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Connections

Australia's **SOUND, LIGHTING, A-V & STUDIO** Magazine

FEBRUARY 1993 \$3.95

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NAMM: NEW EQUIPMENT



LIVE REVIEWS

Promoting the Gunner's
Lighting Moscow Circus
Screaming Jets P.A.

P.A. Installations:
We don't spend enough!

Digital 8 track war

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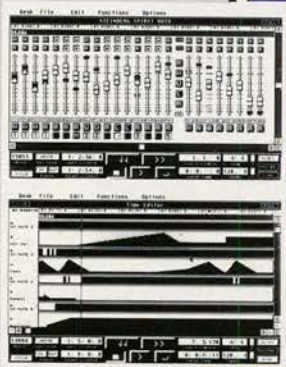
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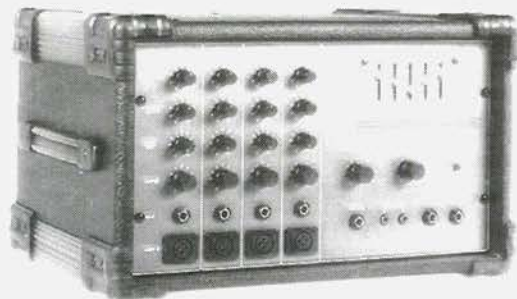
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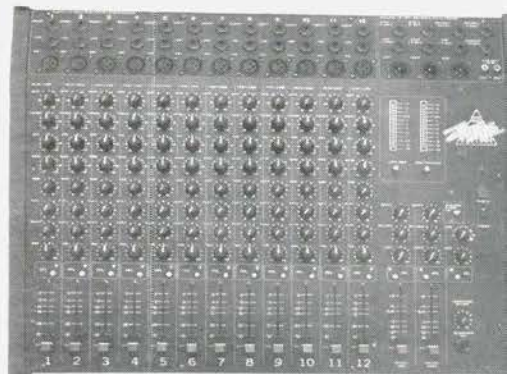
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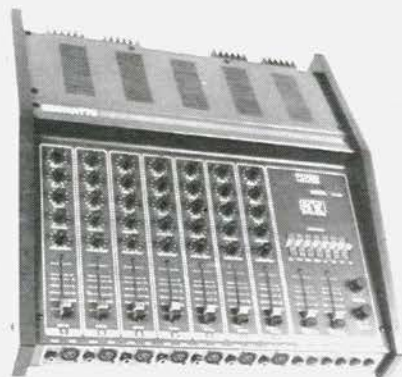


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Mixing Consoles

- RCS 12, 16 & 24 Channel Mixing Desks



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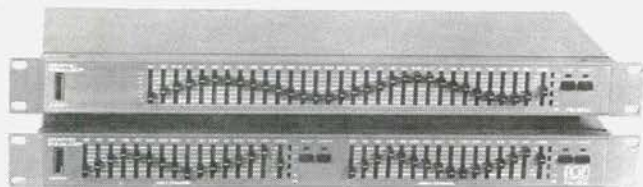
Outboard Processors

- 31 Band Mono Graphic EQ, RX31M
- 15 Band Stereo Graphic EQ, RX15S
- Quad Noise Reduction, RXNR4



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- 200 Watt RMS Stereo, Mega 400
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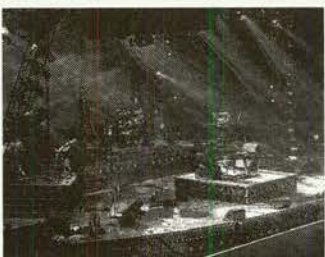
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Our Cover



We needed a picture that would spell out what this magazine is about - and we think Elton John's current stage set just about does it. Even though it's a bit wobbly and less than perfect, (camera shake) the picture brilliantly encompasses all the elements of a performance - without the performer. Which is kind of where Connections starts.
Set design: Brilliant Stages.
Photo: Courtesy Samuelsons, London.

Getting Rock & Roll on the road!

"You gotta realise in dealing with artists at some point half their brains get sucked out!"
-Merty Holm



Page 14
The experts tell how they got the megatours going - U2, Genesis, Pink Floyd. The traps, money & details!

NAMM- the latest in Audio

Los Angeles is the place all the industry giants gather in late January to reveal 1993's hot new Audio. If you're into Contracting, Studio or Live PA, you need to read our exclusive report, compiled well past our deadline, hot off the Jumbo from Hell!

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Lighting Moscow Circus

Catriona Forcer goes backstage at the Greatest Show On Earth.

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Inside Roland's hi-tech castle

New technology de-mystified by Bruce & Dave.

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Vic Leto and Colin Padler at Jets'

New EV P.A.

Screaming Jets trial new front loaded system

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Guns & Roses: monster concert

Frontier Touring execute largest logistics at new un-tested outdoor concert sites. Did the Sydney show work?

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Elvis & Me

Aussie Soundman Bruce Jackson tells all!

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UPDATE

News, Views, Products

For 1993 we see a huge swag of new equipment released onto our local market - with more coming after NAMM! Count the devices!

New MIDI Mix from Fostex: P 9
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3 Lighting Columns!

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**National Industry Classifieds
in centre Directory section!**

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To get free information on products and services inside this magazine, use our Reader Service Card, towards the centre of the magazine. Note the NUMBER at the end of each item or advertisement, and circle corresponding number on the card. FREEPOST to us, and we pass on to the manufacturer or distributor concerned.

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BYTECRAFT SOLE DISTRIBUTOR FOR STRAND

Mr P A O'Donnell, Managing Director of Strand Lighting Asia, has confirmed the appointment of Bytecrafft as the sole and exclusive distributor of Strand Lighting products for Australia and New Zealand.

Under this long term agreement, Bytecrafft will also manufacture, under licence, selected Strand products for the Australian and New Zealand markets as well as for export to Strand's Asian Division which is centred in Hong Kong.

Mr O'Donnell went on to say "Bytecrafft, who for many years have provided after sales service to major Strand customers in Australia, are now able to provide the full range of product sales and support services to all Strand customers."

Importantly, the Strand products ideally complement Bytecrafft's existing family of Intelligent Dimming System (I.D.S) products and scenery automation equipment all backed by the support of Bytecrafft's national service network.

Strand product will be available through Bytecrafft's offices in Melbourne, Sydney and Brisbane as well as a selection of Regional Resellers and other participating Resellers.

For information about your nearest reseller, contact Gillian Simpson at Bytecrafft's Distribution Office in Melbourne. You can phone Gill on (03) 587 2555 or contact her by fax on (03) 580 7690.

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MOONAH TAS 7009
Tel: 002 28 6373 Fax: 002 78 1063

● **Harry M Miller** will open M. Butterfly in Melbourne next month. Miller is being hailed in the international industry press for his record breaking Superstar run.

● **David Martin** is still missing, Scotland Yard fear he has been murdered after disappearing from his home in December. Martin is well known to many in the audio business here, as an expatriate Australian he went on to found Martin Audio in the UK, developing the famous 'Phillishave' midrange box best known here. Most notably his products gave Turbosound a run for their money, and not just in the UK. Connections editor recalls Martin at the 1987 AES show in New York wreaking havoc at a function hosted by the French Trade Commissioner at the Guggenheim Museum. It seemed the French audio manufacturers were intimidated by The Dave, who they suspected would steal their designs. Instead, Dave attacked the Cabernet with purpose, taking our Editor aside for a ribald and deadly funny running commentary on how the French were not up to speed with their product.

● **Australian Rick Burton**, who was reported in the last issue of Channels to be working for Sammi, the loudspeaker manufacturer in Korea, has been arrested in that country. According to Reuters, Burton, 47, was allegedly caught stealing computer diskettes with details of audio

designs. He was arrested when he returned to Seoul to set up a local branch of an American firm, having left Sammi. No one at Sammi was available for comment. Freedman distribute Sammi here.

● **Penn Hardware Australia** is now controlled by Penn of the U.K., with Mark Dryden handling operations here. The move came after the local outfit was re-structured, with co-partner Tony Hoskins departing to form The Resource Corporation Pty Ltd. Tony will concentrate on distribution of K & M, and Victorian representation of Mackie and ARX products.

● **Winter NAMM** finished in high form with a record number of visitors, including a large Australian contingent. John Goldsmith of Kosmic (Perth) summed up his reasons for attending: "It's the great leveller. I talk to manufacturers and Australian distributors on even ground, can see the US pricing, and negotiate deals effectively". Our NAMM report is inside.

● **Lone Wolf** is the firm with Media Link, which is set to become THE sound network system, with major manufacturers falling over themselves to incorporate the technology into new products. The upshot of the technology is that it's open architecture allows you to connect potentially an entire audio system, including forthcoming mixing console designs, onto a PC or MAC or network thereof. We have an exclusive report crammed, late, into

our NAMM pages. Look for it inside.

● **Panasonic** have announced Ramsa professional audio equipment will be distributed by Ramsaudio Pty Ltd, a partnership between John Paillas (formerly of Jands) and Gary Fitzsimmons (owner of Audio Engineers, former Shure distributors.) Contact them: Ramsaudio is at Hornsby, NSW, call (02) 477-7377.

