD-7 sound like? To begin, the TD-7 has 256 waveforms which make up 512 preset sounds or instruments that can be, or are, preset assigned to 32 patches or kits. All of these sounds have parameter adjustment for the likes of tuning, decay, nuance, layering, MIDI continuous controller and effects send which enables control of the onboard reverb/ delay, chorus/flanger processor.

The TD-7 boasts 16-bit quality of 4 part (1 instrument, 3 performance) multitimbral sounds which are output through one stereo pair and two individual jacks. Considering that there are nine stereo trigger inputs, which could entail up to eighteen sounds, the provided number of outputs may just not be enough, especially if you plan to use this in a live situation.

Of the 32 preset kits about four stick out as immediately usable, the rest, well you're probably better off to come up with your own ideas. It's not so much the sound quality, though some of the instruments could have a "dirtier" sound (particularly if you plan to use them alongside acoustic drum kits), it's just that they sound so typical of a drum module and a Roland one at that. The inclusion of TR-808 and TR-909 sounds is a good bonus and for the player/programmer may make up for the average content of a lot of the other kits.

Overall Roland have really started to enter into the electronic drum world with this setup. With fast and accurate triggering from good pads, coupled with a superb MIDI interface they've caught up as far as the player is concerned, though the number of outputs may leave your sound engineer wanting more.

**DAVE MACKEN'S CONCLUSION:** Previously Roland have had the sounds covered and not the hardware, this time they've sussed the hardware and operating system though the sounds come in for some criticism. Funny how things change!

The recommendation for Roland's Compact Drum System would be to use the setup for what it is; one of the better pad to MIDI interfaces around and the best practice set you've ever had. Forget the internal sounds, except for a few, appreciate it as a compact, well facilitated piece of drum and percussion technology.

*Special thanks to Nick Downing at Leichhardt Drum Centre and Turramurra Music Centre.*

### Counterpoint:

I think the sounds are everything I used to spend hours trying to replicate with 12 mixer channels, and a rack full of outboard effects. This thing redefines electronic drums.
*-Julius Grafton*

**TD-7 Specifications**

| | |
|---|---|
| Maximum Polyphony: 14 voices. | |
| Memory Capability: | |
| Instrument waveforms | 256, |
| Instruments: | 512 |
| Patches: | 32 |
| Patch Chains: | 8 chains. |

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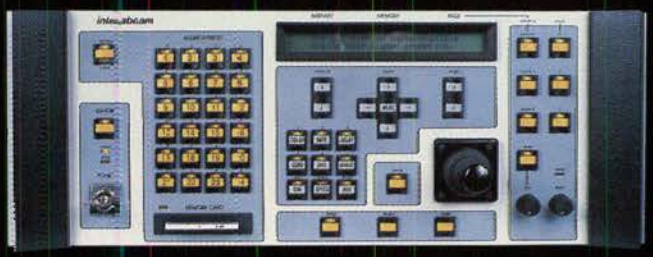

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# Fashion can be spectacular too!

*Catriona Forcer forgoes the showbags at the Easter Show in Sydney, to see how the Natural Fibres Fashion Spectacular presented. It's showbiz, folks .....*

The production planning for the 'Natural Fibres Fashion Spectacular', held at the Easter Show, started three months prior to the actual performances - but the team - Lindsay Bennet (producer), Sally Clark (choreographer), Derrick Cox and Diana Dean (set designers) and John Hoenig (lighting designer) - have already worked on seven productions in the last twelve months. They started with cotton and wool parades at last years Easter Show, which were also held in the Hordern Pavillion, and then did various fashion parades around the country for the Australian Cotton Foundation culminating back at The Hordern with a brand new show.

"This year we're able to use the full Hordern space whereas last year we had about two thirds of the area," said John Hoenig. "There were stalls and other activities happening but this year it's exclusively given to live performance with the fashion parades during the day and a change over to rock concerts and dance parties in the evenings. The fashion parade does forty-eight performances throughout the twelve days. There are definite benefits and bonuses to working regularly with a creative team of people developing our work and communication from production to production. It's always a delight."

The main set on the Hordern stage is the fashion parade set which is actually made from natural fibres using a bale of cotton and a bale of wool, the contents of which have been interwoven into a massive net backdrop to give a patterned texture. Inserted into the centre of that is a 'sun' with fabric rays and this sun is actually a hole with a platform behind it and a rear projection screen to give strong silhouette looks when the models pose within the sun. The catwalk is built out over twenty metres into the Hordern space with a double 'T' configuration and into that are built moving footways.

The overhead lighting rig is in several sections of truss downstage and upstage of the Hordern gantry. The upstage box truss actually flies in, pivots and comes right down to about seventy-five degrees at the start and the finish of the show. On it are the two banners with the cotton and wool logos.

"The rig is predominantly a par can one," John said. "There are over 150 cans plus a couple of dozen ray lights, a couple of dozen ACLs and a quantity of fresnels and profiles for special areas and gobo work. The height of the trim is fairly low because we want to try and mask the infamous Hordern gantry which does tend to stand out too much and dominate the look. So we've actually trimmed everything at the height of the underside of the gantry which is about four and a half metres. This means we're using a lot MFLs to get the spread on each of the key areas of the catwalk which is quite a large service area to cover. "

"We've gone for a very selective colour

# Dr Light

We'll I'm back from my holiday to the costa del Petersham having spent a marvellous two weeks installing a stair case and generally renovating the house my wife calls the money pit.

Prior to this idyll, I had the distinct pleasure of participating in Premier Lighting's "Next Move in Light" trade show, held at their premises in Melbourne, Sydney and Adelaide.

The show was briefly mentioned in the last edition of Connections (albeit inaccurately) and I must say that people who make up the staff of Premier, and let's face it this is a people business, were some of the best that I have had the pleasure of working with.

The centre piece of the show was a 10 minute display featuring High End Systems's Intellabeam, Trackspot and Data Flash systems, Zip Strips, Colour Scrollers and various 1200 watt fresnel and P.C.s and last but not least Par 64 cans. The whole shbang being co-ordinated from a VHS tape machine that provided the studio track (congratulations to Darren Breeze display audio editor for a job well done!), from the VHS deck we picked off SMPTE time code which was converted to MIDI signal via a PC based conversion program. The MIDI signal was then split between an ETC Microvision console which spat out cue information to the Intellabeam LCD controller for the Intellabeams and Trackspots, and an EVENT 24 which ran the dimmers and scrollers. All in all, a long way round to run the show. I would point out that the way the show was controlled was arrived at more the show it was possible than mandatory.

My thanks are extended to all at Premier including Bob Prosser, Andrew Holmes, Darren Fox, Jason, Noel, Mick and the rest of the cast of thousands.

*(Editors note: Dr. Tanner talks about the Premier show being incorrectly reported in last issue. I'd like to point out it was reprinted word for word from a submission made by a party who attended).*

**NEW BITS.**

This month has seen the release of our much awaited STAGE 12 console. Aimed at the entry level of the lighting market the STAGE console provides all the basic presetting controls along with a chase facility, add/kill functions on all flash buttons, to temporary scene stores called grab faders (previously known as snatch faders) STAGE even features a wide mode which enables it to be used as a single preset 24 channel desk in an emergency! All this is rounded out with a DMX512 output enabling the end user to kick off his system along an upward expansion path.

As I write the first run of STAGE consoles is coming off the line and I'm beating people off with stocks as they are all pre-sold. Those of you interested in seeing the STAGE 12 should call me for details on their nearest stockists.

***Mike Tanner is employed by Jands.***

## wool show (continued)

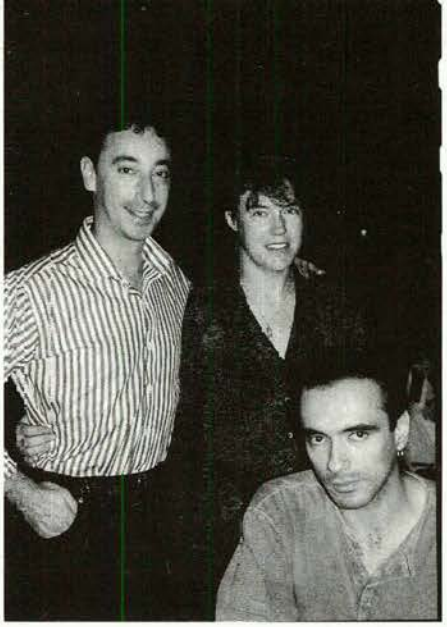
palette of fairly warm colours for the front and sides which is open white and Rosco 03. From the back we're using cool colours - Lee 142 and Arri 363. That selective look can then be balanced in following groups of models around the catwalk on scene masters from the Jands Instinct 60 way control desk. Each number has it's own look so the colour balance is adjusted to suit the garments for each number. There are also special effects lights with the ACLs and the rays doing beam structures in mid air and various colour washes in streaks and shafts onto the set itself."

There are two Xeno smoke machines, one mounted on the gantry above the catwalk and one mounted within the sun opening.

"The Instinct desk is right for this job because if we had gone to a pure theatre desk where you'd have recorded every single moment, I'd still be there plotting now, I think," John told me. "There's an awful lot of manual work following the models visually. I try and match a lot of the cueing with very subtle movements working in with the choreography. One of the things I enjoy about working with Lindsay and Sally is that we do integrate our work as much as I do with the set design and the static looks and the moving looks for the rig itself. Also with the dynamics of the choreography, formations of garments and movements of models, we do fairly detailed cue synopsis which are tied to a time coded music script based on a soundtrack. So we're all talking about the same show musically and visually. The desks in the style of the Instincts or the Celcos allow us to actually have fairly detailed plotted memories of background but also give us access to twenty-four scene masters at any one time to be able to balance groups and follow models around the stage as well as punch in musical cues."

Primarily, it is Johns job as a lighting designer to enhance the garments and, especially in a space the size of the Hordern where there were on average 10,000 people per show, visibility is very important. A consistent balance of light is required on the models at any one time and, because they have a long stage to walk around, the models are out quite a long time and there is plenty of opportunity to see the garments. As a result the numbers tended to be opened and closed with strong tableaus, dramatic backlights of silhouettes and overhead pools of light. As the models start to come forward John builds up the levels.

"Also working with the music we can follow the dramatic moments of the music to bring the levels up and down," said John. "Generally



*Lighting Designer John Hoenig (left), with engineer Trudy Dalgleish and sound guru, 'Gorgeous' George Gorga.*

one has to provide a consistent level from three angles. It's very important to actually get as much information as one can about the garments in the collections. Quite often we don't get to see them until quite late in the process so we're making educated guesses about what certain designers will be bringing out the next season. Therefore the choice of music, set design and colours of the lighting rig all have to be sympathetic and enhance the colours and textures of the fabrics. The groupings and choreography also depend upon the groupings of collections of garments which gives us strong formations in choreography as well as design."

The rig actually consists of over 320 lamps, 260 of which are specifically for the fashion parades and another 60 pars have been added to fill in certain areas of staging that are added in the evenings for the concerts and dance parties. The change over period is tight - between 4.30pm and 6pm - but the crews worked well together to make it as painless as possible. Lighting engineer on the show was Trudy Dalgleish, audio engineer was George Gorga and the production manager was Tony Moffat. Showcorp provided all lighting equipment and crewing and A1 Audio provided the sound equipment. Scenery was built and installed by Stagewright and Vanity provided the models.

John Hoenig is currently working on a project in Korea which is upgrading a theatre building with a design company called Inspiration. This involves upgrading flying mechanical effects, sound and a new lighting rig. Also with Inspiration, he is planning the next show with Jupiters on the Gold Coast.

# ADVERTISERS INDEX


| | |
|---|---|
| AES | 50 |
| Aladdin - Phoenix | 66 |
| Alcatel | 5 |
| ARX | 38 |
| ATS | 28,29 |
| Audio Telex | 17,54 |
| Australis | 41,79 |
| AWA | 47 |
| BOSE | 9 |
| Bytecraft | 14 |
| Cable Labels | 65 |
| CC's Light & Sound | 19 |
| CLS | 43 |
| CMI | 31 |
| Coemar | 87 |
| Collins & King | 48 |
| DJ Supply | 68 |
| Freedman | 18 |
| G.U.V.T | 6,83 |
| Jands | 2,34,46,64 |
| LAVA | 88 |
| Lightmoves | 33,51 |
| Melbourne PA & Stage | 6 |
| MGA Bates | 49 |
| Mogami- GUVT | 63 |
| Multicontact | 15,58 |
| Penn Fabrication | 10 |
| Phantom Productions | 40 |
| Pro Audio & Light Asia tradeshow 93' | 61 |
| Production Audio Serv. | 36 |
| Ramsaudio | 23 |
| Rock & Roll Music | 84 |
| Roland | 80 |
| S.A.E | 7 |
| Selecon | 34 |
| SONY | 24 |
| Southbank Trading | 42 |
| Studio FX | 57 |
| Syntec International | 21,60 |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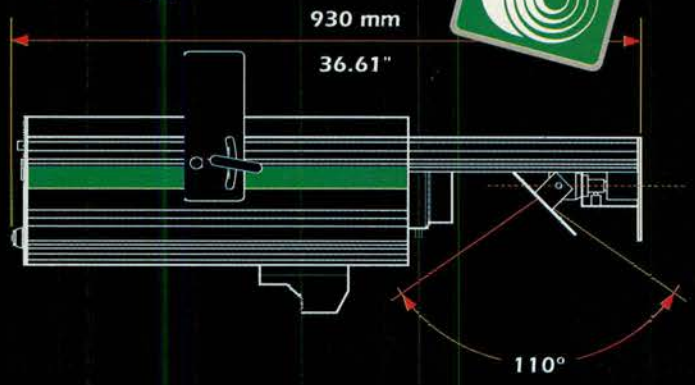


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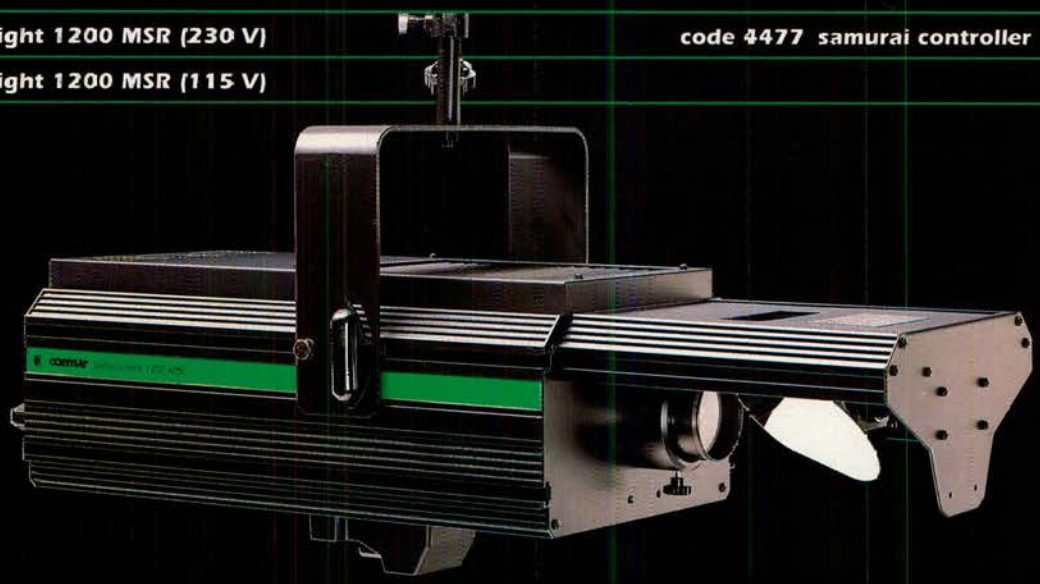