● **Sony** are looking like they will win Round Two with the MiniDisk, with an awesome blitz of media advertising the USA as we go to press. Tagged: 'You'll love how much you can hear', the campaign follows Philips Digital Compact Cassette launch in that market, with the two giants vying to get their formats established. Consumer acceptance rests on the number of pre-recorded titles available, at this time no clear leader is evident.

● **Premier Lighting** host 'The Next Move In Lighting' late this month in Melbourne-February 22nd and 23rd, at 433 Graham Street Port Melbourne. This mini-trade fair will feature LSC, Selecon, Strand, Jands, Rosco & John Barry Group products, with High End Systems Intellabeams and Trackspots on demo. This lighting techno-feast then moves to Sydney- March 1 and 2, at 111 Moore Street Leichhardt, then Brisbane, 4th/5th March, 37 Sandgate Rd, Albion. Call (03) 646-4522 for info.

● **Radio & Records**, the 3rd annual conference is on 16 & 17 February at the

World Congress Centre. Call Dianne Nickel for details, (03) 696-2022.

● **Export Music Australia** with Austrade hosted a large Aussie contingent at the Midem music fair in France last month.

● **Australian International Music Show** is shaping up, the September 9 - 12 expo in Sydney will be 'larger than last year', according to Project Manager Rob Walker. Contact him (03) 696-2022.

● **Chris Kennedy's A1 Audio** has relocated from Brookvale to Castle Hill - now at premises within The Hills Centre, Carrington Rd, Castle Hill. Phone (02) 899-9655, Fax (02) 899-9656.

This Late News was compiled Jan 28th.

10,220 print run- (that's 3 tonnes,) released Feb 2nd, Guns & Roses reviewed January 30th! Welcome to Connections, where we bring you industry news and views monthly. **Let us know what YOU THINK.** Fax (02) 876-5715.

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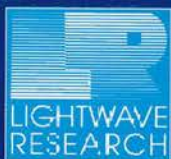
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FOSTEX AUTO MIDI MIXER

8/16 Channel System & Optional Mixer Tablet

The DCM-100 is an 8 channel stereo, rack mount mixer that can also take 16 mono inputs. The front panel (above) does not even hint at the flexibility of the device, because it offers MIDI automation. For example, each channel has dual EQ, 2 auxiliary sends, and a pan control, all addressible via MIDI commands. Buss inputs allow cascading of DCM-100's, up to a possible 48 channels. The DCM-100 retails at \$1499.

MIXER TABLET: The optional Mixer Tablet (right) is a neat way to address the DCM-100. Fostex have

devised a cunning little system to match gain using Value Recognition LED's, which flash red or green, and indicate extent of mismatch.

Distributed by Syntec International, (02) 417-4700.

DETAILS: Circle 101 on Service Card



PIONEER DEBUT PRO AUDIO

MELBOURNE: Although it's proven tougher than expected, consumer goods manufacturers continue to expand into Pro Audio, with Pioneer Electronic Corporation the latest entrant. Marantz and Ramsa/Panasonic are two others to discover the Australian market is overserved, perhaps.

Pioneer have a foothold with a booming Karaoke business that can support its new Pro products, which comprise a speaker and subwoofer duo, along with two power amplifiers - offering 700w and 1000w output respectively. The amplifiers are the M-V2000, and M-V3000, the M appears to denote that they are modular, rather than mosfet.

Each amplifier is 2 rack units tall, and features what Pioneer call 'DAP technology'. This is Dynamic Amplifier protection, a combination of DC, over current, and runaway protection. Coupled to this are thermostats on heatsinks and the transformer. Connectors are XLR female inputs, and curiously a pair of 6.3mm jack inputs for looping. Speaker outputs are via binding posts, and in typical Japanese fashion, there are

switches for almost everything on the back panel.

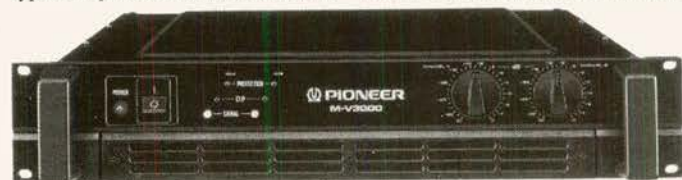
Pioneer's speaker offerings reflect their Karaoke heritage, as the main full range box, the S-V7000 comes loaded with six small tweeters for high end, and four six inch woofers for lows. The combination is loaded into a slightly trapezoid box, and offers 35 - 20kHz response according to the blurb. If this is +/- 3dB 90 or even 10) it doesn't say.

Where required, the S-V5500W Sub Woofer will sit beneath the topbox, in a similar break with tradition, this is loaded with two 10" woofers mounted in what Pioneer call an 'OPAXIAL' manner. This is where the top woofer faces forward, and the one beneath faces back into the cabinet. Wharfdale did this with their entry into the Pro market last year. The sub will handle 250-1000w, and the S-V7000 takes 200-800w.

Pioneer's Queensland Agent, Wally Soudakoff told us about these devices, so we nominate him as a contact: (018) 758-816.

You can call Pioneer direct, on (008) 338-439

DETAILS: Circle 102 on Service Card



M-V 3000 amplifier from Pioneer

VARI*LITE ACTIVATE LEGALS

Patents Row Underway, U.S.A. Competitors Cry Foul

The worlds leading innovators in lighting, Dallas based Vari*Lite, have been taking steps to protect a swag of patents they own. The firm has allegedly served notices on a number of manufacturers, including High End Systems, makers of the Intella-beam. Also thought to be notified are Altman, who last year launched an ambitious moving light system called Altstar.

At LDI, both firms confirmed to Connections the receipt of advice from Vari*Lite's attorneys, in effect that they were forced to show cause why they hadn't breached at least one patent. Representatives of the firms asserted that the patent concerned the transmission of serial data to fixtures, and that if enforced in court, "Vari*Lite will lay claim to DMX-512 as well". Claims that Summa and several other firms had also received notice of action from Vari*Lite could not be verified.

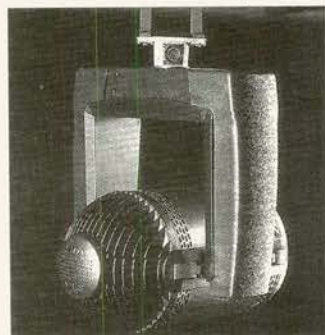
FRIGHTENED: Several highly placed industry observers attending LDI -the lighting industries major convention in Dallas put the view that Vari*Lite has scared off many potential competitors with the threat of swift and debilitating legal action. This tactic is not unknown in leading edge, high tech. industries.

A spokesman from High End Systems, who declined to be identified,

said that the firm had established, via its attorneys, that an even earlier patent existed, pre-dating the disputed one. He added that his firm had spent 'well into five figures' to establish its rights.

Vari*Lite fixtures operate with a dedicated protocol, but the new VL-5 accepts DMX-512 as well. The uniqueness of the Vari*Lite protocol, along with Patents, prevents third party manufacturers designing multi-use lighting consoles that are capable of addressing Vari*Lites.

Vari*Lite have at least seven patents registered in Australia alone, and now offer the VL-5, a new intelligent beam projector that completes their range. The firm have a guaranteed income stream from their technology, because like another famous Texas firm - Hughes Oil, who hired drilling rig tools - you can only rent Vari*Lites. You cannot buy them!



New VL-5, replaces Par Cans

ON THE JOB.

#01 in a series

LISA TRAVINI is a full time Security Person for Australian Concert Security. While this is a tense and often stressful job, Lisa is shown here with the booty from a

recent concert crackdown on bottled goods. This particular outdoor concert was in Sydney. So what do they do with the confiscated bottles then? Guess!



PAN COMMAND WIN RACE

New PRO SPOT Moving Light Challenges The Rest!

As if the four sided war between the waggly mirror makers wasn't intense enough, now Pan Command have beaten rivals LSD with a configurable moving light - called ProSpot. This is, as our picture shows, a Moving Light that will pan 360° like a Vari*Lite, or Pan Command's big brother PC Spot. ProSpot was shown working at LDI in Dallas late last year, with LSD instead running a video of their new device, named 'Icon'. They say Icon will be all singing, all dancing, and only be for hire. The ProSpot, on the other hand, is available for sale - less than A\$10k.

A 600w Osram HTI lamp source provides the readies, while the internals are to your choice, according to Australian Agent, Trevor Lloyd of Concert Lighting Systems. "I went to San Jose after LDI to look at the ProSpot. They have had a good look at the projector type moving lights, and of course have experience with the PC Spot". Trevor thus likes!

The colour system offers fading dichroics or a 9 colour wheel, while patterns can be from one 9 pattern wheel, a rotating system, or a soft focus zoom. Pan Command have designed a new controller, which is very good according to Trevor.



LDS MP-100 controller

Pan Command's new Controller - the LDS MP100 was mostly created to drive the ProSpot, but it also has DMX-512 and Analogue capability via an adaptor. This gives you dimmer and scroller drive capability on the same control surface as your moving lights. PanCommand have their own protocol for their fixtures.