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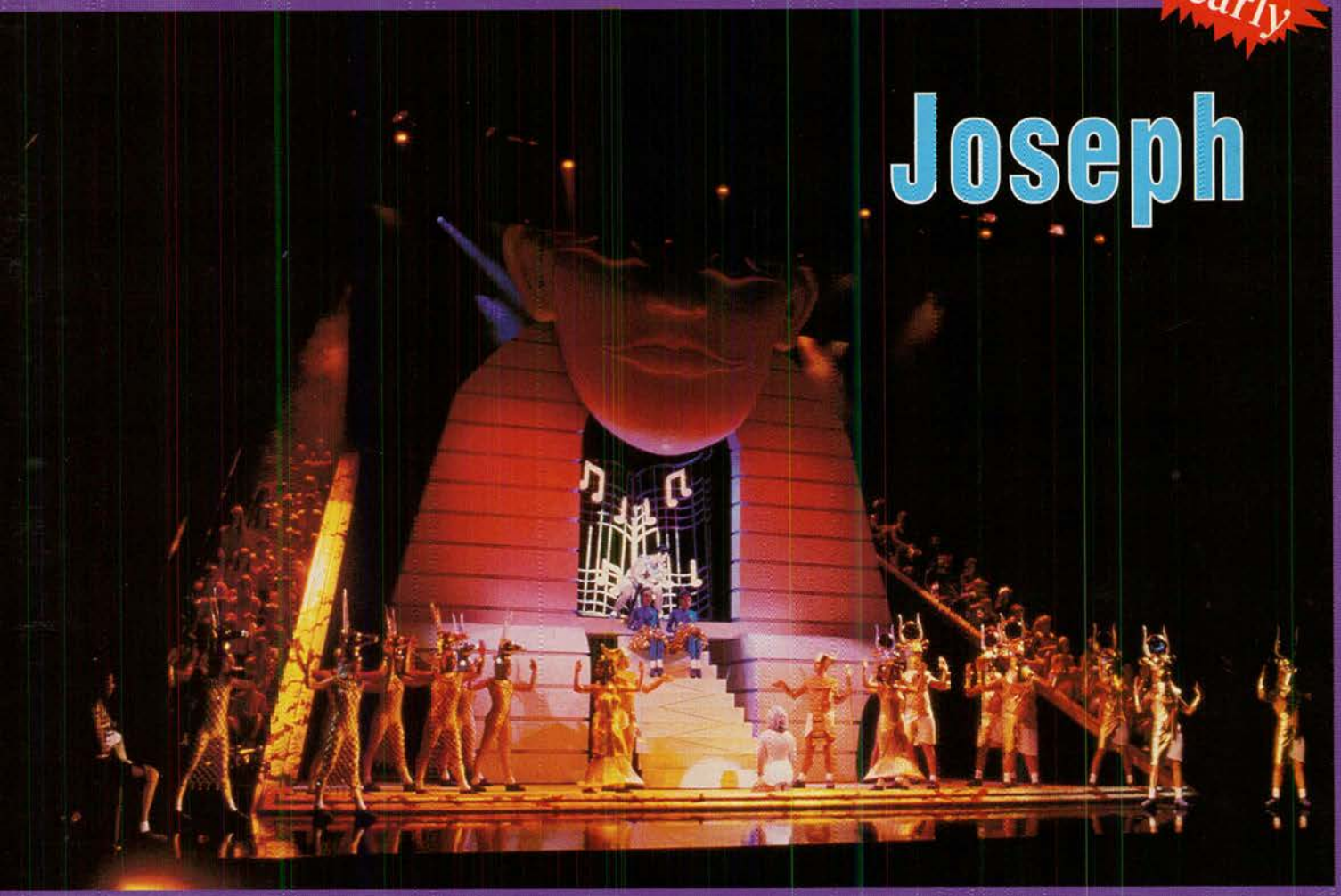


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# Inside this magazine:


◆ **INXS Production Review**
Behind the 'Get Credible' tour. Lights & Sound P 19

◆ **Joseph & his Coat**
The 14 semi Theatre Tour! Lights & Logistics P 27

◆ **Idiots Guide To Mixing!**
You CAN mix with the best of them! P 20

◆ **How To Record - Better!**
Bob Armstrong takes you into the studio P 34

◆ **Niven Garland: Engineer**
Fresh from the UK - with attitude P36



◆ **Niven Garland: Engineer**
Fresh from the UK - with attitude P36



◆ **Our Exporters**
Our Sound & Lighting industry sells to the world! P58


**NEW!**

**Buyers Guide**

**Live Mixing Consoles**
Features & Prices compared.
Page 75

**Profile Spots**
Features & Prices compared.
Page 78

***Different Products In Each Issue!***


- Bob Geldorf: **DISASTER** P67
- Rocky Horror: **LIGHTS** P81
- Zoom 9200 **REVIEW** P50
- Dynacord effector **REVIEW** P51
- Faith No More: **REVIEW** P65

**REGULARS**

| | |
|---|---|
| Hire Biz Buz | 15 |
| Tracking Guide | 37 |
| Theatre Guide | 48 |
| NETAA Column | 47 |
| Sound Etc | 52 |
| Lighting Columns | 54 |
| Contractors Pages | 56 |
| Duncan Fry | 64 |
| Great Mistakes | 68 |


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● **AUCTION** sale - FREEDMAN have 25 years worth of accumilated 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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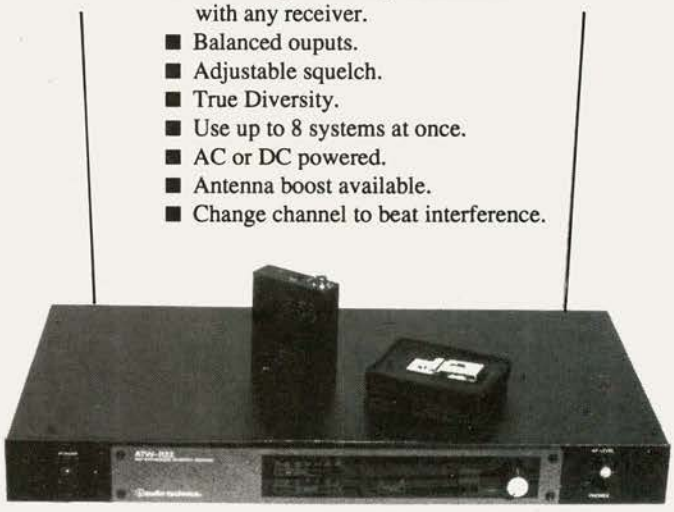

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## EVENTS

### 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 radion, 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 he 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, Christoper 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.*

***We don't appear in July! (or January).***

Connections appears on time, 10 months per year.

***Next issue: August.***

Thence monthly through December.

## 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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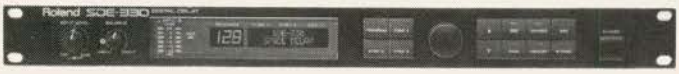
## Sound

# 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 seconds, to you) and like all contempory 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 redords, 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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*See you in August!*

*PS: Why not subscribe now, and get August before anyone else! Just phone (02) 876-3530, or clip card near centre.*

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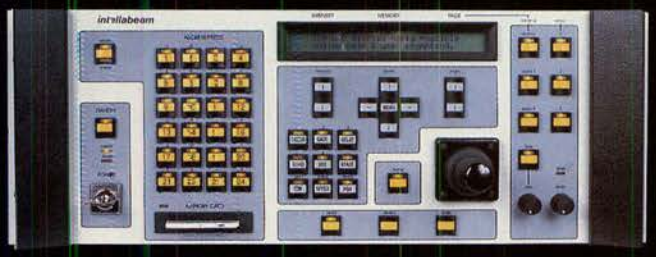


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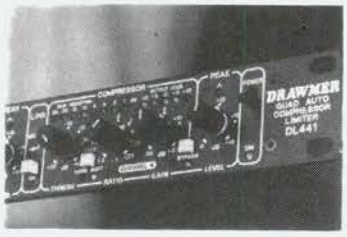
## SOUND PRODUCTS LIGHTING

● **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.

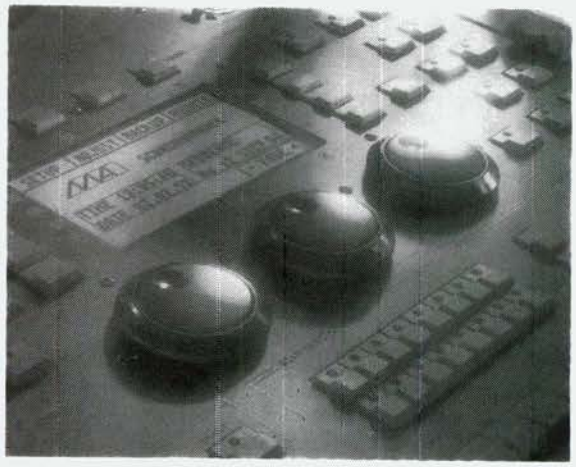
● **DRAWMER** continue a run of recent releases adding the DL441 Four Channel Compressor Limiter *(right)*. With switchable hard or soft knee compression in conjunction with ratio control, you - de user - have compression slope control. Auto attack, release and XLR in and out. Details: Amber Technology (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 langauge. 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 Melbournes 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: Lighmoves (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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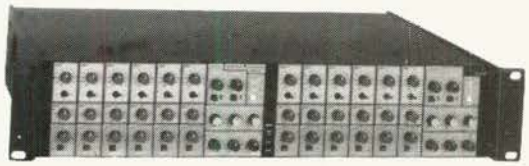
# AUDIO PRODUCTS

● **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.



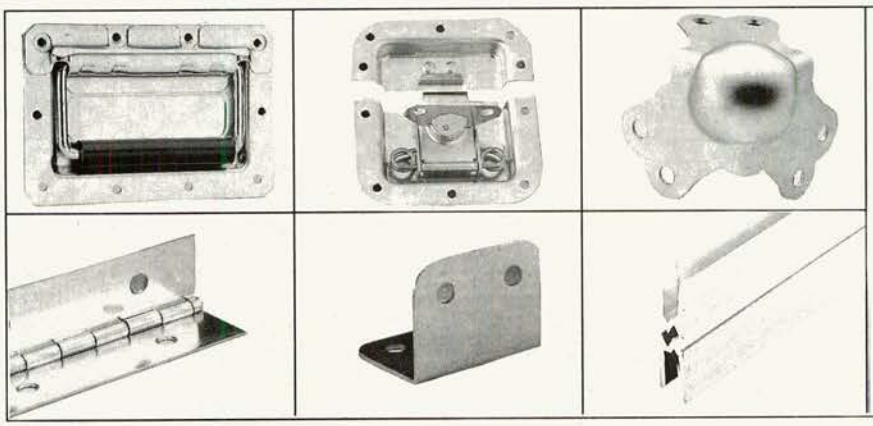
● **CRQ-12** is a unique EQ device *(left)* from APOGEE SOUND. It has 2 x 6 bands of parametric EQ that can be configured in three ways. 6/6 mode is stereo 6 way EQ, while 6/12 mode sees Ch A output from the first 6 bands, while Ch B takes all 12 bands. In 12/12 mode you get all 12 EQ bands common to both outputs, but with separate gain, bandpass and shelving filters. Deatils from ESA Audio, (03) 562-4605.

● **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 agressive 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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***Aladdin*** is a powerful and sophisticated lighting control system with features which meet or exceed the capabilities of dedicated consoles many times more expensive.

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CIRCLE 114 ON READER SERVICE CARD

# 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-evalued 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
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**UK National Pavilion:**
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**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 borad 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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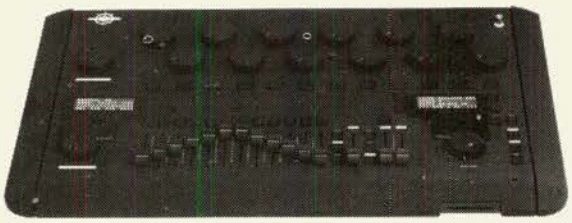

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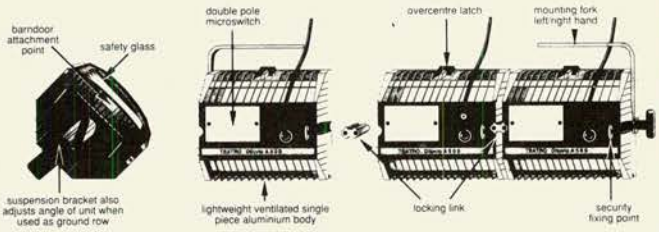


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## Wrong- Jands amps blow

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 coble wired ad de scribed 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 com monly) one or more output transistors and/ or emitter resisters.

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.*

## Lines: Pin 2 or Pin 3 hot?

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 unbalnced 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 Disapointed?

I was most surprised- no, make that shocked - to read the 'Very Disapointed' 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 bute 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 Franfurt 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.*

## Ode to 'The Loader'

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.**

**WRITE TO US! Send your opinion, let's hear it! Fax (02) 876-5715, or mail to: PO Box 439, Epping NSW 2121, Australia.**

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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 intertwined, 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. The bucks are just not there.

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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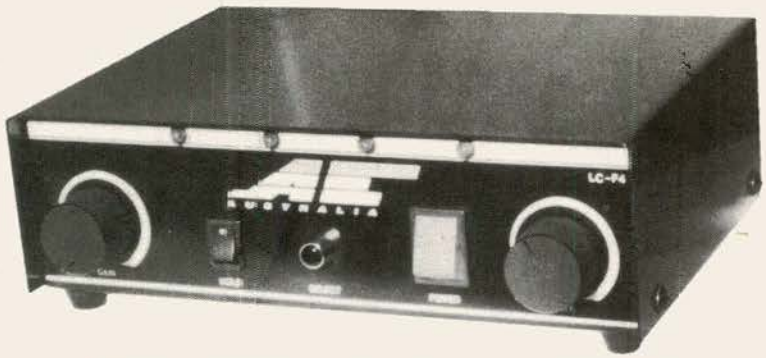

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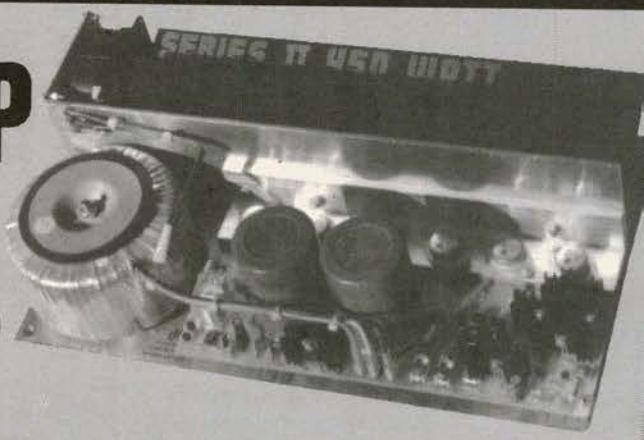


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# AUX 2

**Industry type on a USAir flight reports an amazing but true story from San Francisco recently: a USAir empoyee 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 aise jumped up and said; "I'm gay too - you can't kick us all off!"**

PA People have had a major restructure with the departure of former Managaing 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 capured the a 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 biffo - 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.

## Tradeshow 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.
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AES 96th, Amsterdam, FEB 27 - MAR 2, 1994 PA,SD
**Connections, SEPTEMBER, 1994 PA, LX, TH, SD, CO**
AES 97th, San Fransisco 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.

# HIRE BIZ BUZZ

## 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 'spectuclar', this being the generic name for a concert involving (a) an orchestra; and (b) some difficulty. This one was the Queensland Symphany 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 throuh 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!

❍ **Troppo 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 the 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.

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*Call Richie on (08) 352-8688.

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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 Freemantle, to produce four minutes of lighting choreography that shook the crowd to its foundations over the two nights of its second birdthday. 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.

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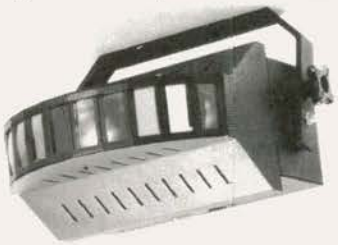

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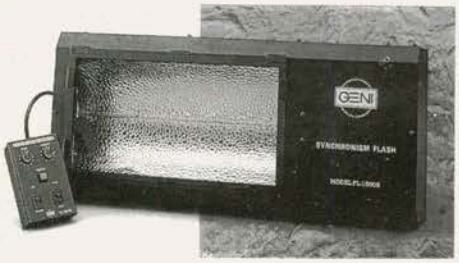

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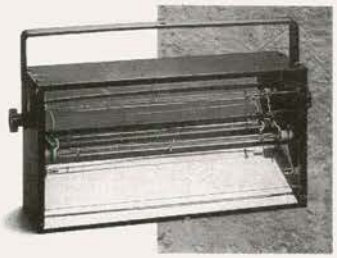

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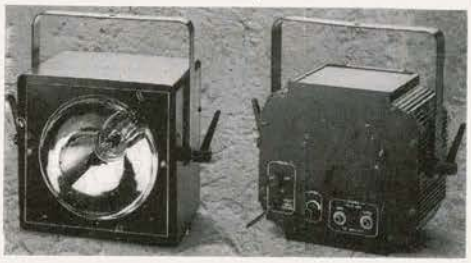

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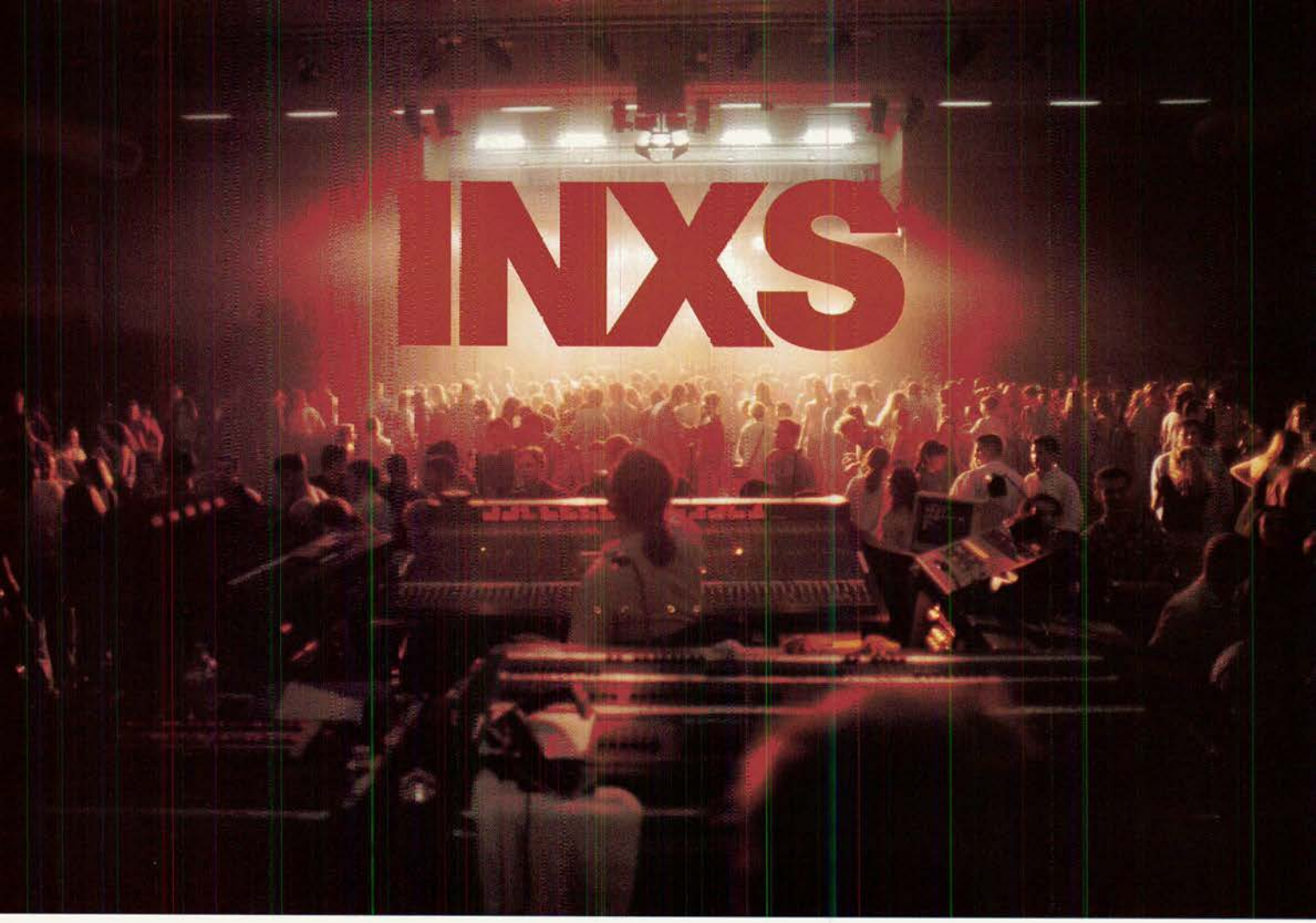



Picture: Marty Williams

# BACK ..... to Basics

**By Catriona Forcer**

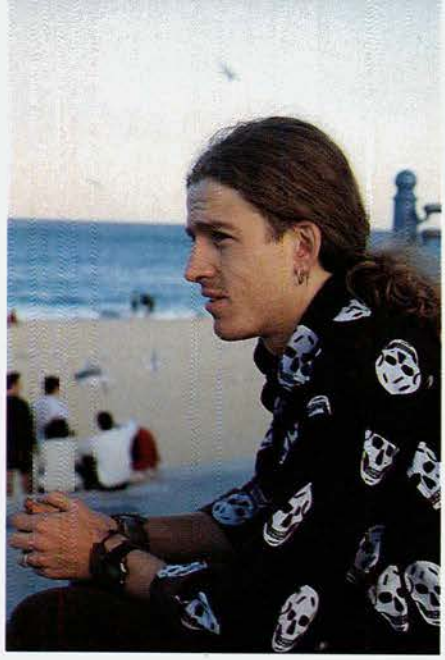
Over the last couple of years there has been a significant INXS backlash here in Australia which probably started when INXS headlined the controversial 'Concert for Life' (some refer to it as the 'Concert for Strife') in March 1992. There have been accusations in the press that INXS's own indulgences 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.

# BACK to basics

In 1991 INXS toured Australia with the 'X Factor' tour which received fairly bad revues 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 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."



*LD for Aussie leg only. Sean 'Motley' Hackett*

"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 Event"*

**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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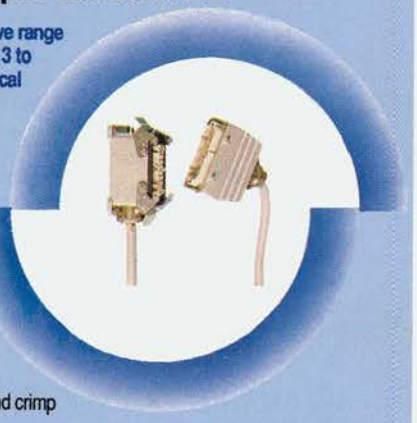

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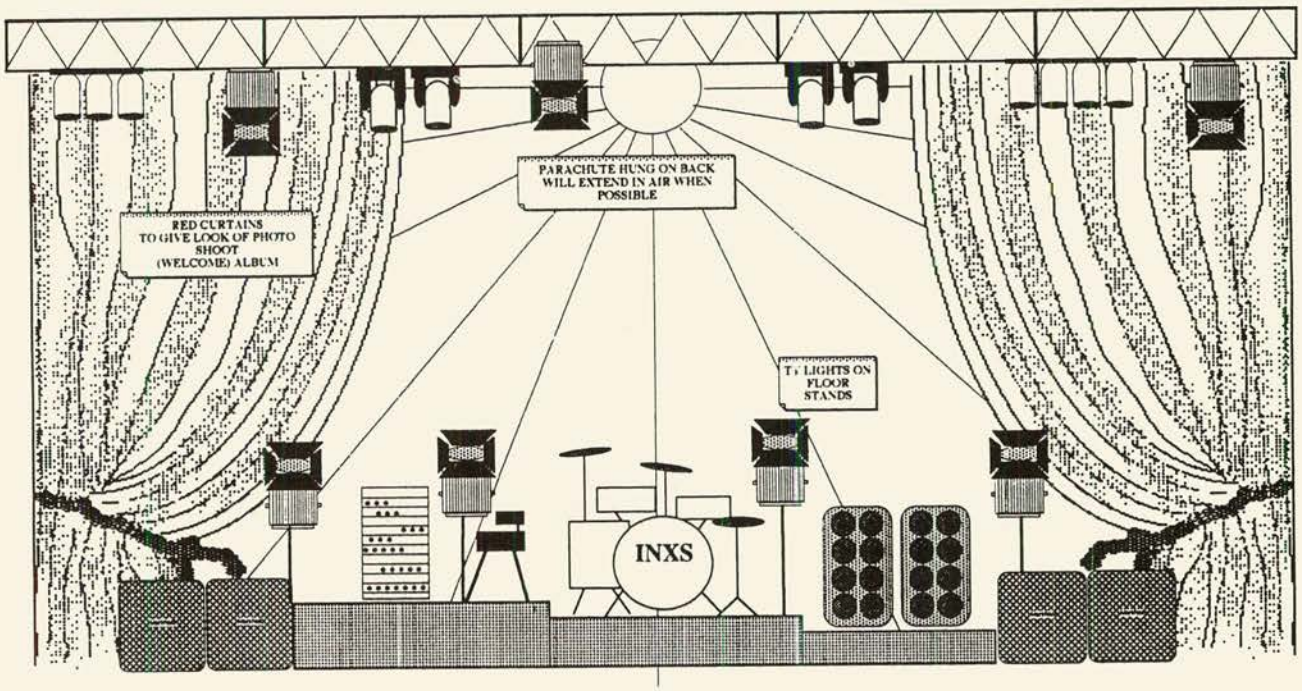
"Basically the concept for this leg of the tour is a bit different to the overseas tour because the rooms we're playing in are all so different. We couldn't really come up with the plot and the concept that they want for overseas. They are still playing smaller venues overseas but in England and the 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."

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

**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 tonights 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



# BACK to basics

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 Vl5s, 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 Lightening 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.

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

**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 VL5s 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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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'.

*"....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"*

"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


# Continuing the good news

**Fresnel 2000/25** - Two years ago we introduced our Selecon Fresnel 1200 with a 175mm (7 inch) lens. It immediately won industry plaudits due to the additional light output and quality of the beam compared to 150mm (6 inch) lens units. At this time we were requested to follow the same approach for a 2.0 Kw Fresnel (remember the 243) so we have!

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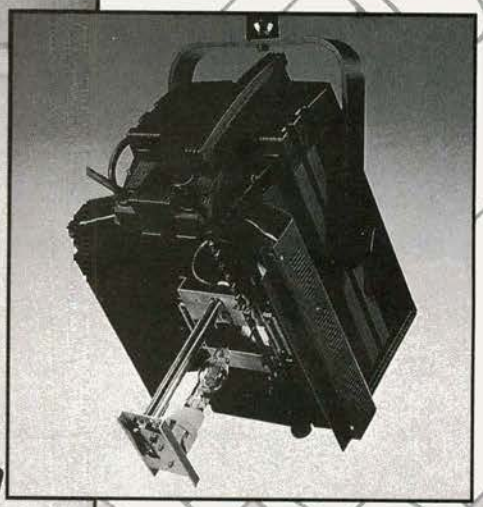

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- Front and rear focus adjustment on Fresnel and PC spot.
- Excellent access to profile lenses by top and bottom hinging covers.
- Version available with cranked fork, to allow high vertical angles of operation when fork underslung rather than top 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.

*"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"*

"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!"

### 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 Horn** Keyboards/Boffin, **Toby Davis** Drums, **Mats Frankl** Sound Technician, **Craig Knight** Lighting Technician.