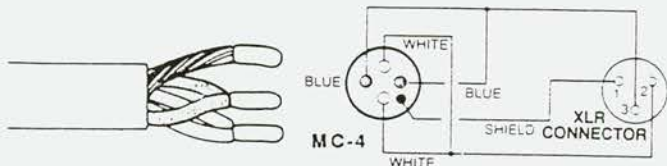
The Controller is a control panel with a 486 PC and monitor. Data departs the 486 for a Data Protector, thence to distribution boxes, which feed up to 6 ProSpots each. Unlike the PC Spot system, AC mains is supplied to each fixture direct, rather than up the cable from the distribution system. This cuts down cable costs. The features of the controller include advanced graphics, with trackball focus and programmable macro functions. It's all in the software, and that's where the experts will decide, Marmaduke!

CIRCLE 104 ON READER SERVICE CARD FOR MORE INFORMATION

RODE cable



SYDNEY: Freedman say their new MC4 Quad microphone cable has real benefits in professional applications, because the four conductors reduce susceptibility to electro-magnetically induced noise. This is because the four conductors can be used in two pairs to minimise the 'loop area' between twists of the conductors. (See diagram below) Details: Freedman (02) 797-9999.



CIRCLE 106 ON READER SERVICE CARD FOR MORE INFORMATION

SUBSCRIBE and SAVE 25%! A Connections subscription is usually also Tax Deductible!
See Card near centre of Magazine.



Tascam R-DAT

MELBOURNE- Tascam Australia say the new DA-60 is even more versatile than their DA-30, which is a benchmark in the studio and production industry. The DA-60 has a four head transport with four direct drive motors - so you can monitor off tape.

An inbuilt buffer memory gives you instant start up capability from any specified cue point, which makes the machine handy not only for broadcast, but also as an 'event machine' in audio and video production.

An optional sync board (SY-D6) gives the DA-60 full SMPTE/EBU timecode synchronisation capability. You can even synchronise unstriped tapes to the incoming timecode by using the tape's absolute time data.

Video production personages should like this machine too, because an RS422 port is provided for direct connection to a standard video editor.

Balanced XLR inputs are standard, while outputs are XLR and RCA. Like all real DAT's, a remote control is available, the RC-D6 unit. *Direct info: call Tascam (03) 646-1733.*

CIRCLE 105 ON READER SERVICE CARD FOR INFORMATION.

Apogee filters for Cello

APOGEE ELECTRONICS CORP of Santa Monica Ca, and internationally renowned audio manufacturer, Cello Ltd, have decided to make special versions of Apogee's D/A and A/D converters. These will be known as 'series 8' and will be targeted at ultra serious leisure sound buyers by Cello. This is because Cello is owned by Mark Levinson, an Audio Guru of the ultra high end hi-fi market.

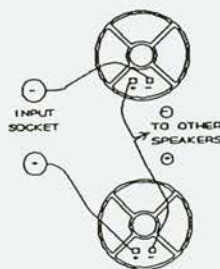
This all came about because Levinson noticed some of his professional clients like Bob Ludwig and Ted Jensen had Apogee DA1000E and AD500 converters in their studios. He set up an audition, with immediate conversion. "I heard them and was seriously impressed. I wanted them for my own systems and knew that my customers would want them too. The 'Series Eight' units offer a combination of accuracy, transparency, and dynamics - which out perform all converters we have tested so far."

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CIRCLE 107 ON SERVICE CARD

How Impedance & Wiring

If you wire drivers in **SERIES**, like our diagram, you **ADD** all the impedances together. At right you have two eight ohm (8Ω) speakers in Series, to give a 16Ω impedance. If wired in **PARALLEL**, (ie: + terminal to +, - to -) then you **REDUCE**. Two 8Ω drivers in Parallel = 4Ω.



AUSTRALIA SPENDING LESS ON INSTALLS

International Experts Speak Out, Concerns Raised

It puzzles me that you people are so willing to go for cheap, rather than effective installations. Take for example an environment that is beautiful in terms of surroundings and decor. If you're there listening to music or speech that is distorted, your subconscious perception is going to notice. If the most important reason for going to a place is to hear a speech, one would at least pay attention to whether a sound system was capable of intelligibility or a reasonable level of fidelity."

Bob Pabst, the affable head of one of the world's largest audio firms, Mark IV Audio, is hitting the nail on the head. Mark IV is the entity that owns E.V., Klark Teknik, Altec, Gauss, Dynacord and a host of others mainline audio manufacturers. Bob Pabst is visiting his outpost here, and at least has a realistic appraisal of the malaise afflicting our contracting market.

"It really puzzles me", Bob reiterates. "I really enjoy the spirit of your people", he adds, because he is speaking with candour about a genuine problem, and not knocking us. The tendency to under specify an audio installation is something many overseas observers can't quickly see and is an aspect of our industry. This often reflects badly on a distributor here, because the manufacturer overseas can't understand how a country as large as Australia buys so little audio product.

We are well behind the rest of the world in this regard, even Thailand and Malaysia, according to a Singapore based expert, Ray Bond. According to Bond, a lot of engineering and building consultants in the

region emanate from Australia, but the scale of expenditure on individual installations is far greater.

"All of the installation and contracting work in Asia is done by electrical contractors, the system houses like ours, (Te Deum Pte)



Bob Pabst, head of Mark IV Audio (top) and Ray Bond from Te Deum in Singapore.

supply the complete system and the commissioning. Because of this, we don't need a large labour force, but we do have a technically killed force. Australian products are well regarded there, Jands, Dynalite, LSC, ARX, Australian Monitor - we've got as good a reputation as anyone in the world."

"Hotel projects, indoor and major stadiums - there's a lot of work in asia", continues Bond, "and they spend real money to get it right. We've got a bank who thing nothing

of spending half a million dollars to do up a couple of audio visual suites for in-house training. This is in a country of 3 million people! The audio (contracting) expenditure - just in Singapore- is greater each year than the whole of Australia".

Getting more dollars into an installation to improve the end result and keep up with technology, is only part of the story. "In Asia, after a couple of years, the trend is to update an installation. In Australia, we wait till the ring is hanging out of it!" Ray Bond should know, he is an Australian who has worked in the industry for several decades before establishing himself overseas - first in L.A., and now Singapore. "I needed to base myself there to properly represent my distributors", he continued. "It was either Hong Kong or Singapore, people in Asia have a disbelief about dealing with Australia. I now represent Australian firms too, and have built a lot of business for them in Asia."

"We get tenders from as far afield as Emirates and Iran. We've seen that even a university will buy several complete PA systems for auditoriums with quantities of Delta consoles, every JBL speaker system ever invented, and buy the whole lot in real multiples."

So the message is clear, we have a cultural problem here in Australia where we don't like spending money on technology, even when it can clearly benefit our applications. Contractors across the country will readily tell how budgets are cut, and cut again, until the end result is not in keeping with the rest of the project. Smart country? Not yet by a long shot!

-Julius Grafton.

STUDIO BRIEFS

SYDNEY: GIANT STUDIOS have created THE MASTER SUITE, where the art of perfect sound has been - well, perfected. At least that's what the owner Peter Dawkins says. In this place you can get your material mastered onto a CD, with the Pro Master 20 System. They say this has the power to take the normal 16 bits of sound, and expand them to a new sonic level. "The noise reduction processor is so sensitive, it can then discard the 4 bits of sound which are superfluous and return them to 16-bit sound. It simply targets and eradicates". CD's are cut on Yamaha's YPDR CD cutter. The Giant types suggest you get your master down there, to hear a trail CD before you send it off to The Factory.

SHRINK ADVERTS: The Pro Master's time compression programme lets you shrink or extend your radio advertisement without changing the pitch. You can mould to suit your time frame within a period of five seconds. Call Penny Seta: (02) 555-8999.

OTARI DUPER: The latest high speed cassette duplicator from Otari will get cracking at speeds of up to 128:1, say distributors Amber Technology. The DP-70 system uses the DP-93C MkII bin-loop master in conjunction with Otari's new DP-95C Slave Recorders. These slaves allow 128:1, 80:1, or 64:1 dupe ratios. The slaves are supplied in a vertical twin configuration, and are compatible with digital master reproducers. Details, call Amber: (02) 975-1211

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To ensure the frequency components of any audio signal reach the listener in the proper relationship and sound truly realistic, the *BBE II PROCESS* uses phase correction for the three (3) sub-groups. Lows are delayed about 2.5 ms

(milliseconds) within a passive low pass filter and the mid-range is delayed 0.5 ms through an active pass filter. The highs are passed through a VCA (Voltage Controlled Amplifier) and are used as a point of reference to make dynamic amplitude corrections to the high frequencies.

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CIRCLE 128 ON READER SERVICE CARD

UPDATE



Soundcraft's Smallest Yet Spirit Folio has Sweep EQ, Stereo Inputs & 108dB range

The latest addition to the growing range of Spirit consoles from Soundcraft is Spirit Folio. This is a new professional portable mixer which sets new standards in affordable compact console design, according to Soundcraft.

Available in 3 frame sizes 10/2, 12/2 and 12/2 rackmount, Folio is targeted as a PA mixer for gigging bands, small venues - such as pubs and clubs - and conferencing. High quality mic inputs (129dBu EIN), balanced inputs and a dynamic range of 108dBu (10/2 frame), also make Folio suitable for direct-to-DAT location recordings. Other places for Folio include submixing and home recording.