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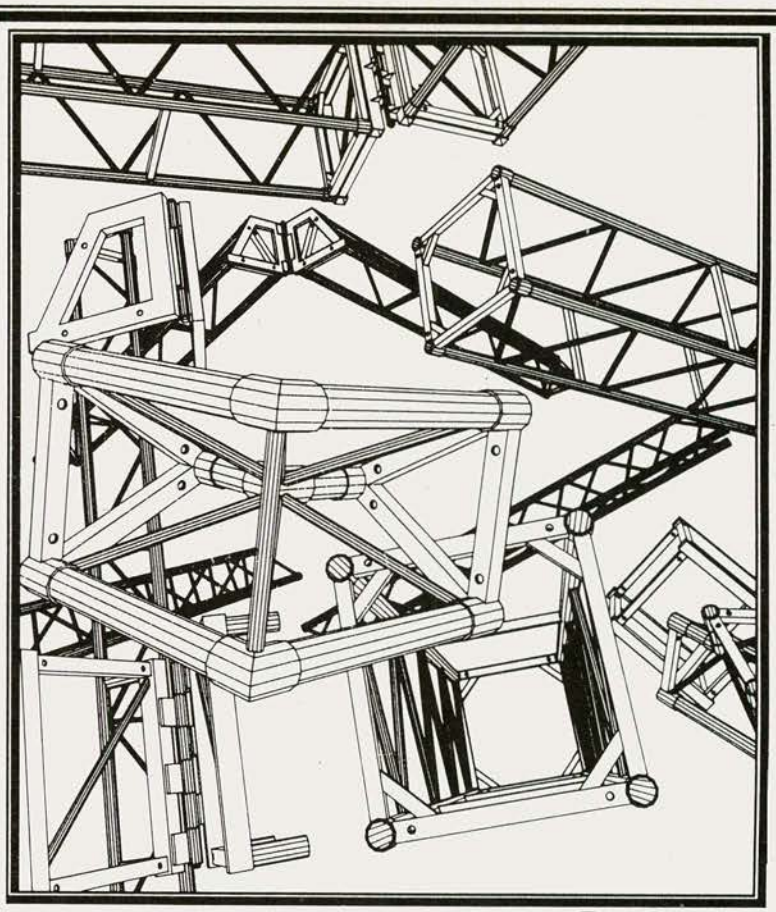

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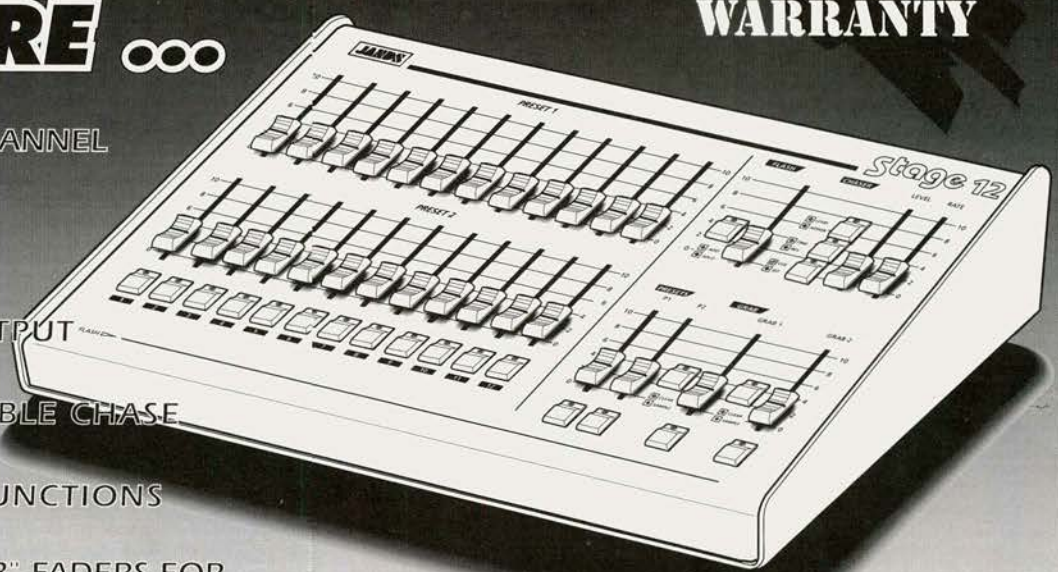


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# Joseph

## 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.

Key Largo Pty Ltd are the production company


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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 Pacholskie*

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 lightening 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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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 (VL4'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. ole 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 Bytecraft 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 Techhnology**, Lighting Control & Dimming **Bytecraft Pty Ltd**, Moving Lights **Vari*lite Australia Pty Ltd**, Trussing **Concert Lighhting 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

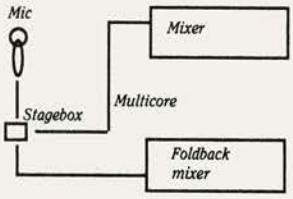
DDA QMR console input

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.

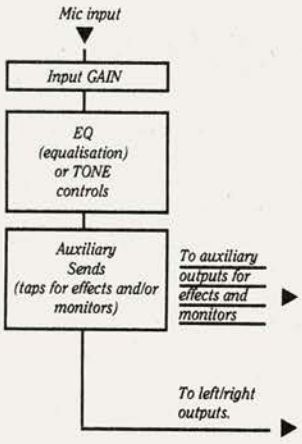
Feedback, distortion and chaos - uncertainty from the stage as the band tried to carry on regardless. All these things and more didn't happen - because Mandy used The Idiot's approach to mixing. She got logical! The soundman didn't get his chance to take over and humiliate her. He ashed his cigarette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




This is EASY. There is nothing between that microphone and the mixer, except 100m of cable. No booster, no in-line effect - nothing. That microphone generates a tiny voltage, which will arrive at the mixer unassisted. The mixer will output a volt and a half of so, peaking at 15v total, which is what the signal chain will 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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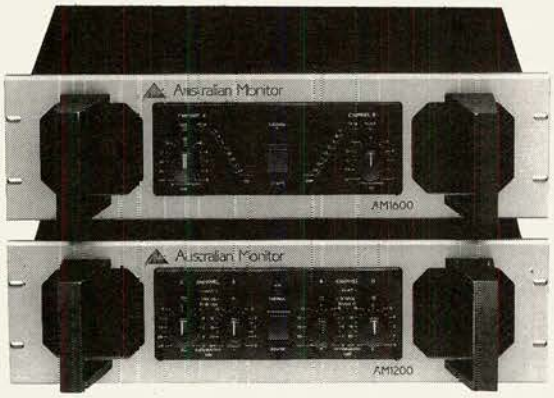

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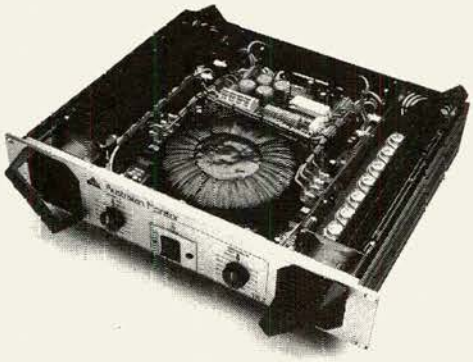

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# THE IDIOTS GUIDE TO LIVE SOUND MIXING

*(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 dont, 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 VenueII, 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.

**© The Idiot, 1993.**

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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 there strength is also a hindrance to them as well. Talking to many well known engineers and producers this is there 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 there 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 woeful 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 to 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 ad 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.

*"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!)*

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. 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 tie 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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# STUDIO-PEOPLE WITH CAROLINE GRAFTON

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

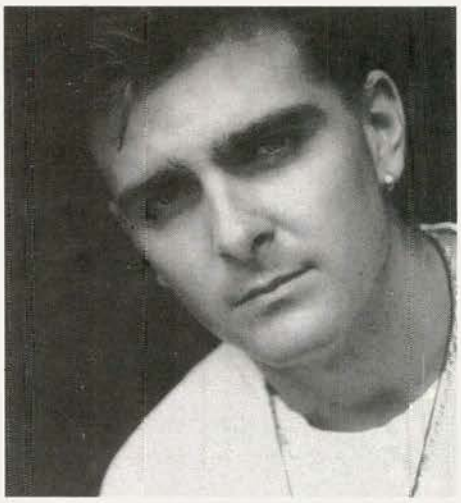
**NIVEN'S DO'S:**

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.

## 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.

# 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*

## NATIONAL TRACKING GUIDE

Fax 02 876-5715

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

Fax 02 876-5715

| 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 |
| **Rich Music Studios** | **Contact Elise Huntley** | **(02) 264-7734** | **24,32 Track** |
| Innuendo | Alex Svencis | Craig Porteils/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 | SingleMix |
| Bellissima | Daniel Denholm | D.Denholm/Fraser Stuart | SingleMix |
| **SAE Studios** | **Contact Tom Misner** | **(02) 211-3711** | **24 Track** |
| 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 |
| **Skyhigh Recording Studios** | **Contact Rob Taylor** | **(049) 50-1574** | **8,16,24 Track** |
| 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-EMI | 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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| ARTIST | PRODUCER | ENGINEER/S | NOTES |
|---|---|---|---|
| **The Vault Cremorne** | **Contact Gina Karpman** | **(02)953-0332** | **48 Track** |
| Anne Kirkpatrick | Mark Moffatt | Greg Henderson | Album |
| Jackson Code | N/A | Tom Colley | Mixing |
| Candy Harlotts | Mark Moffatt | Greg Henderson | Singles |
| Ross Wilson/Rick Brewster | N/A | Mark Moffatt | Demos |
| Mark Moffatt | Mark Moffatt | Mark Moffatt | Own Project |
| **Tracking Station Studios** | **Contact Martin Cass** | **(02) 281-8899** | **24 Track** |
| Pat Drummond | Martin Cass | Steve Pomfrett | Album |
| Various | Martin Reeve | Steve Pomfrett | CDComp. |
| Runaway Babe | Ray Vanderby | Steve Pomfrett | Album |
| Candy Harlotts | Mark Moffatt | Greg Henderson/Anthony McKenzie | EP |
| Don Spencer | Anne Dennehy | Anthony McKenzie | Album |
| **Trafalgar Recording Studios** | **Contact Donna Fisher** | **(02) 660 0385** | **24 Track** |
| Elegant Mane | Elegant Mane | Robin Gist | Demos |
| Craze | C.Fisher | C.Fisher | Single |
| **Troy Horse Studios** | **Contact Katie Blackman** | **(02) 557-3129** | **24 Track** |
| S & M Groove | S & M Groove | Colin Wright | Album |
| Picture House | Dan Liverpool | Colin Wright | EP |
| Kaktus Mantras | Bambi | John Rafferty | Album |
| Lunarcide | Tim Whitten | Bruce Waite | EP |
| Harding Richards-Club Superstar | Robert Goulet | Micky J Levis | Double Album |
| **Northern Territory** | | | |
| **Caama Music** | **Contact Stanley Satour** | **(089) 523744** | **24 Track** |
| Blek Bela Mujik | Allan Murphy | Mark Manolis | CDEP |
| Monica Christian | N/A | Stanley Satour | Album |
| **Queensland** | | | |
| **Grevillea Recording Studios** | **Contact Malcolm Jackobson** | **(07) 262-8422** | **24 Track** |
| Jeff Usher Jazz Unit | Jeff Usher | Bruce Jackson | Location recording |
| James Black | James Black | Malcolm Jacobson | Demos |
| Betty Beath | Betty Beath | Rodney Jacobsen | CD |
| Vox | John Webber | Malcolm Jacobson | Rec.St.Marys Cath. |
| **Victoria** | | | |
| **Allan Eaton Studio Pty Ltd** | **Contact Robin** Gray | (03) 534-0752 | 48 Track |
| Anthony Warlow | A.Warlow | Robin Gray | Album |
| Reckless Kelly | YahooSerious | Robin Gray | S'track |
| **Gotham Audio** | **Contact Tom Kehoe** | **(03) 879-9400** | **24,48 Track** |
| John Farnham | Ross Fraser | Doug Brady/Spiro | Album |
| Lex & Rory Score | Frank Strangio | Doug Brady/Spiro | Film S'track |
| **Metropolis Audio** | **Contact Kerri Minchin** | **(03) 696-2111** | **48 Track** |
| Have A Nice Day | Mark Deamley | Mark Deamley | Album |
| Juno Roxus | Craig Harneth/Ross Cockle | Ross Cockle | SingleMix |
| Tiddas | Tony Cohen | Tony Cohen | Album |
| Stiff Kittens | Stiff Kittens | Nigel Derricks | EP |
| GMH "VR Commodore" | TPG/Keith Moore | Scott Heming/Rodney Lowe | Launch |
| Bobby Brown | MCM | Doug Brady/Mat Thomas | Tennis Cent. Rec. |
| Bobby Brown | MCM | Doug Brady | Post Production |
| **Platinum Studios** | **Contact Gary Moorhead** | **(03) 827-7483** | **48 Track** |
| Crowded House | Crowded House | Bob Clearmountain/Chris Corr | Album Mix |
| Slaves of Cool | Slaves of Cool | Chris corr | Album |
| Hunters & Collectors | Tony Cohen | Mike Letho | Single |
| Boys in Black | Matthew C'Connor | Craig Portiel | EP Mix |
| Bass Culture | N/A | Mark Forrester | Single Re-Mix |
| Southern Sons | N/A | Mike Letho | Singles Re-Mix |
| Kate Ceberano | Kate Ceberano | Mark Forrester | Demos |
| Boom Crash Opera | Boom Crash Opera | Rick Will/Kalju Tonuma | Single |
| **SBS Audio** | **Contact Richard Micaleff** | **(03) 685-2525** | **24 Track** |
| Weddings Parties Anything | N/A | N/A | Comp.Album |
| Lewis & Young | N/A | N/A | Album |
| **Sing Sing Studios** | **Contact Mark Wood** | **(03) 428-4622** | **24,48 Track** |
| Chocolate Starfish | N/A | Kaj Dahlstrom | Single |
| Jeff(The R&B Man) | N/A | Kaj Dahlstrom | Album |
| Guryel | N/A | Phil Butson | Album |
| Kathy Johnston | N/A | Andy | Album |

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## EX-TRACK

*(...continued)*

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 Bidstrip 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".

***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**, Corrimal 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 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). Published 10 times yearly***

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**Deadline is usually the 15th.**

## 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 | Doco.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 |
| **Western Australia** | | | |
| **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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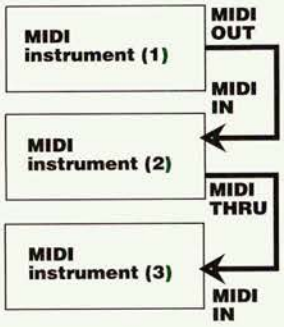
# MUSIC TECHNOLOGY SUPPLEMENT

## 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 it's 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.

FIG 1

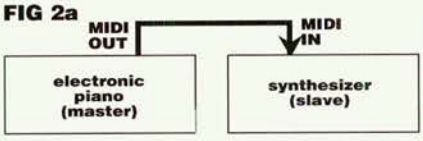



In this set-up, MIDI information is fed out of the MIDI OUT of keyboard number 1, and into the IN of keyboard number 2. It is also passed on to the IN of keyboard number 3, via the THRU of keyboard number 2. In this way, the information from keyboard number 1 can control both keyboards 2 and 3.
Such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

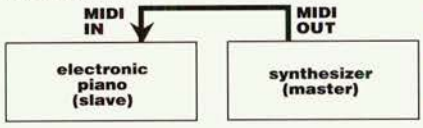
MIDI information is sent from MIDI OUT to MIDI IN, or from MIDI THRU to MIDI IN. The information is always sent "one-way", so that the "Speaker" and the "listener" in a MIDI conversation remain the same, always! For example, a MIDI "keyboard controller" which has no sound of its own, or a MIDI "sound 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*

FIG 2b




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 1previously, 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 YPDR - 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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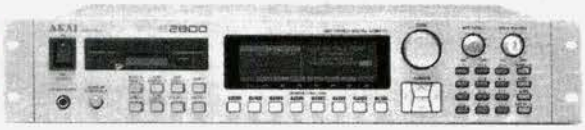
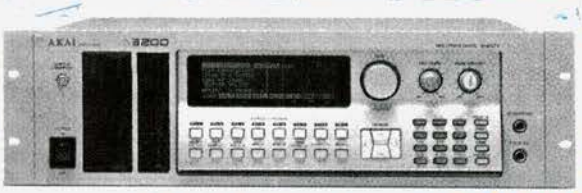


32-voice ▪ 16-bit A/D, 64 times oversampling ▪ 18-bit D/A, 8 times oversampling ▪ 2mB RAM, expandable to 16mB ▪ DSP (chorus/flange, delay, pitch-shifting) ▪ Internal mixer with variable efx send ▪ multi-outs ▪ resonant filter ▪ APM: Assignable Program Modulation.