For live work, Spirit Folio has many features you would normally expect from larger, more expensive

consoles. Unlike many small mixers every input and both master outs have 60mm linear faders for smooth precise control throughout a session. In addition every mono channel includes a mic input with 48v phantom power, 3 band EQ with a sweep mid section, and a high pass filter as standard.

There is provision for outboard gear with two stereo inputs on each frame size. These can be used as effects returns or for stereo sources such as keyboards. 2 Auxiliary sends may drive effects units but Aux 1 is also switchable pre-fader from the master section to drive monitors.

For recording, Folio includes dedicated monitor outs, an oscillator and a two track return which may also be used as a stereo input. *More details from Soundcraft's importer, Jands - (02) 516-3622.*

CIRCLE 110 ON READER SERVICE CARD

Tenth Australasian Music Industry Directory out now!

The January edition of this indispensable guide to who does what is now available. The AMI Directory is used by most people we know to get in touch with contacts as diverse as Industry Accountants to Venues, with 224 pages of listings and adverts. Produced by Immedia, the directory is released every six months, and listings are free. If you are in the business, you should be listed, as the directory reaches N.Z. and Asia. **To get your copy:** send A\$12.50 to Immedia, 3 Rose St, Chippendale 2008 NSW Aust. Call (02) 212-6677, or fax (02) 231-2125.

BITS

◆ **CMI - Central Musical Instruments** of Melbourne are the new agents for Dod, Digitech and Audio Logic equipment. Call them: (03) 315-2244.

◆ **Shure Brothers** say Jands have sold more than 100 Green Bullet microphones in 6 months, since becoming Shure Agents. This is the greatest number of Bullet's sold in any territory in that time. The Bullet is purely for mouth harp. Shure say 'watch out for Beta Bullet'. Jokes!

◆ **Kosmic** of Perth are the Peavey Dealers of the Year, according to Australis. Congrats to them!

MORE Update from Page 60

AUX 2

Aussie made good over there (USA) is John McCubbery of Electric Factory fame, who is now an Alesis employee in L.A. Our industry is now characterised by 'new wave' audio companies like Alesis who startup and boom, thus needing staff with a better than working knowledge of their products. Often this is where a distributors staff find a career path - if they are good, of course!

Another ex-pat industry guy working stateside is, of course, Ian Thacker (is it 'Th' or 'F'?) who is about to marry the gorgeous Georgia Belle. That's her name, folks. The happy couple reside in Hope Arkansas, a little town that is Baptist type dry. Thacker must drive 30 miles to buy a 6 pack! He works for Klipsch.

Niel Smith is married again, Tania Travers, a nice ex-Balgowlah girl has undertaken to tame (or be tamed), the happy couple tied the knot after X-mas. We HAVE the wedding night photo's!

A Baby girl for Gaby & Tony Vendetti - veteran PA owner/operators from Sydney. It's a girl - Julia. Hair blacker than Gaby's T-Shirt, he says.

Aux hears of an almost believable tale regarding an audio distributor, who rightly took long service leave and went overseas for three months. In his absence, the trusted sidekick created such mayhem that the firms overseas supplier had complaints. Upon return the premises were a pigsty, and the chaos extended to the finances, which were somewhat inexplicably depleted. Aside from sacking the assumed perpetrator, the distraught proprietor also called in the law, who are investigating the fiscal shortfall.

Latin Lover Superstar is on stage for the first show of his Australian tour, when he sets his dark, flashing eyes on the Intellabeams. It is the first encounter with a device like this, it seems! "ahh - what eez this?" he enquires. "Ahhhh ... I can zee myzelf in ze little mirrorz!" Of course at this moment the LD completely missed his cue, and failed to demonstrate the brightness of the 700HX lamp whilst he had the complete attention of the performer, who was looking expectantly directly up the light path! Some crew will never learn opportunity lost forever!

We cannot argue with the claim that the load in from the dock to the Great Hall at Parliament House Canberra is 900 metres. This, according to our informant Steve Devine of Topstage Productions in Canberra, must make it the longest load in Australia. Any update on this?

Never one to pry into delicate affairs of the heart, your columnist has decided to leave alone the marital blues afflicting a major player in the Canberra scene. "I can't even get the bitch out of the house", he sobbed at Christmas. Third time lucky for you, we hope. Aux won't even report that the luckless Canberrian, who operates a large lighting and sound hire and sales outlet, had a major scare when his hapless bank apparently MAILED a replacement cheque book to the disputed home, into the hands of the other party.

Then there's the hardly surprising observation made by an Aussie made good on the international touring scene, that SOME of the highly paid hedonistic crew (try US\$4,000 a week!) would actually get to the end of the tour OWING money. This is despite four meals a day and expences laid on. Our informant, on the other hand, has also gotten a habit. He buys houses.

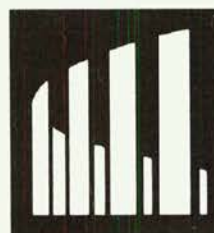
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Tradeshaw Dates

Performance Summit, Orlando, FEB 18 - 21
Frankfurt Musik Messe, MARCH 3 - 7. MI
AES Europe, Berlin, MARCH 16 - 19. PA
USITT, Wichita USA, MARCH 17 - 21. TH
SIB-MAGIS, Rimini, MARCH 21 - 24. LX
NSCA, Orlando, APRIL 2 - 4. CO
NAB, Las Vegas, APRIL 19 - 22. IT
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
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, Anaheim L.A., JANUARY 21 - 24 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 145 ON READER SERVICE CARD

Five leading Production Managers tell all

GETTING ROCK & ROLL ON THE ROAD

"I've got no problem with women on tour. After the show, I expect them to drop their pants and get into bed!"

This is Steve Lemon talking, one of five leading production experts who gathered at LDI to host a packed talkfest about getting a show on the road. Steve is quoted out of context here, because he was answering a question about women in the business, and referring to the normality of the sleeping arrangements in the tour bus after the show!

Marty Holm: We have females on the road, video directors, wardrobe, dancers, secretaries, hair, makeup people, massage people. cheis - I find it unfortunate that in terms of Tour Managers and Production Managers you don't find many women.

Steve Lemon: Unfortunately it's still a mans business. In the past three years there's been an influx of women - and they work harder, because they've got something to prove. Women bus drivers, women truck drivers - they're busting their butts, you get 120% out of them, every single day. On time, every time - they do the job.

Marty Holm: I think with women on tour, the guys on tour tend to be a lot nicer!

This was an all-star discussion, the guys concerned were Production Managers who'd come in off the

big tours to share their knowledge. On the question of design practicality:

Richard Hartman: I was involved with Genesis this year, the area I think has to be addressed is aspects between designers, the engineers and the production team and management. How a design could be put into a venue, how it is transported, the venue size - and to limit the design to something practical.

Steve Lemon: How do you complete the circle of design implementation? Sometimes the concept is drawn on the top of a tablecloth in a restaurant! You learn to take an objective stance. With Genesis, the band wanted something totally unique, that could be moved relatively quickly with four and a half shows a week on average, and they wanted something that would be done cheaply. Well, we got two out of three, I guess. As time moves along, I see people wanting more unique appearances to design, which calls for more engineering.

We spent \$200k on engineering for Genesis, and another \$100k on engineering for the Lightshow, all of which seem like huge numbers compared to what is usually spent. It must be safe, and it must move along fast. Somehow you tend to overlook how much you are going to invest in a mobile stage when you're building a budget. When I start a tour, I get the (proverbial) cocktail napkin, I ask the Band Manager what I can spend a week. In the case of U2, we were two weeks out from our rehearsal date and someone in business management started putting two and two together, and the budget was cut.

Bon Jovi get ready to go out then tell me they want to see more money at the end of the tour. You end up having to redesign the whole tour in two weeks. This isn't the first time or the last time - the business manager does pull the strings, unfortunately or fortunately - and we have to accept that.

You keep a background figure in your mind. I negotiate the sound and lighting contracts on my tours, some managers like to have hands on here, even though I know I can get a better deal.

I ask the loaded question - If an act has a predilection towards a certain production company, and you've been burnt by that company, does that sit difficultly with you if you have to work with the company concerned?

Morris Lyda: Politics have never entered into this



Marty Holm: "You gotta realise in dealing with artists at some point half their brains get sucked out!"



Morris Lyda: "On most of our shows we issue a standard bid form with 450 lights whatever, to our vendors. You select a vendor out of that bunch, sometimes based on experience or price, there are variable factors. Normally once you have selected that vendor you get down to what you want."



Michael Keeling: "Paula Abdul had a tracking pod that when the show started it rose to 35 feet, and tracked from upstage left to downstage right. That creates a large insurance incident, it limits any accidental (claim) we may have where she can't do a show for 30 days because she's injured her ankle."

business at all!

So how do you successfully plan a tour?

Marty Holm: We try to work a year ahead, we prepare budgets ahead. We try not to change everything two weeks before a tour. But for Paula Abdul I think we did 15 designs before we went out.

Michael Keeling: You just have to go to a lighting designer sometimes and say 'cut it down' because you need to lose a truck, everyone has to realise it's a soft market.

Steve Lemon: An example of this was Paula's tour last Spring that went from an arena design to a shed design, from 11 trucks down to 7. The entourage didn't change too much, but there are a lot of height restrictions in the sheds and the set height was 32 feet, so that caused a bit of a problem.

Do your acts expect to make a couple of million on tour?

Morris Lyda: You need to keep in your mind that even though the market is soft, people deserve as high a quality show as you can deliver. Artists often forget that touring originally started as a promotional vehicle, where you promote your album and don't necessarily make money on the road.

Steve Lemon: I think we've all seen some artists need a couple of trucks full of technology to support themselves - if I'm told to cut two trucks off my tour, I make damn sure that the manager and the artist are involved, it's part of my job.

Morris Lyda: The idea of making vast amounts of money on the road is only for a small percentage of bands. It's (usually) a break even basis.

Do Production Managers and Booking Agents work together?

Steve Lemon: We stick our noses where they don't belong to make sure they know a 500 mile run from Salt Lake City to Red Rocks in Denver with 8 trucks is not reality. It's not solicited. Personally I like to go in (to the venue) at 8 in the morning, so I can target 300 - 350 miles comfortably and soundcheck in the afternoon. If we jeopardise the soundcheck, does that affect the artist? These days everyone is dollar conscious. Band members want to know about everything, including merchandising - it's true.

Morris Lyda: A lot of high end technology coming through is going to pay off, the shows that can afford it, use it, ie: Genesis and U2. If you press that technology you're going to come up with the answers that are going to pay off for the little guy later on. Certainly the tower system we used on Genesis for flying the PA has been used on Guns & Roses and Metallica too. That tower system technology has saved thousands and thousands of dollars in scaffolding time. It saves money and time. It pays off for every one.

Richard Hartman: Your saying it's a re-evaluation, you deal with problems given to you by the band and designers as cheaply as possible. With Genesis we had

four sets of steel to leapfrog, we had three sets of tower systems. With Genesis and U2 we went through a continual process of re-evaluation - not cutting things, just keeping an eye on the stagehand bill, the loaders, trucking - you attack those things and you try to redesign around those parts. You try to repackage it so you make some financial saving. With three sets of steel on a tour, three production teams had different ways of going about rigging it - some would do it piecemeal, others bring the whole thing together bolted up.

Now the use of cranes is increasing, to set the shows, it's a way to achieve cost savings by doing something very fast rather than bringing it in in piece by piece.

Steve Lemon: If you start a tour small and grow big because of ticket sales, that's a great thing, because you can't get yelled at for spending too much! To start small is the way we're going to have to start thinking. We used to think wow - 50,000 pounds with 7 trucks was big, now it's normal with 100,000 pounds in 12 - 13 trucks. I always think we've seen the peak.

The set designer adds a bit, so does the LD. On U2 we had a unit setup, looked great - a great signature, it's got great impact - then the band came out and say 'see you later', because it'll cost \$20,000 a show to setup. What can you do?

So, what's the greatest threat to the industry then?

On this our experts are unanimous - the soft market due to the (northern hemisphere) economy. It has reached it's low point.

Morris Lyda: Artists want big shows that cost \$300 - \$500,000 a week to stay out, and yet those artists aren't terribly excited about the ticket sales. Genesis didn't do remarkably well with their album in some places, but the attendance at the shows was remarkably good, simply because the audience know Genesis are going to deliver a good show. Like Pink Floyd. The same is true of U2. In a soft market I don't think you can lay back on the design, you may press the technology to get more out, it's a mistake to cut your show standard.

I look at rehearsal costs and downtime, when the artist isn't earning anything. Sometimes you're looking at outrageous costs, like 2 or 3 million dollars, just to get a tour out on the road!

What is a fair percentage of ticket sales to be allocated for technical costs?

Marty Holm: I think the major artists are looking to make money with merchandising and sponsorship, otherwise just break even on the road. In a perfect world you'd be Jimmy Buffett, who goes out with four trucks every summer and does HUGE business! I don't think you can allocate a percentage.

How do you choose a Sound or Lighting vendor?

Steve Lemon: I think a classic example would be the Audio Analysts and Clair Bros similarities. Some people have an opinion that the Clair staff, although



Steve Lemon: "Some people have an opinion that the Clair staff, although more technically oriented, have a bit of an attitude, while the Audio Analysts staff are more easy going".



Richard Hartman on Pink Floyd: "They didn't take insurance into consideration. They took extra measures with safety. Pressing that envelope was what Pink Floyd did - the episodes with Flying Pigs were trying for the insurance company. We had several instances of Flying Pigs (getting away) around the world, getting tangled with smoke stacks at power stations or radio masts."

GETTING ROCK & ROLL ON THE ROAD

more technically oriented, have a bit of an attitude, while the Audio Analysts staff are more easy going. If I like staff, I like to have them on every tour I do, so then there's vendor loyalty.

Sometimes a production manager is new on a tour that a Vendor's crew has done for years, that in itself creates problems, because the staff has been with the act longer than the production manager and has the bands ear. It takes you three or four months to get around that, and then you fire someone to make the tour more efficient.

Morris Lyda: On most of our shows we issue a standard bid form with 450 lights whatever, to your vendors. You select a vendor out of that bunch, sometimes based on experience or price, there are variable factors. Normally once you have selected that vendor you get down to what you want. I've never seen a bid process go through that turned out the same when you go on the road, you always end up adding and subtracting. I have seen shows that have

selected vendors and made decisions strictly off the budget, and I would say for the most part they have short-changed themselves and are costing themselves more in the long run while delivering less to the ticket paying public. It's not a decision that can be made solely on budget.

So how do you go integrating vendors in the same dept? For instance, having two moving light companies on a tour?

Morris Lyda: It does happen, I've handled this with Pink Floyd.

Steve Lemon: Once you cross the line and your out there on the road, they (the crew) tend to be a team, and if they're not going to be a team you get somebody that wants to be a team.

Marty Holm: I've had this with Chicago who use Maryland sound, and we toured with the Beach Boys who use Showco sound. We used Showco's Prism System, and we brought in Maryland's monitor system. Steve's right, it either works or it doesn't, and if it doesn't, you get rid of the people who don't want it to work.

So what changes have occurred in your workplaces of late?

Morris Lyda: Conservatism has become law. You look at your spreadsheet conservatively. it's a healthy way to approach things.

Steve Lemon: The CDL (Commercial Drivers License) Laws require a very stringent test on drivers. We just had an experience with this where we had a run from Los Angeles, to

Vancouver and back down to Oakland with two days off. We ended up flying out double drivers, and it cost roughly \$1000 a day. There's airfares - it depends how they are that week, and then with salary you've paid \$1000. If you've got 20 trucks, that's 20 grand!

So speaking of trucks, how fast can you move a show

average? 42.5 miles per hour?

Steve Lemon: I use 50mph.

Morris Lyda: I use 50 also. 50's been very good for me! Regardless how irritating the Department of Road Transport rules are, they're not going to hurt you too much.

Steve Lemon: This question came up last year, the determination came up last year, and we

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INTELLIGENT MOVING LIGHTS

This form of lighting as we know it today was first devised by Coemar, with the introduction of the Robot in 1985. (*All agree? -Ed*)

Like many good ideas it was somewhat ahead of its time and utilised servo motors instead of stepper motors which are commonly used today by all the serious manufacturers of intelligent moving lights.

Also released around this time was the Pan Can System, allowing a mirror with pan and tilt control plus a rolling colour drum to be positioned on either Par Cans or Profile spots. But the Intelligent fixture won out and the Pan Can system disappeared from the market place.

Since this time many manufacturers have taken the concept of the Coemar Robot and produced their own Intelligent moving lights, in fact at the 1992 SIB fair in Rimini, Italy, there were 50+ different intelligent moving lights on show, however in order to ensure reliability, support etc the number is reduced dramatically to those fixtures manufactured by one of the predominate companies. Within the industry many manufacturers are able to produce an intelligent moving light but when it comes to quality, reliability, useful features etc you will find that not many can produce a total package.

There are a number of check lists people have produced in order to assist making the decision of which fixture to purchase. I feel it is important to carry out a comparison based around your actual usage of the fixture. Things to consider include colours, gobos, mirror size and movement, mirror angles, dimming, strobing shutters, iris etc.

The other major point is control and by this I mean communication method. I won't get into a DMX debate here but I feel that fixtures must have this and by direct means, not an ancillary black box conversion unit.

With the current advancement in controller options for intelligent moving lights there needs to be some form of common communications and DMX seems to fit the bill. It is very important that you do not forget that an intelligent moving light is basically a dumb fixture that until programmed is nothing.

Programming takes a lot of time and thought, any fixture is only as good as the person who is programming it, so make sure that you allow them sufficient time to carry this out.

Intelligent moving light, correctly programmed, can be phenomenal (as proven by many of the International tours incorporating intelligent moving lights) but keep in mind the amount of time, money and effort put into producing the shows that you see.

Peter is Boss at Coemar DeSisti Australia. Call (03) 467-8666.

thought maybe we could hire a carpenter with a Commercial drivers License so we could spell the bus driver on the road. We have to operate with economy now - not that we ever didn't! We have to be very careful, right down to insurance - are we documenting that peridium at \$34 a day, or are we writing it in at \$50 - because if it's wrong it's going to come back and bite us!