**S2800**

32-voice ▪ 16-bit A/D, 64 times oversampling ▪ 20-bit D/A, 8 times oversampling ▪ 8mB RAM, expandable to 32mB ▪ Direct to disk recording ▪ DSP (chorus/flange, delay, pitch-shifting) ▪ SCSI ▪ Digital I/O ▪ SMPTE I/O ▪ Internal mixer with variable efx send ▪ multi-outs ▪ resonant filters ▪ APM Optional internal HD or Magneto Optical disk (3.5")



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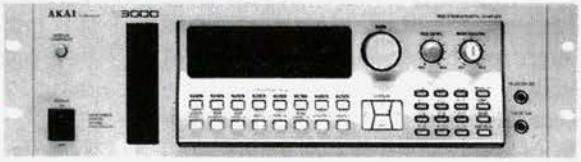

32-voice ▪ 16-bit stereo A/D, 64 times oversampling ▪ 20-bit D/A, 8 times oversampling ▪ 2mB RAM, expandable to 32mB ▪ DSP (chorus/flange, delay, pitch-shifting) ▪ Optional SCSI and Digital I/O (real time & backup) ▪ APM ▪ Internal mixer with variable efx send ▪ multi-outs ▪ resonant filters ▪ Optional internal 105 mB hard disk.

**S3000**

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**

**... the S01 - Akai quality sampling for under $2000**

## ...and see the first showing of the new standard in digital multitrack recording - for under$4,000

The DR4 Multitrack Hard Disk Recorder
4 tracks per unit ▪ Up to 4 units may be combined in a system ▪ Up to 7 hard disks for each DR4, seamless overflow recording ▪ analog and AES/EBU (Type I & II) I/O ▪ Real-time punch in/out ▪ Job/shuttle ▪ more...

**DR4**

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AKAI DIGITAL

**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:

Analog 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.

Presenting the TDB/E7. The world's first truly complete electronic percussion kit. Go for the whole package, or integrate select components with your acoustic set. Just plug it in. Play it naturally. And make yourself and the guy next door very, very happy. **Roland®**

*For more info contact: Roland Corp. Aust. (02) 982 8266*

**Circle 165 On Reader Service Card for more information**

# 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 namec 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 confoms 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.

Th target users are those of you with Kr 01, and Yamaha SY Series devices, al JD-800 and JV-80 users wanting a s nbd 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!


## 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.**

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## *i*nfo 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 whist 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 log 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 form 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)*

## End UserReview

From Blind Lemon Pie (Dave Macken & 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 knowledgable 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 UserReview

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 it's 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 scund quality, affordability and straight forward navigation.

*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!)*

So.....what does it sound like? Well while this new AKAI is a budget unit, and even though there is nc 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 reacy 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 has 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 it's 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 heros working behind the scenes in Theatre, Opera, and Dance productions around Australia..*

Production • Company • Venue • Crew

**A Man for All Seasons** — **New Theatre**
**New Theatre** Michael Schell(LD), John Foster(PD), Tom Bannerman(SSD), Sheelagh Gale(C), David Pross(C)

**A Masked Ball** — **Australian Opera**
**Opera Theatre-Syd OH** Nigel Levings(LD), Michael Stennett(PD), John Bunter(SSD)

**Aftershocks** — **Company B**
**Belvoir Street Theatre** Brian Thompson(SSD), Arabella Powell(SM)

**Agamemnon** — **IRAA Theatre**
**IRAA Theatre** Renato Cuocolo(LD, SD, SSD), Simon Lourey(LBO,SO), Jorge Merjer(PD), Paul Monaghan(SM)

**Among the Butterflies**
**Cross Roads** Alan Walpole(PD)

**And a Nightingale Sang**
**Qld PAC** David Walters(LD), Geoff Kelly(LBO), Mark Blacker(SO), Bruce Bolton(SM)

**Angels in America** — **Syd Theatre Co**
**The Wharf Theatre** Mark Shelton(LD), Kevin Blyth(LBO), Peter Eades(SD), Justine Thompson(SM), Barbara Durwood(SM) Brian Thompson(SSD)

**Barking Mad** — **Chrissie Parrott Dance Co.**
**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)

**Barmaids** — **Zootango Theatre Co.**
**State Theatre(TAS)** Greg Thompson(LD), Don Hopkins(SD), Tanya bennett(SM,SO,LBO), In Cahoots(PD)

**Beauty & The Beast** — **Syd Dance Co.**
**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)

**Blossoms and Wrinkles** — **One Extra**
**Belvoir St Theatre(Upstairs)** Rory Dempster(LD), Annette Dale(LBO, SM), Mic Conway(SD), Lee Williams(SO),

**Brilliant Lies** — **MTC/RQTC**
**Playhouse-VAC/Suncorp** David Walters(LD), Dale Ferguson(PD)

**Brisbane Biennial Music Fest.** — **Concert Hall-QLD PAC**
Paul Hunter(LBO), Warwick Brooks(SD), Rick Cane(SO), Bruce Gentner(SO), Hugh Powell(SM)

**Close to the Bone** — **Q Theatre**
**Q Theatre** Simon Lampton(LD), Chris Day(LBO), Monique Howett(SO,SM), Joe Hurst(PD, SSD), Joanne Close(C)

**Death & The Maiden** — **Syd Theatre Co.**
**On Tour/SOH, MTC** Nigel Levings(LD), Peter Eades(SD), Brian Thompson(SSD), Julie Lester(SM), Gerard McLaughlin(C)

**Die Meistersinger** — **Australian Opera**
Nigel Levings(LD), Reinhard heinrich(SSD), John Gunter(SSD),

**Extraordinary Encounters ...**
**Belvoir St Theatre(Downstairs)** Brian McCarty(LD,LBO,SO),

**Gilgul** — **Company B**
**Belvoir St Theatre(Upstairs) (NSW)** Robert Lehrer(LD), Barry Kosky(SD), Peter Corrigan(SSD), Loretta Busby(LBO,SO,SM)

**Gunjies**
**Belvoir St Theatre(Upstairs)** Mark Howett(LD), Monique Howett(LBO), Monique Howett(SD), Mark Mitchell(C), Fiona Johnston(C), Barbara Williams(C)

**Hamlet** — **Bell Shakespeare Co**
**Theatre Royal** Brett Grahams(LD), Michael Scott-Mitchell(PD)

**Hamlet** — **WA Ballet** Kenneth Rayner(LD), Jan Conraats(LBO), WASO(SO), Andrew Carter(PD), Jennifer Dymond(SM), Davina Ware(C), Sam Hardcastle(C)

Production • Company • Venue • Crew

**High Society** — **RQTC, STCSA, MTC**
**Canberra Theatre** Karen Norris(LD), Heikki(LBO), John Mattheson(SD), David Greasely(SO), Mare Crimpton(SM),

**How to succeed in business**
**Lyric Theatre, Qld PAC** Nigel Levings(LD), Rohan Trundie(LBO), Ron Barlow(SD), Paul Tilley(SO), Brian Thompson(SSD), Mark Baiten(SM),

**Into the Woods** — **Sydney Theatre Co**
**Syd Op Hse, Drama Theatre** Roger Barratt(LD), John Senlzuk(SSD), Michael Bader(SM), Josephine Hill(SM), Lana Lazaress(SBO), Louise Fisher(C), Andy Vass(C), Moz Lockwood(C)

**Isn't it romantic** — **Kent St Theatre** Michael Schell(LD), Dianne Kennedy(LBO), Neil Kennedy(SD), Wendy Hill(PD), Sarah Butler(SSD), John Foster(SM)

**Joseph & The Amazing Technicolour Dreamcoat**
**Qld Performing Arts Centre** Andy Bridge(LD), Hugh Carlton(LBO), Mark Leven(SD), Paul Hitchins(SO), Anneke Harrison(SM), Mike Hyde(MX), Ian Blackborn(LX)

**Kissing Frogs**
**Seymour Centre/Riverside** Mark Howett(LD), Glen Steel(BO), Stacey Stanboulides(SD)

**Lend Me a Tenor**
**Glen Street Theatre** Mark Howett(LD), Richard Montgomery(LBO), Annette Alderson(SM), Graham Maclean(PD)

**Les Liason Dangereuses** — **Iron Cove Theatre Co**
**Balmain Town Hall** James Armstrong(LD), Dina(SO), Annette Reid(PD), Peta Cruise(SM), Cecile busby(C)

**Loaded Ute** — **Sydney Theatre Co**
**On Tour** Kevin blyth(LBO), John Senczuk(SSD), Michael Bader(SM), Josephine Hill(SM)

**Madam Butterfly** — **West Aust Opera**
**His Majesty's Theatre(WA)** Donn Byrnes(LD), Jon Coenraats(LBO)

**Madam Butterfly** — **Australian Opera**
**Opera Theatre-Syd OH** Roger Barratt(LD), Henry Boron(SSD), Michael Stennett(PD)

**MacbethDarned Sock Theatre)** Viginia Boyle(PD), Bess Parker(SSD)

**Macbeth** — **State Opera of SA**
**Adelaide Festival Centre** Don Byrnes(LD), Tito Cabbianco(PD,SSD), Albert Filoni(PD,SSD), Mandy Farner(SM),

**Madame Butterfly** — **WA Opera**
**His Majesty's Theatre, Perth (WA)** Donn Byrnes(LD), Jan Conraats(LBO)

**Midsummer Night's Dream** — **Australian Opera**
Nigel Levings(LD), Catherine Martin(SSD), Bill Marron(SSD)

**Oedipus Rex** — **Lyric Opera of Qld**
David Whitworth(LD), Peter Corrigan(PD), Cathy Dadd(SM)

**One Woman's Song** — **Royal QLD Theatre Co**
Cremorne Theatre/QLD PAC Mark Howett(LD), Geoff Kelly(LBO), Warwick Brooks(SD), Mark Blacker(SO), Greg Clark(SSD), Creina Gehrke(SM)

**Other Worlds** — **NIDA**
**NIDA** Kate McKay, Robyn Finchan(LBO), Marcus Verrall(SD,SO), Carson Andreas(SSD), B Phillips(SM)

**Other Worlds** — **NIDA**
**NIDA**Kate McKay(LD), Robyn Finchan(LBO), Marcus Verrall(SD,SO), Carson Andreas(SSD), Briony Phillips(SM), Derrin Brown(C)

**Out of order**
**Theatre Royal(TAS)** Damien Fuller(LBO), Sandy Campbell(C)

**Pericole** — **Australian Opera**
**Opera Theatre-Syd OH** Roger BarrAtt(LD), Angus Strathie(SSD), Inspiration(SSD)

**Punch me in The Stomach**
**Belvoir St Theatre(Upstairs)** Grant Davis(LD), Loretta(SM,LBO,SO),

**Radiance** — **Company B**
**Belvoir Street Theatre(Upstairs)** Fiona Johnstone(LD), Loretta Busby(SM,LB,SO)

Production • Company • Venue • Crew

**Richard III** — **Bell Shakespeare Co**
Nigel Levings(LD), Michael Scott-Mitchell(PD)

**Road** — **NIDA**
**NIDA** Kate McKay(LD), Andrew Richards(LBO), Louisa Gordon(SD, SO), Genevieve Blanchette(SSD), Cathy Hastings(SM), Suzanne Peri-Chapman

**Romeo & Juliet** — **Bell Shakespeare Co**
Nigel Levings(LD), Michael Scott-Mitchell(PD)

**Salome** — **Australian Opera**
**Opera Theatre-Syd OH** John Drummond Montgomery(LD), Kristian Fredrikson(SSD)

**Scenes from an execution** — **Company B**
**Belvoir Street Theatre(Upstairs)** Catherine Millken(SD),Jennie Tait(SSD), Loretta Busby(SM)

**Sth Tasmanian Dancing Eisteddford**
**Theatre Royal(TAS)** Damien Fuller(LD,LBO), Greg Thompson(LBO), Andy Nichols(C), Peter Williamson(C)

**Sky** — **Q Theatre**
**Q Theatre** Peter Holdemess(LD,PD), Chris Day(LBO, SO)

**State of Bewilderment**
**Riverside/ Syd Op Hse** Tim Boyd(LD), Liz Thompson(SM), Mark Wilser(SSD)

**State of Bewilderment**
**Riverside/ Syd Opera House** Tim Boyd(LD), Liz Thompson(SM), Mark Wilser(SSD)

**Strictly No Balls Groom** — **Old Nick Co.**
**Theatre Royal(TAS)** Damien Fuller(LD,LBO), Craig Wellington(SD), Graeme Paine(PD), Sandy Campbell(C), Hemisphere Productions(Video design)

**Swell Party**
**Playhouse, Syd O.H.** Mark Howett(LD), John Lewis(LBO), SOH Audio(SD)

**Synergy with Synergy** — **Sydney Dance Co.**
**Lyric Theatre-QldPAC** John Rayment(LD), Brian Thompson(PD)

**Talley's Folly** — **Glen Street Theatre**
**Glen Street Theatre** Karen Norris(LD), Ian McPherson(SSD)

**Tasdance** — **Tasdance**
Greg Thompson(SM)/Rob Gravestock(SM)

**The Grace of Mary Trevors** — **NIDA**
**NIDA** Louise McRoberts(LD), Adrian Harris(LBO), Leonie Pixon(SO), Andrew Raymond(SSD), Sheryl Talmagel(SM)

**The Heartbreak Kid** — **Ensemble**
**Ensemble** Shane Stevens(LD), Vanessa Campbell(LBO,SO,SM), Judith Hoddinott(PD,SSD), Michael Salmon(C)

**The New Rocky Horror Show**
**Her Majesty's Theatre (NSW)** David Murray(LD), Peter Ratcliffe(SD), Rob "Sex God" Boumanis(SO)

**The Old Boy** — **Ensemble**
**Ensemble** Shane Stevens(LD), Kym Newell(LBO), Judith Hoddinott(PD,SSD), Andrew Simpson(SM), Michael Salmon(C)

**The Perfectionist**
**Marian Street Theatre** Malcom White(LD, LD & LBO)

**Tosca** — **State Opera of SA**
**Adelaide Festival Centre** Mark Henderson(LD), Ashley Martin-Davis(PD,SSD), Mandy Farner(SM)

**Triple Bill** — **The Australian Ballet**
**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)

**Viva La Vida** — **Handspan Theatre**
**Anthill At The Gasworks** Phil Lethlean(LD), Mikkec Minster(LBO,SO,SM), Peter Jago(SD), Ken Evans(PD,SSD)

**Vive** — **Old Melbourne Gaol**
Erez Gordon(LD, SSD), Asas Gordon(LO, SO), Angela O'Donnell(SSD, SM)

**Who's Afraid of Viginia...** — **New Carthage Theatre**
**Pilgrim Theare** Tom Bennerman(PD)

**You can't take it with you**
**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**

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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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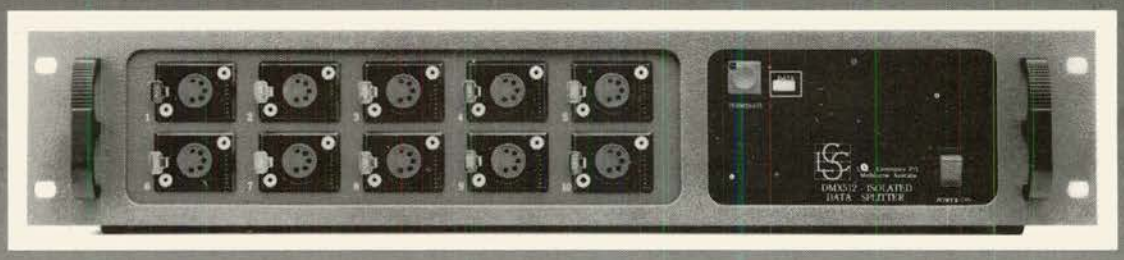

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# END USER REVIEW

*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 it's own merits.