Marty Holm: Agents have to realise it's going to cost us more money if we have to bring in extra drivers. 500 miles in a day is the (practical) limit.

Morris Lyda: We've come a long way since there were no holds barred, every Joe driving a truck though their survival depended on how many hours they could drive that truck, I don't think this process has taken a lot of romance out of the business, but it's saved a lot of lives also. It might cost us a little more, but it pays off.

How do you deal with artists, and still economise?

Marty Holm: You gotta realise in dealing with artists at some point half their brains get sucked out!

Steve Lemon: The artist still signs my cheque, so I'm just doing my job when I say 'that's going to cost you an extra \$2000 per week, times ten weeks, which is \$20,000 - do you still want to do it?'

Morris Lyda: You (try to) design for things that are going to give the audience value, as opposed to things that are flagellating the artist. I find often I'm jumping through hoops to please an artist when actually if you make an artist aware that 'well listen, I can change this for any damn colour you want it, but nobodies going to know the difference. If you want to spend \$1000 a day on some sort of special, or can I put that \$1000 a day into something the audience will appreciate. Making your artist understand we can settle his ego, or deliver a show to the ticket holder, is a big issue. The days of people being able to tell the difference between cardboard and cashmere are fading fast.

The on-going challenges?

Steve Lemon: To fill as many seats as possible, and not jeopardise the integrity of the show.

Michael Keeling: I think another point is that the seats all need to give a good view of the show. We use video (more now) to be sure the guy up back gets as good a view as the front row.

Morris Lyda: With Genesis they moved the PA 140' apart, prior to that the only reason it used

to be as close together was because of this huge flat thing that they call a roof that hangs in between the two PA stacks - when they realised they didn't have to have that huge flat thing, they could move the PA out. Not only did they find out it wouldn't get worse, it actually got better, the stereo imaging on each side was increased threefold. It sounded a whole lot better, the sound was astounding. Cubby's a great mixer, but a lot of it came to the system sounding better (further apart). There were a lot of problems that came with it that had to be sorted out too, but those simple things apply to club shows as well as anything else.

Put that PA as far apart as you can, put the group as far forward into the audience as you can. Make the show as simple as possible, focus the show on the artist. Those things are common theatrical stuff that somehow got forgotten a long time ago. Standard theatrics pay off at the box office and pay off on the production sheets.

Horrifying situations?

Steve Lemon: Not that long ago a certain vendor lost a truck (*Aerosmith tour, the driver took off with it. -Ed.*) which resulted in shows being re-scheduled. Those are things that are out of our control once the show is moving - I'm glad not to be the individual pacing up and

down the loading dock waiting for that truck to arrive.

Marty Holm: Michael & I were out at Nebraska with Chicago, the Beach Boys had just finished and there was a Tornado due to hit in about an hour and a half. The band did about four songs, and sure enough the wind started swirling up - and the keyboard player said 'we're going to play all night' - he was running OFF stage as he said that!

The left stack of the PA blew off into the audience, and as we were trying to lower the roof we lost all the power. The rains came, and the weight of the water on the top of the roof collapsed the thing onto the band equipment. We lost three or four shows.

Michael Keeling: We were really lucky no-one got hurt. The water was up to the truck doors, we were swimming!

Is Insurance a big part of a tours costs?

Michael Keeling: It sure is. With Marty's equipment on Paula Abdul we had a tracking pod that when the show started it rose to 35 feet, and tracked from upstage left to down-

continued on page 62

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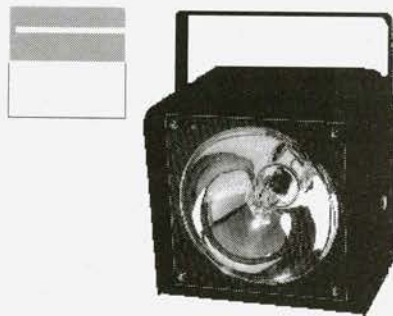
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CIRCLE 135 ON READER SERVICE CARD

NAMM = New Audio '93

Yes it's the United States' largest music show, but amongst the drumkits and MIDI you find all the major Audio Manufacturers - and usually their latest products too. **Julius Grafton** flew to NAMM in LA for this exclusive report, prepared well after our usual deadline.*

If you want to discover that the laws of Physics have been defied, with a new kind of loudspeaker invented, then stop reading. However, NAMM **does** usually surprise!

MIXERS.

This was the year of the mixing console, even companies like Sampson debuted mixing consoles. The darn things were everywhere.

YAMAHA had the PM 4000 on hand, with modules installed from the forthcoming **PM4000 Monitor console**. This is on offer with 44 and 52 input channels, and has 22 sends, made up of 18 mono and 2 stereo busses. Every buss has full 4 band parametric equalisation, as does every input. 8 VCA groups are supplied, with 8 Mute groups. Two consoles can be cascaded together with one acting as Master if up to 104 channels are needed. 'Last Channel' is a new cue mode that means a single group can be monitored without having to turn off all unwanted groups.

At the other end of the spectrum, the trusty 802, 1202, 1602 are gone, replaced by the *03 series. **803, 1203, 1603** and now **2403** are essentially the same except for a 'MIX' output which isn't an assignable buss, rather a sum of the left/right master outputs. Channel on/off is a new feature.

TAC/AMEC had the SR-6500 monitor console on show, this offers 40 inputs and 18 mixes out, with a 'wedge' send for your cue/monitors. Each output has an equaliser on board with Q switches for the mid bands. 8 VCA/Mute groups are on board.

MACKIE had a big impact with the 8 Bus series, a recording/live console that comes in 16, 24 or 32:8 configuration with psuedo in-line monitoring. The styling and finish of these machines is second to none, if they work as good as they look then the thing is a serious contender. the exposed fader track might be a worry, though, with grit falling down through the slot. Prices were unbelievably cheap, and I seriously think this is a gambit to buy market share.

SOUNDCRAFT had Spirit Audio on demo, and the whole family on display. Spirit Four Buss, Monitor, Live, Studio, Delta, Venue, Vienna, Sapphyre, and Europa - but the most reaction came in favour of the Spirit FOLIO, which is just so portable. It's about the size of a laptop computer, but has sweep midrange EQ and dual stereo inputs. Features people need.

ELECTROVOICE had five new modules on hand for the Interface Mixer. First is the Stereo Mic/Line module, then Dual Line Input

module, Six-into-One Mic Input module (a very good idea), the Digital Stereo Input module takes coaxial and optical inputs and converts them to the SPDIF (Sony-Philips Digital Interface) standard. Lastly is the 4 x 4 Matrix Output module.

ALESIS displayed the X-2 mixing console under glass, and although the PR machine says 'before June', expect to see this by Christmas. It is fully featured, with 24 channels of in-line console with 8 groups, offering 64 inputs total. Parametric EQ on the mids is selectable from 1/3 to 1.75 octave, perhaps a little less than some other parametric 'Q's where 1/6 to 2 octaves width are offered. This is of little consequence to most users, who probably are not used to having true parametric on board anyway. Style and presentation of the X2 are pretty good indeed, it will truly serve as a happy facilitator in the studio with 3 ADAT's.

SOUNDTECH had a new recording console on hand, again 24/24 in format, with some different twists. It was designed by John Oram, the former designer from TRIDENT UK. He had a no-design contract after leaving there some 5 years ago, and now returns. The Sound Tech had some un-orthodox features that we'll report more fully when it is released locally soon by the Electric Factory.

SPEAKERS.

All's fairly quiet on this front, **COMMUNITY** have some small horn loaded boxes, the RE JR, which stands for who knows what - this box is about 500x290x290mm in size, needs a processor, and delivers 122dB SPL.

CELESTION have two new loudspeaker drivers, the BX 18" 4085 with a four inch voice coil, and the 3085 with a three inch. Voice coil are Kapton edge wound, while cones, chassis and magnet structure are 'all improved', say the firm.

TOA are becoming a speaker maker to watch, with a new pair of floor monitors, the SR-M 1 and SR-M2. Mated with 12" drivers and a titanium compression driver on a 40° x 40° flair, these are stylish, low profile, and carry respectable specs. A crossover/processor, the AC-M1 is recommended for phase alignment, offset time correction, and CD horn EQ, in addition to standard crossover functions. Not known if this range will come downunder.

RENKUS HEINZ had the TSC series on show, your editors old sparring partner Harro Hienz was on hand to reminisce about the good old days when someone down under sold more Smart Systems than almost any other place on

Think Again....

I've discovered exactly why Peavey are such a dominant force in the music business, growing at the expense of other manufacturers. It's because the firm are focussed on 1,300 small, local music stores scattered across the 52 states of the USA. These store proprietors are crammed into a huge ballroom before the annual NAMM show, and I'm there too, an interloper. Hartley Peavey works this crowd like a presidential candidate, but he speaks their language.