Whilst on this point, their 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 months 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.

*+21dBu output means it can align live speaker arrays as well as functioning as a multi effect unit*

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, independant 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-

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*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 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**

**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 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.

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.

*"ZOOM have come up with a 4 layer system - with 4 independant XLR In's and Out's"*

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 quality 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.

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**

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# 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.

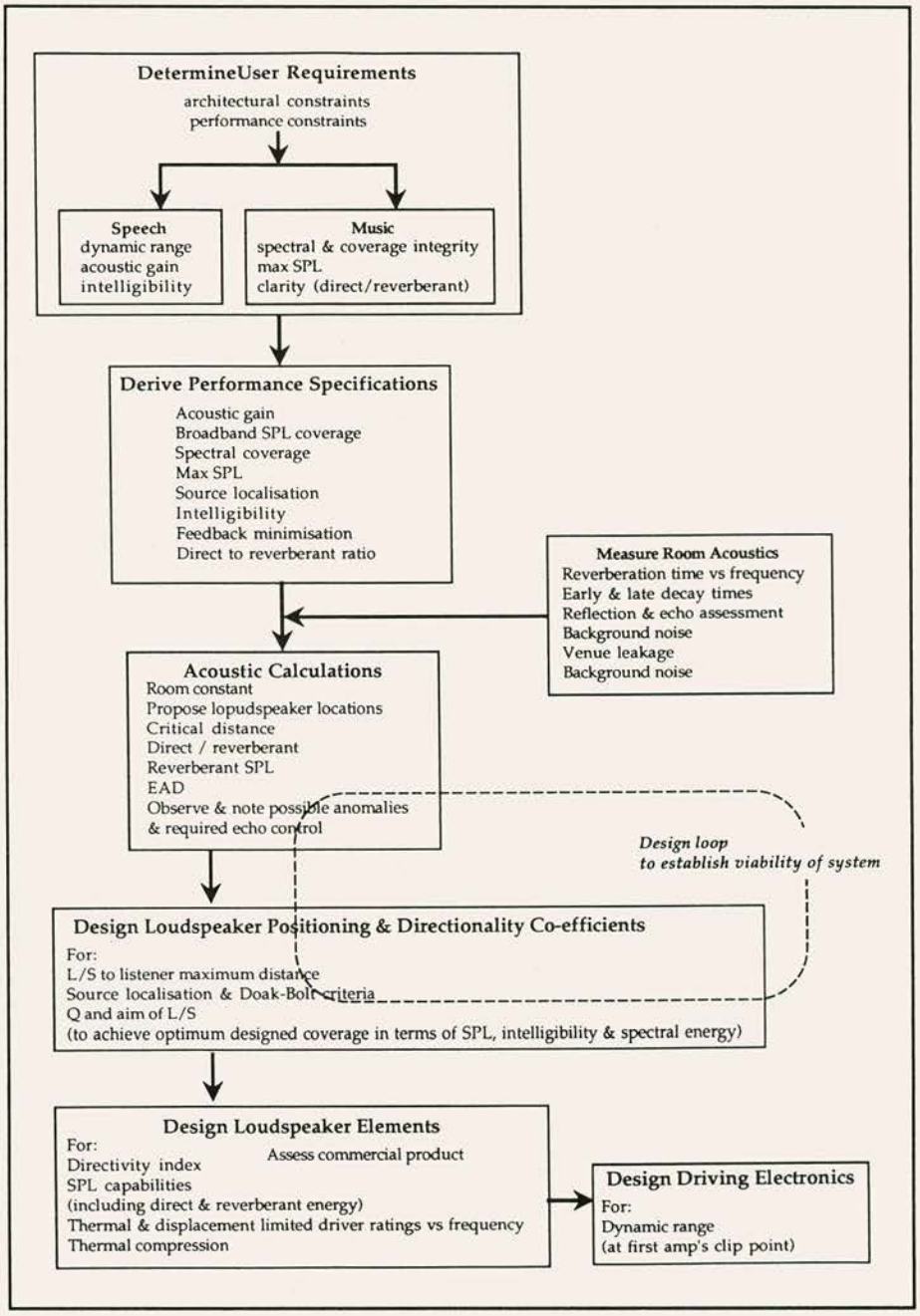
It would have been a lot easier to know what they wanted to do with the sound system in the first place !

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

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 it's frequency response coverage and expense.

**Continued next issue ... AUGUST.**

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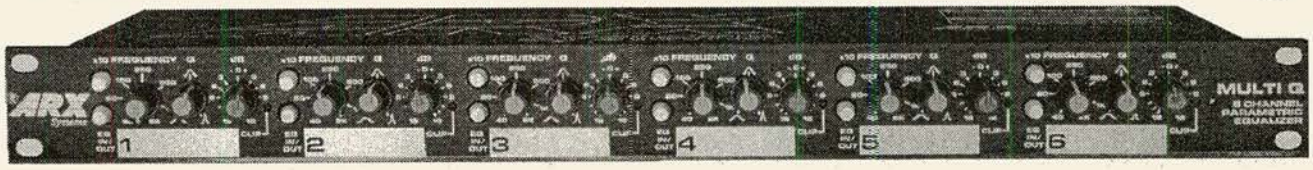
# How to make Parametric EQ ads interesting




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!

You see the trouble with every other parametric is that you are forced to use all four or five bands even when you only want to pull out one frequency. Kind of a waste of your resources, isn't it? Wouldn't it be great if you could access those unused bands and use them for something else?

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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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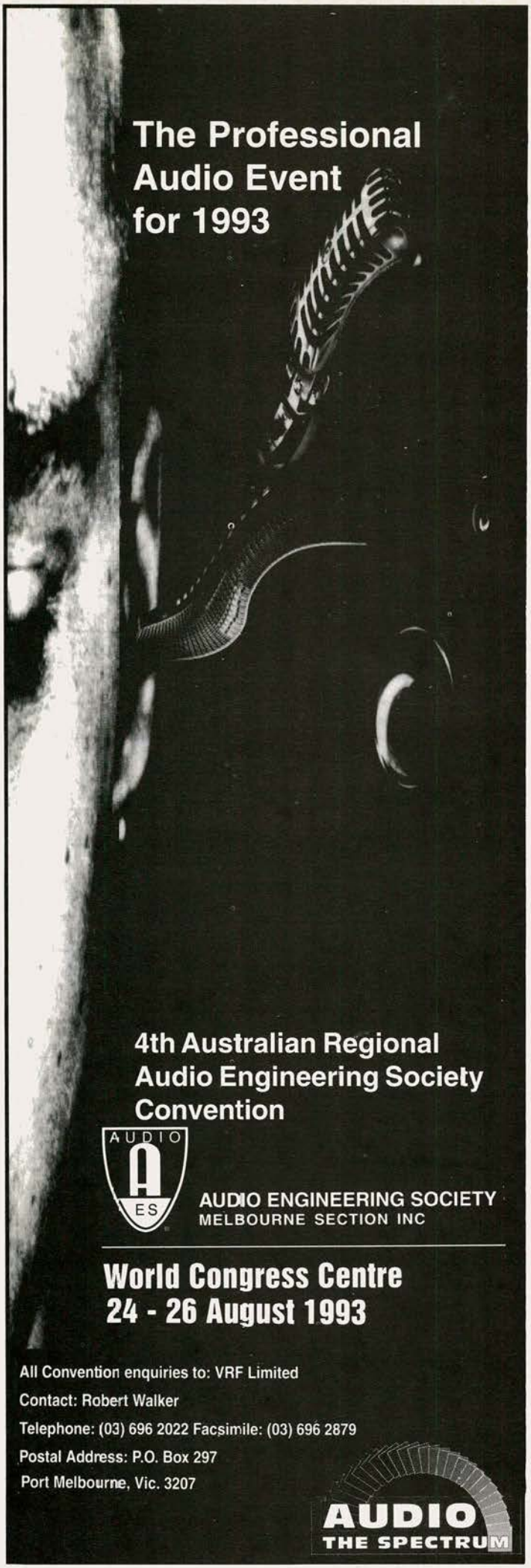




# Peter Kemp

*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 recognisor 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.*

# 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.

New 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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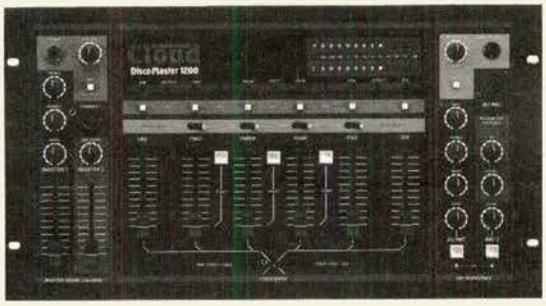

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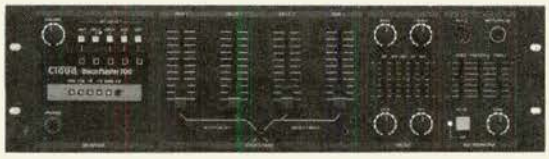

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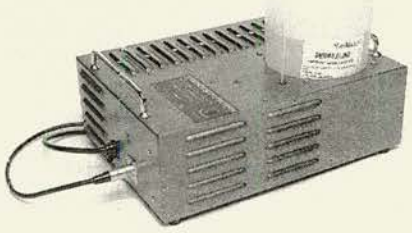

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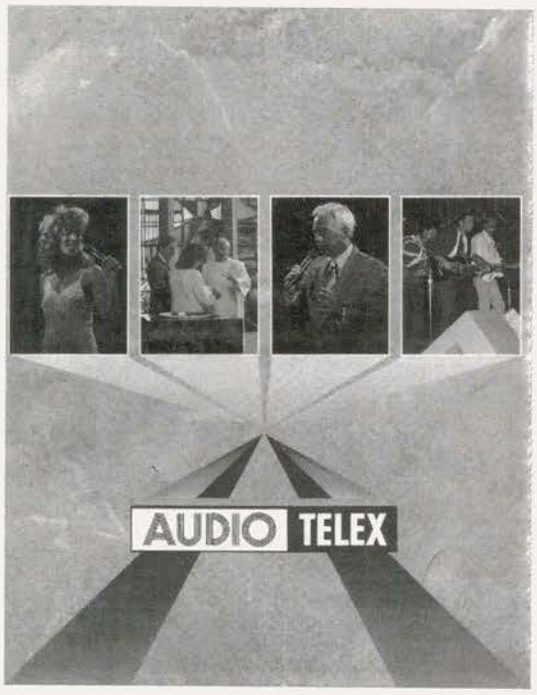
## AUDIO TELEX CATALOGUE

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

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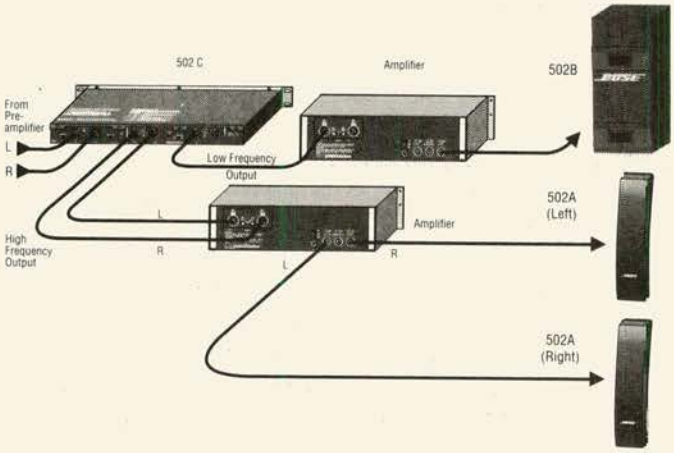
*Basic Panaray System (below). A voice-only system doesn't require the 502B subwoofer, or second power amplifier.*



**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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**BRISBANE** 42 Commercial Rd. Fortitude Valley. PO Box 871, Fortitude Valley 4006 **Tel: (07) 852 1312 Fax: (07) 252 1237**

**PERTH** Unit 7 64-56 Kent St. Cannington, PO Box 489, Cannington 6107 **Tel: (09) 356 2761 Fax: (09) 356 2762**

**ADELAIDE** Electronic Concepts 76 George St. Thebarton, PO Box 7034 Hutt St. Adelaide 5000 **Tel: (08) 234 9444 Fax: (08) 234 9441**

**HOBART** K W McCulloch 54A Albert Rd. Moonah. PO Box 363, MOONAH 7009 **Tel: (002) 28 6373 Fax: (002) 78 1053**

*Shure is the registered trademark of Shure Brothers USA * Electrovoice is the registered trademark of Electrovoice USA

**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 Dynalite, 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 Dynalite currently exhibit at tradeshow like Plaza in England, and Pro Audio & Light in Singapore. Tradeshows 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 ofset 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 noisegates 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 airfrieght 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 tradeshows.

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:

**Dynalite:** 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.

**2 Metre** flat truss sections $80. Grafton Lighting (02) 698 7777.

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 croosover . 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 Lighitng Waterloo (02) 698 7777.

Followspot Coemar Pilota 100watt CID with inbuilt colour changer. $1350. CC'S Light & Sound 008 803 064.

Fostex E/16 with remote brand new headblock and service report. Offers welcome. Phone (02) 555 8070.


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Galien Kruger 800RB $1700, JBL 15 inch speaker $500. Phone Eddie on (08) 362 6919 or (08) 276 2864.

GEM fogger smoke machine, 1 month old. cost $700. Will sell for $570, (03) 853 8284.

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. Rechargable 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.

Marshall 8004 stereo power amp, ART preamplifier, Rockman stereo chorus delay, 150 watts Celestion box, $850, can separate. (08) 398 4747.

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

today for a demo. Grafton Sound (02) 698 7777.

Mitec studio monitors, 15 inch speakers, Mantarya horns, with crossover and plywood boxes. $1800. (03) 885 1191.

Nagra IVS Stereo (2), both in excellent condition. $4000 Each. Phone (002) 35 3312.

Nessel quad box 4 x 12, new condition, wired to go with only 2 speakers. $250 (03) 523 9735.

Neumann KM73 condensor microphone (2) with power supply, windsocks, cradles and leads. Perfect condition. Collectable. $1200 the lot. CC'S Light & Sound 008 803 064.

New Bar Cases. $650. New Packing cases $570. New 19" equipment sleeves from $60. Grafton Lighting and Sound (02) 698 7777.


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24Chan-3                >--SMITH01--<
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PA System, Dynachord 60 watt head, 4 channel mixer, digital echo, superb sound from small portable system. $550 (047) 36 3115.

PAR64 including lamps. $100. New PAR56. $96 including lamp. Grafton Lighting Waterloo (02) 698 7777.

Peavey 358-S 1 pair 3 way PA loudspeakers, rated at 300 watts RMS, programmable, or 150 watts RMS, continuous, with Cannon and phone jack connectors, biamp inputs, at 1000Hz and 6000Hz includes 15 inch Scorpion bass, excellent balance, full spectrum sound, never used, cost $2100 new, will sell for $1500 or nearest offer. Phone Tony on (08) 352 6574.

Peavey CS8000 amplifier. Brand new, 2 x HC15 speakers, plus stands, 2 x Soundtech wedges, paid $4200, will sell for $3200, or nearest offer. (02) 411 4397.

Peavey KB300 amplifier EC $1250 Danny (03) 898 5187.

Peavey SRC421 mixer, 24-4-2, 3 aux, sweepable mids, new condition with roadcase. $2200 or nearest offer. Phone (02) 673 8224 or (02) 673 3547.

Peavey Sub Speakers (4), 15"/box, 600watts. Excellent condition $2500, or nearest offer. Phone Anthony (08) 337 8512.

Peavey XR400B, 4 channel mixer, amplifier pus speakers $600 (02) 558 1336.

Percept 24 Control Desk $1500. Theatrelight 48 Control desk. $2500. Grafton Lighting (02) 698 7777.

Percept 24 Lighting desk with roadcase. Very good condition. $1950. CC'S Light & Sound 008 803 064.

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Tascam M108 8 track reel to reel, excellent condition. $4000. (08) 251 3899.

TOA 4 channel mixer $250. (03) 509 1659.

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Urei 813 professional studio monitors, reconditioning required. $3000. (02) 337 2504 or (02) 264 7734.

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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 - Oww!" 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 stencilled 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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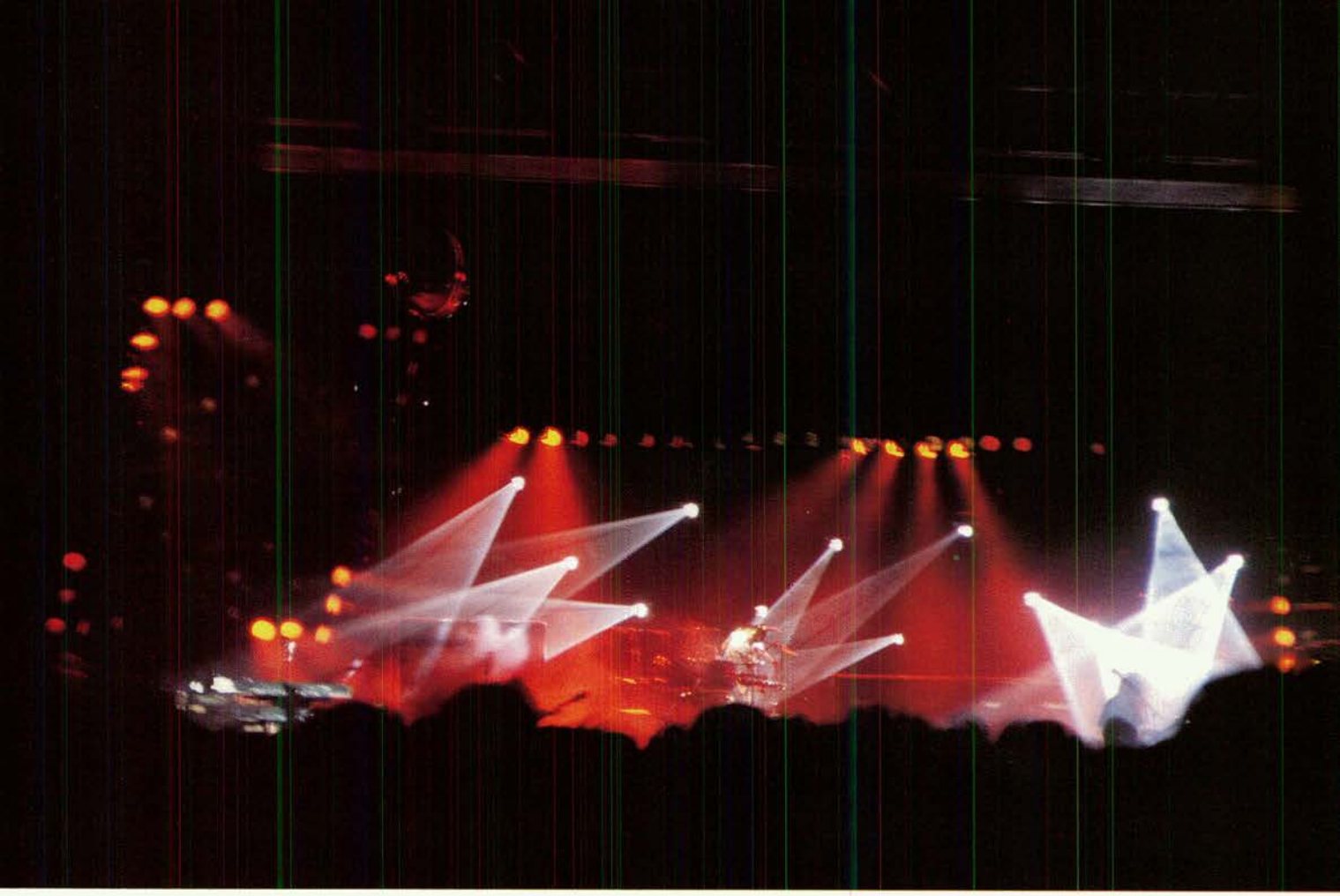

Pictures: Catriona Forcer

# 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.

# Faith

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 Hoodoo 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.

"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."

*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.*

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.

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

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 Geldorfs 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!**

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# 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 co-incidence than any thing 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.

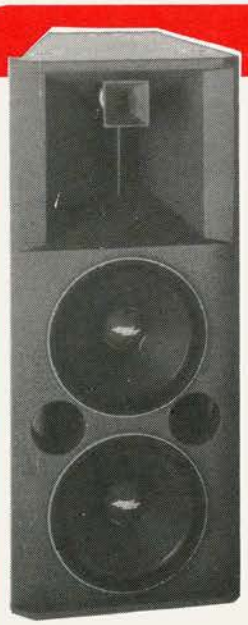
After working towards a truck and a separate foldback desk it was now time to hit "tha' road" and stop doing all the city gigs. While working in city gigs only offered the usual drunken non-eventful blues between blokes , life on the highway presented all sorts of new problems to conquer.

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)*

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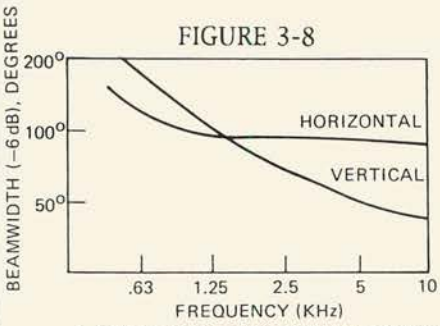
# Chapter 3: Directivity and Angular Coverage of Loudspeakers *(continued)*

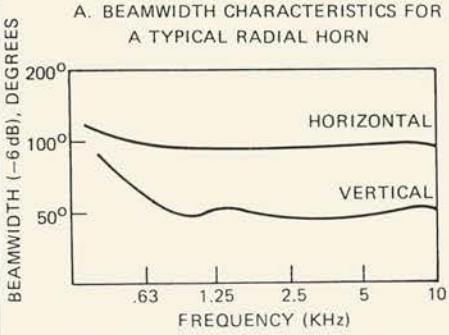
### *The Importance of Flat Power Response (continued)*

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.

FIGURE 3-8




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 measures be rotted about several of it's axes and the response recorded. Bandwidth plots may be taken directly from this data.

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

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

$P_o$ is taken as unity, and q is in 10° 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:

$$DI = DI_h/2 + DI_v/2$$

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

(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 methods, 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:

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

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

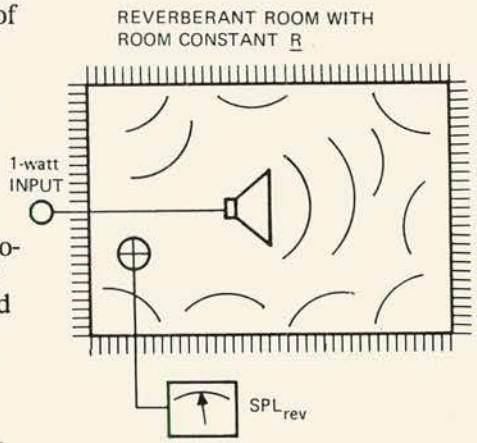
$$\text{dB-SPL} = 94 + 10 \log (1660) - 10 \log R + 10 \log (\text{eff})$$

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.

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

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

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 os less than unity; and DI.



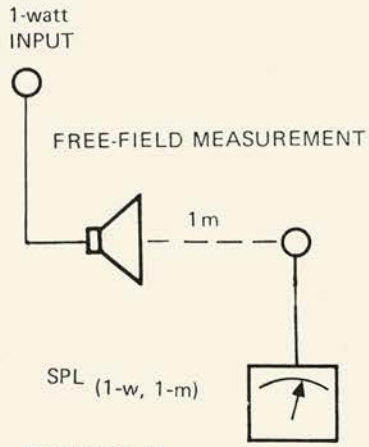




FIGURE 3-9

*(Continues)*

# DMX 512 Explained. Part 4

**By Gary Pritchard**

## 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.

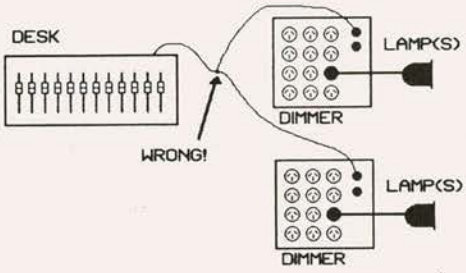
The first and foremost trap to avoid is not to use low quality cable for DMX512 signals. The common thing to do is to use microphone cable and over short distances, although we will never recommend it, this should work fine. However if you value your show and the desk and dimmers are separated by more 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.

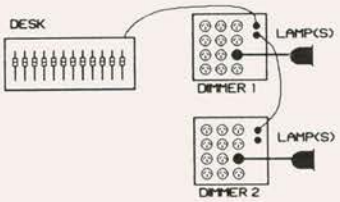
The same occurs in the DMX cable. When the signal reaches the end of the cable, if it has no where to go then it will turn around and head back up the cable. This is very confusing to the dimmers since the reflection will interfere with the real signal and the dimmers do not know which one to believe.

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

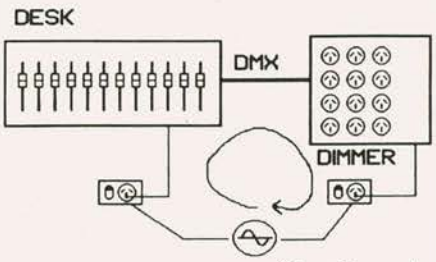



Extending this idea a little further, what the signal really wants to see once it leaves the desk (transmitter) is one continuous piece of cable. The terminator fools the signal into believing that the cable goes forever.

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.

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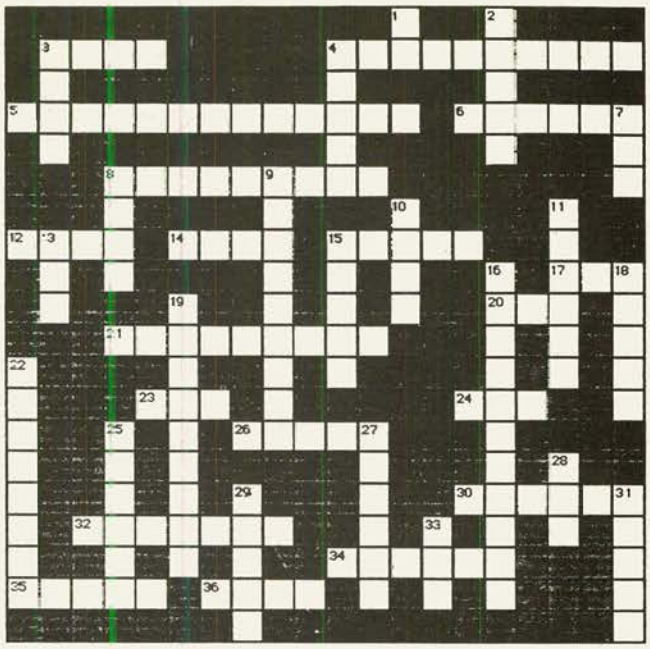
# ACTIVITY FUN! PAGE



**Across**

3. An arrest
4. A bribe
5. In gaol
6. Avoid having this hit ....
8. Gets paid more than nine down
12. Pro ....
14. Better than prison
15. A summons (slang)
17. Drink and drive and you will find a ...
20. Officer of the law
21. Melbourne guest house
23. Drunk and under the influence
24. The truckies book, not a piece of wood
26. Instruction to counsel
30. A bad deal
32. Head of the jury
34. Police often give these
35. It's against the law to take it or do it in a car
36. Road .... or something to answer

**Down**

1. Gets paid more than eight across
2. The judges hammer
3. An obligation in writing, better than a sentence
4. See four across
7. Put someone in
8. The judge (slang)
9. Gives twenty-six across to eight across
10. Twelve good men
11. Colourful Sydney barrister, Chris .....
13. ... of God-not my fault
15. Brisbane guest house
16. All good roadcrew check their ages
18. The examination before the tribunal
19. Just making a few .....
22. Young ladies seen backstage
25. Put on .....
27. Point the .....
28. Age of consent (abbreviation)
29. Radio detecting and ranging
31. A serious criminal
33. Sydney guest house (abbreviation)

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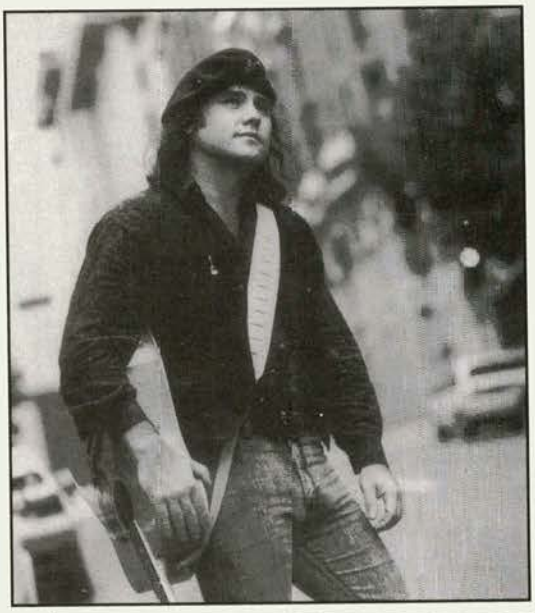
It's Elia (L) from Damien Gerrards, doin' her other gig, while Mark Keegan (a) and Sue from GUVT hang after the ATS extravaganza at Sydney's Entertainment Centre.