"You people are in grave danger", he orates, "and you probably don't realise why. Well, I'm going to tell you". So it comes to pass, Hartley relays the issues that will affect the life blood of these store proprietors, principal of which are the threat that the mail order industry will put them out of business, and a new ammendment facing congress that will force suppliers like Peavey to sell to anyone. The hidden message here is that these issues won't harm Peavey - this corporation can adjust to the market shifting base. But together, these are issues Hartley says are critical to the wellbeing of everyone in that packed ballroom. I exclude myself from that, because I'm not really supposed to be there!

DEALER CULTURE. Here down-under we regard Peavey in a historical light as a brand of inexpensive audio product and musical equipment with slightly garish styling and occasional raw performance. These perceptions don't reflect the Peavey story in 1993, and Peaveys competition know it. "I expect Peavey to be number one in audio soon", Mark IV president, Bob Pabst told me before NAMM, and it was a surprising comment until I saw what I saw at NAMM.

I seriously doubt anyone else in the audio industry has a dealer culture like that of Hartley and Melia Peavey. To them the dealer, particularly the American dealer, is sacrosanct. Products are developed and trashed due to input from dealers, and dealers are the constituents and voters in this private miniature government - almost a like it's a City. In fact, Peavey City is being built right now. **FRIGHTENING.** Peavey have expanded so fast and so far that Mr. Peavey says "it's a bit frightening". After seeing slides

continues over

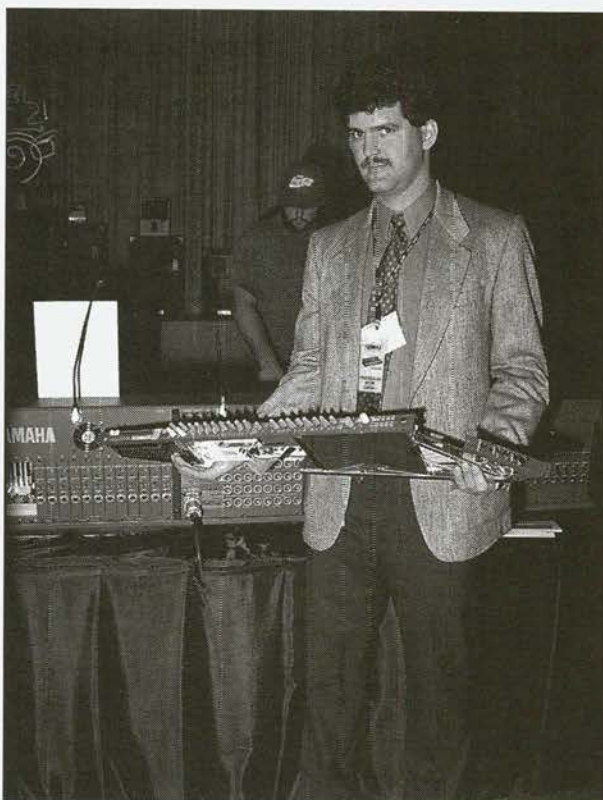
NAMM

earth, USA excepted. Days of milk and honey for Harro, alas no more. The TSC is Renkus's Manifold Muncher, a true behemoth of a PA, which in all probability works very well.

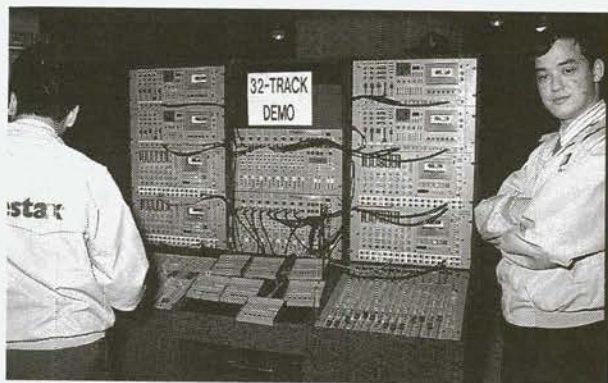
JBL had nothing radically new, but were giving the new Array Series a hard flogging with some showcase concerts at Inn On The Park. Eight pairs of Array's pinned back the ears of some 1,200 odd (and I mean odd) punters at each session on the Saturday night. Reaction was fairly universal, in that the things have the sweetest sounding highs around. The rest was all right too, mixed on a Europa, beside which was a slightly overshadowed Jands ESP-36 lighting console. How did Paul Mulholland arrange that?? In fact the ESP belonged to the lighting contractor.

Right out on the fringe of the business is a little Spanish speaker system maker, **Musicson**, whose cabinet designs are neat. A two box system was shown, with the top box loaded with a 15" Beyma woofer, and a 60° round flair with **Beyma** driver. This sits atop a dual 18" subwoofer. Really innovative are the flying points, a neat though. Sadly Beyma products are possibly hard to obtain in quantity in Australia due to a legal situation that has something to do with a Rob Damon in Queensland, who operates as Beyma Australia. Legal situations spell trouble, so next:

From **ELECTROVOICE** is the EVX-150A, a 15" woofer with 'superior fatigue resistance'. The geeks at EV say they analysed speaker performance after months of use to find failure modes that won't be apparent in normal high level testing. A Heat-Wick™ design is a way to take heat away from the voice coil, while a Flux Demodulation Device (FDD)™ does some even wilder things. These guys get into their designs, huh? This model takes 1,000 watts of continuous



Ken Freeman from Yamaha USA is holding a module from the new PM-4000 monitor console; the same size as a standard PM-4000 module. Note the clever 'folding' connector panel! at right, this makes fitting the thing into the frame relatively easy. I saw him do this! PM-4000 Monitor has 22 sends, 44 or 52 ch.



I wasn't going to say anything, just let this photo speak for itself. Well, it DOES prove that if it works - and it seemed to - Vestax's synchroniser WILL synchronise up to 32 tracks of 4 track cassette based multitrackers. But why would you want to anyway? LOOVVE those patch leads, guys! (& they were proud!)

PEAVEY (continued)

detailing the construction of Plant 6 (or was it 7?) my letlagged eyes started to glaze over. "Peavey City is under construction ... here is two million dollars worth of robotics we bought at auction from a military manufacturer ... here is plant 10 where we make amplifiers ... the England facility ... Peavey Europe ... our fleet of aircraft ... our printing plant ..." and so it goes. We get to hear about Plant 17 - and see the former President of the United States lauding the Peavey's on TV.

Notice I haven't started talking about product yet? This function is, after all, a product launch, and the sealed pouch on the table in front of each person at the product launch has hundreds of sheets of paper in it. There are 80 new products this year, we are told, "and now we're going to show them to you." Each product manager comes up and rattles off his latest wares, which of course include guitars and keyboards, a growing part of the business for this family conglomerate. The impression is formed that some of the releases are just testing the water, because reference is made to other trial products released at the same function a year ago. The development curve appears very sharp, lead times low.

This is like the sort of performance we sometimes attribute to a Japanese manufacturer, most of who probably look at Peavey with envy. Practically all of the product I saw was not yet available, with release dates through to our Winter, so it would be folly to talk about too much of it. I was, after all, at a confidential dealer-only function, however I will risk retaliation and give you a sample.

AMPLIFIERS. If the replacement for the old but soldiering on CS-800 lives up to it's promise, serious volume sales are a reality here in Australia. The new offerings work at 2 ohms, and apparently are 'inexpensive'. At the same time, a pair of new 'traditional' (ie: not Digital) amplifiers are in the pipe, these don't have the crossover module connection that the CS/CSX have. They deliver 2 x 210w RMS and 2 x 425w RMS at 4 ohms. A larger version of Peavey's existing DPC-750 Digital amplifier, is coming.

MICROPHONES. Not ready yet, but looking interesting - in particular the instrument microphone. More as they come through.

Then there's mixers, speakers and processing gear. Watch this space!



No 1 for **YAMAHA**



program power.

YORKVILLE have a neat stage monitor, the new low profile Elite, which is unusually angled as our picture shows. The 12" woofer and horn enclosure handles around 350w, at 102dB sensitivity. The thing can be stand mounted too. (see pic at right).

KRK make nearfield monitors. the Model 7000 (pictured below, right) has Kevlar drivers, a 7" woofer and kevlar tweeter. With 50Hz - 15KHz at +/- 3dB, the things sound very nice and natural. At least to these ears! KRK don't have representation, "we've been talking to Des Sylvester, but nothing ever comes of it", they say. Pull it out, Des.

RECORDING & STORAGE.

Of course the digital 8 track format war is raging, and we cover that on Page 25.

RADAR is a 24 track Digital recorder using an integral hard disk, and available in increments of eight tracks. This means, in my convoluted jargon, that you can buy an eight track RADAR and retrofit more eight track modules up to 24 tracks. Some real benefits of RADAR are that you need not have a goddam PC computer and VDU cluttering up your work space. RADAR has all the interface you need right there on it's face. A neat remote control does the task, and if you are deadset on having a lot of function buttons and a QWERTY keyboard, the optional BE-8 remote has all



these with a jog-shuttle wheel and a two line LCD screen.

RADAR stores something like 160 track minutes per gigabyte of storage, which equates to actual track usage, not elapsed track time. Everytime you add an 8 track module, you add 1gb of storage. The costs are about US\$7000 for the 8 tracker, and

then US\$4000 per module. This would transpose into Australian Retail Prices of \$18,000 and \$9,000 respectively. The best thing about RADAR is that it's makers, ANATEK are really honest people by NAMM standards. They say they will ship the thing in SEPTEMBER, which is a breath of fresh air in an environment where everyone promises shipping dates they have no intention of meeting.