Tony Hunt (L) at Gerrards, Ray O'Sullivan (a) at the Ent. Cent, likewise was John McKissock (below). Nostalgia shot of our new writer, Bob Armstrong (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!

Richard Steele of High End Systems at the ATS gig.

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.

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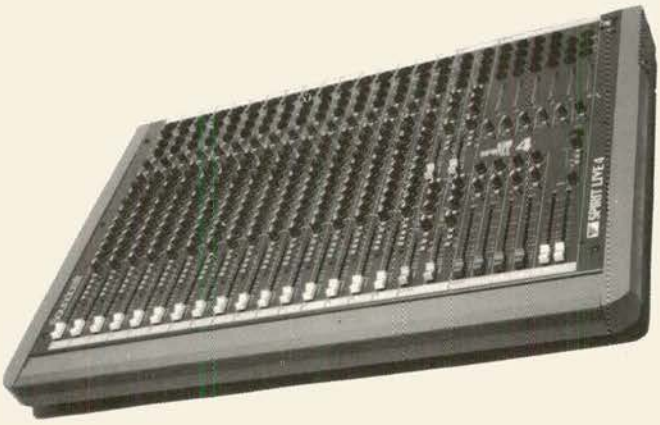

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# Buyers Guide

## Welcome!

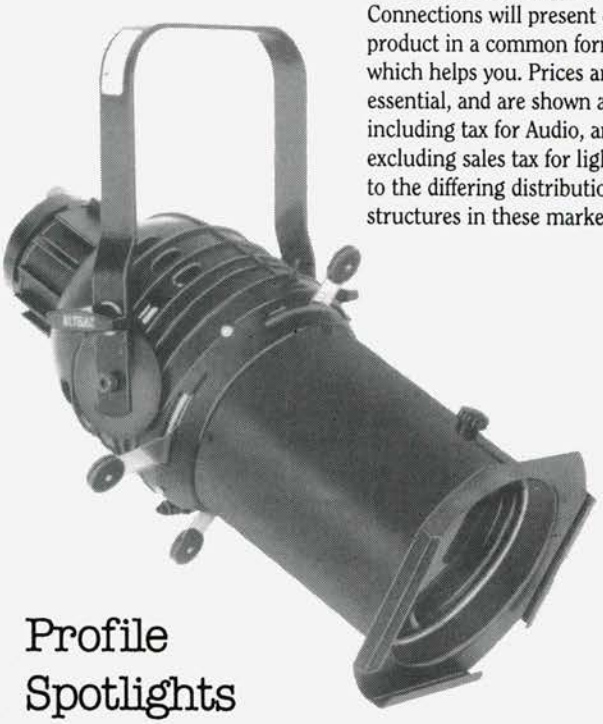
Our new Buyers Guide section will track available products in the Sound & Lighting markets with the help of those who distribute. What we will endevour to do is put you on the right track when purchasing or specifying these products.

**COMING UP:**

| | | |
|---|---|---|
| **August** | Studio Mixing Consoles | Moving Lights |
| **September** | Microphones | Lighting Control |
| **October** | 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?

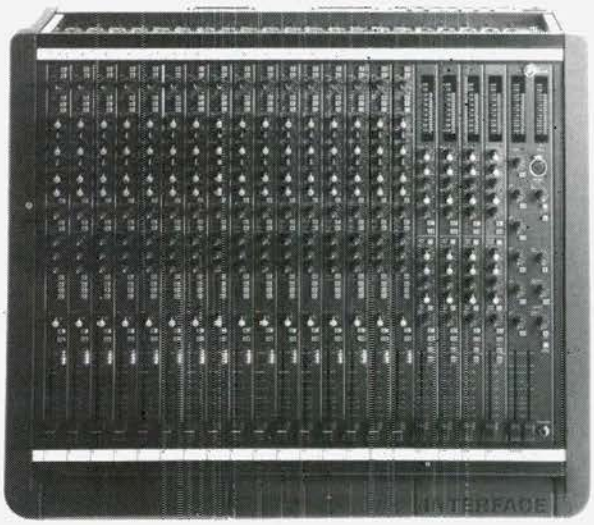
When we first contacted the Distributors the question of LUX was debated, we decided because different manufacturers use differing measurements (ie: centre of beam, 10m out, at lens etc) we'd leave this out. For what it's worth, Prolite are an Australian manufacturer, Selecon a New Zealand manufacturer, 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 noteable 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 faders 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:** Yamaha 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:** Magna Systems 417-1111.

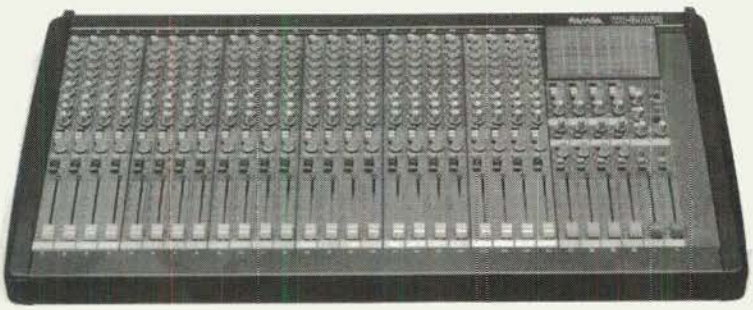
# Buyers Guide

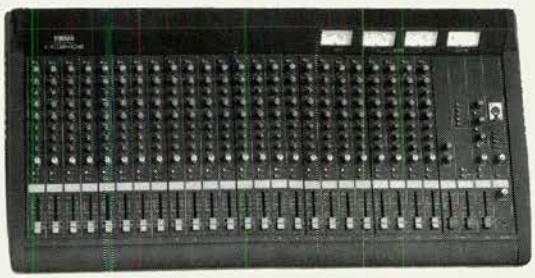
## Live Sound Mixing Consoles

### 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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CIRCLE 111 OF READER SERVICE CARD

# Buyers Guide

## Live Sound Mixing Consoles

### Under $5000

| roduct 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

| Product Name | Watts | Lamp type | Beam Angle/s° | 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 Accentro 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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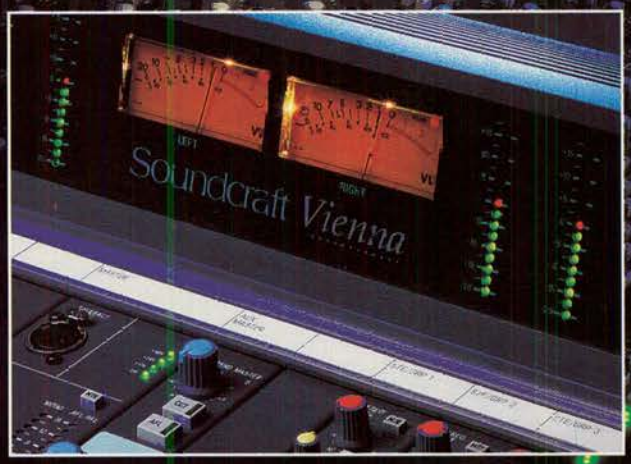


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# Rocky...

# ...and the Pan Commanders

**By Catriona Forcer**

The 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.

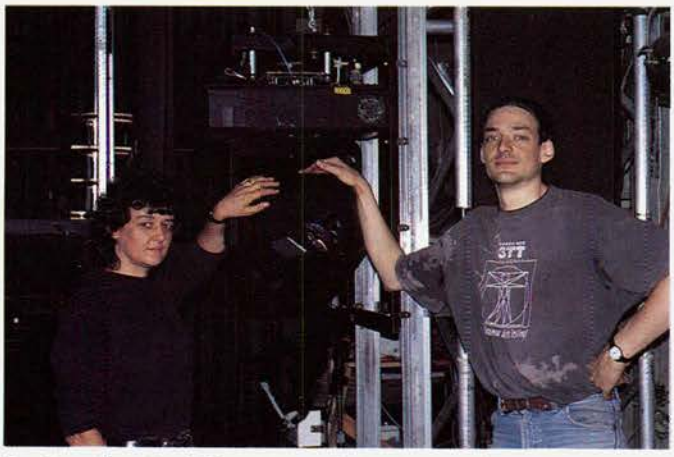
"They don't come with such a restrictive deal," explained Tim. "You can chose your operators, you don't have to have service people trained with the company. We had Richard from CLS with us for the production weeks and he taught us what we needed to know."

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 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."

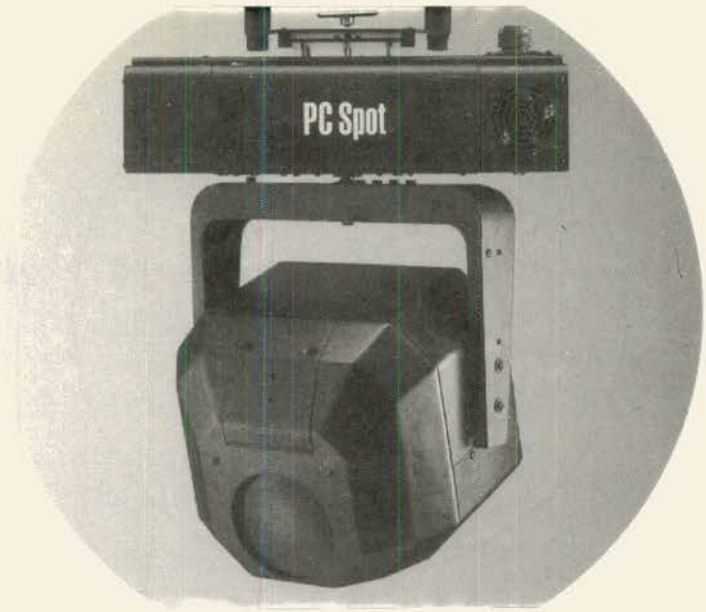
Lighting wise the exact show was due to leave for Singapore the following week although the show was going to be different for the censors.

"It's a pretty risque 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, opereates through 360º. '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 2º to 35º.

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.

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## Great Mistakes

*(continued from 68)*

things that happen on "tha' 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..

# ADVERTISERS INDEX


| | |
|---|---|
| AE Australia | 15 |
| AES | 54 |
| ARX | 53 |
| Audio Technica | 4 |
| Audio Telex | 57 |
| Aust. DJ Supply | 18 |
| Australian Monitor | 31 |
| Australis | 42 |
| AVD | 33 |
| AWA | 38 |
| Bose | 6 |
| Bytecraft | 24 |
| CC's Light & Sound | 12 |
| Classifides start page | 59 |
| Coemar DeSisti Aust | 83 |
| ESA Audio | 68 |
| Grey Eisdell Timms | 32 |
| GUVT | 9,76 |
| Jands | 2,26,71,79 |
| LAVA | 29,50,BC |
| Lightmoves | 13,53 |
| LSC | 47 |
| Magna Systems | 16 |
| Melb. PA | 22 |
| MGA Bates | 66 |
| Multicontact | 20 |
| Penn | 11 |
| Phoenix/Aladdin | 12 |
| Production Audio | 14 |
| Ramsaudio Australia | 73 |
| Rock & Roll Music | 82 |
| Roland | 44 |
| S.A.E. | 7 |
| Selecon | 23 |
| Sony | 5 |
| Southbank Trading | 51 |
| Studio FX | 35 |
| Syntec/DBX | 17 |
| Tascam | 72 |


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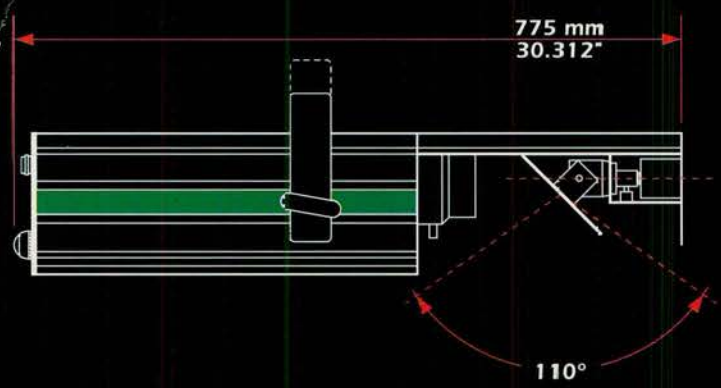


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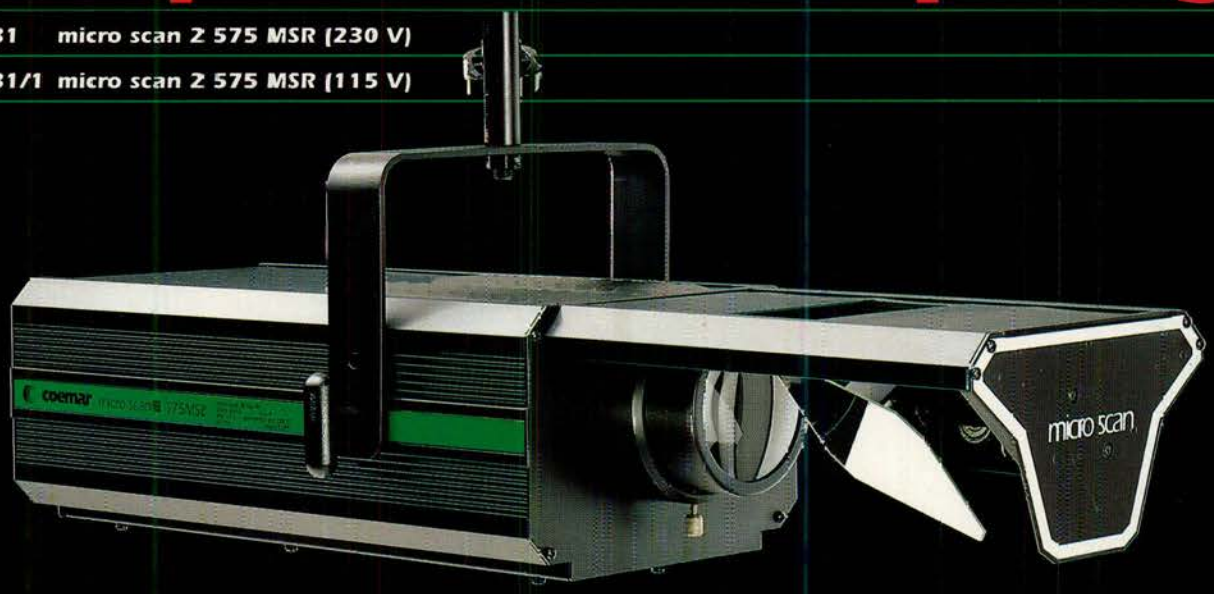


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