YAMAHA debuted the CBX-L5 Digital

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 manufacturers are jumping all over to incorporate into their products.

QSC are first off the rank, with a MediaLink interface card having been developed for their EX Series amplifiers. In QSC's case, they have opted for a fire-optic link between amps, as it is ground free. Their new system will provide control and monitoring of all amplifier functions, and QSC have developed their control system to also address other people's equipment in the system. This is where others use Media Link, that is!

This is not great news for Crown, who are standing alone with IQ2000 - but stand alone is something that happens.

The reality of Media-Link is that manufacturers are busting land speed records to get Media-Link ports into their products. At NAMM, it was thought that

(continued next page)

Monitors from Heaven!

With today's high onstage volume levels, accurate and audible monitoring is essential for artists to reach their performance peak.

Stage monitors (foldback) are personal things; one size *doesn't* fit all. Frequently what one performer likes, another doesn't. And, up till now, that's the way things have been.

Now, all that has changed. After many requests from sound reinforcement companies worldwide, ARX have developed the all-new 215 and 222 series of monitors, to provide the clarity and level that concert performers require.

The 215 is designed as a general purpose concert monitor, equally at home as a floor monitor, side fill or drum monitor, while the 222 has been configured to produce maximum out-



put in the vocal range from an ultra low profile compact enclosure.

Both feature rugged, all-ply construction, and are designed to run as a system with the CU 215s processor. This is a dual channel unit that automatically supplies crossover, phase alignment and speaker protection functions.

Still, don't just take our word for all this. Here's what some happy users

and owners have to say:

"I love them." *Graham Fraser, FOH engineer Black Sorrows*

"These monitors are just what we needed to break into the International touring market" *Sani (Sonny) Ahmad, Concert Sound, Singapore*

"They're great - loud, clean and so easy to set up." *Steve Kirkland, Advanced Audio*

"Since getting the 215s, all our clients have nothing but praise for the monitors." *Rob Miles, Strange Lane Productions*

Wow! What more can we say, apart from call one of these people listed below for more details.

They'll tell you all about the monitors from Heaven - designed for the gig from Hell!



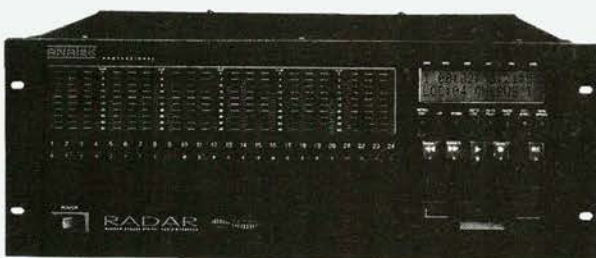
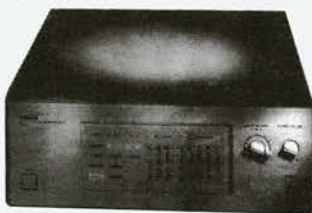
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NAMM

Recording Processor, which is again a hard disk recording system, but this time a four tracker. The idea here is you interface the CBX-D5 with your computer, whatever it may be. Atari, Mac and Clones are all OK, with software from people like Steinberg Jones and Mark Of The Unicorn. The idea is, according to Yamaha, that



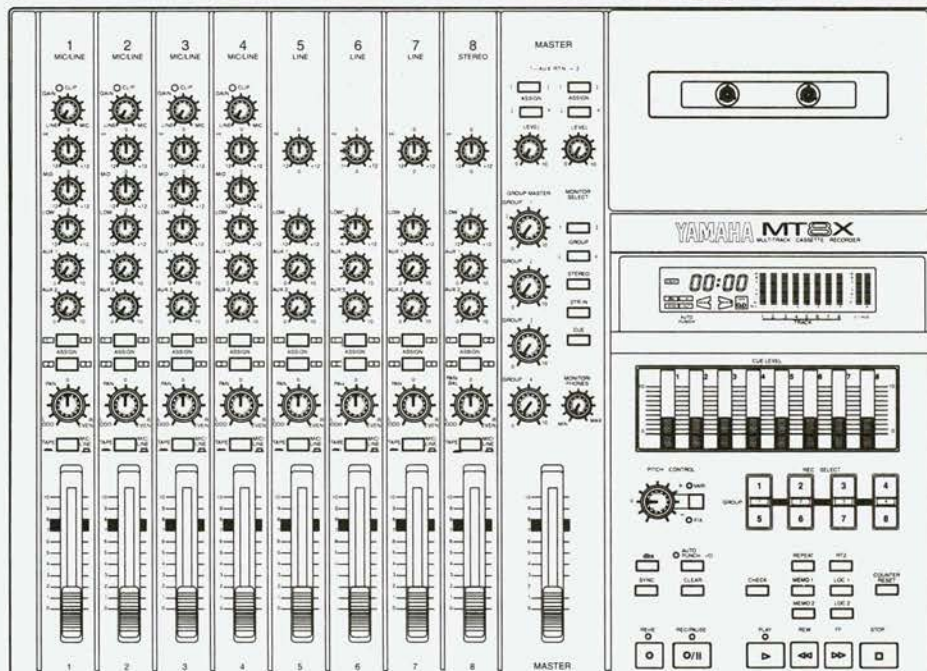
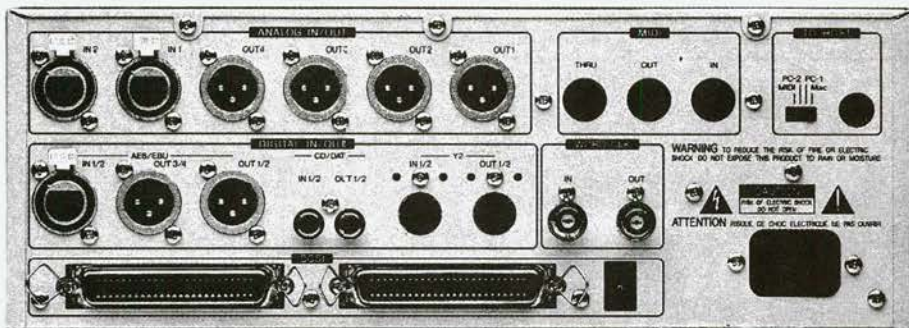
RADAR- the 8 - 24 track hard disk recorder by Anatek.

you let your computer compute, and your storage devices store, while the device handles the processor-intensive work. The back of the unit has every possible connection- (see pic below). At this time the unit is a 4 track system, with 2 tracks simultaneous recording; and 4 track playback. Further track expansion, using SCSI daisy chain or Nubus SCSI card

will be announced soonish. USR (United States Retail) prices have this thing most likely to retail at about \$8,000 here.

DYNATEK are the data storage people, who make a bunch of rack mountable storage subsystems, available in 2ru or 3ru sizes. Up to 4 storage devices can be contained, to be used together in a SCSI chain or independently of each other. Various configurations are available, including Sony CD ROM & Magneto optical, Fujitsu 3.5" and 5.25" fixed disk, and ExaByte 8mm Digital Tape. No Australian distributor known at this time. Contact them in Canada, fax (416) 636-3011.

If Analogue is OK with you, it is with me, I heard and saw working a neat 8 track cassette multitracker from **YAMAHA**, the MT8X. While you purists will sniff that this cannot possibly work, it does. I didn't detect any audible crosstalk on the (probably perfectly recorded) demo track, and it sounded just hunky-dory. 3.75ips is twice normal speed, DBX reduction is on all tracks, and the mixer section has lots of facilities. USR is \$1599, so maybe we'll see this here for about \$2995? MT8X is pictured at bottom of page. (*>more*)



Media Link (continued)

Peavey, Rane and TOA were ready to go, with many others hovering. The advantage is the interconnectability of audio equipment to a control system, of course.

This will become very serious, very shortly, with TAC/AMEK poised to release a live sound console with snap recall and other automated functions- at a seemingly bargain price of around US\$35,000.

If this comes to pass, the thing will almost certainly be Media Link friendly, which means that for the first time in history the mixing console will be part of a control system that quite reasonably extends way past the system processors like equalisers and crossovers. The system will extend right back to the power amplifiers, and suddenly you are integrated in ways yet to be determined!

Media Link is an open system, available to all manufacturers. In working mode, your Mac or PC is linked to your devices, be they effects, processing or amplifiers. They popup on your screen as an ICON. The system supports virtually any physical connection- MIDI, DMX, Fibre-Optic etc.

We'll keep you posted on this vital new technology as it finds it's way into our equipment, becoming indispensable.

COOL DEVICE AWARD

Your editor has undergone a metamorphosis from Peavey detester to cautious fan of this firm. The PVM-357 drum mic system is another indicator that they are mostly in tune with reality. This is a tiny cardioid condenser mic on a flexible arm with mounting adaptor. It plugs into a preamp with graphic EQ and drum trigger output. You feed phantom power to it, and take your balanced or unbalanced signal - and there you have it! You can even mount the preamp to your drum shell if you like!



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RACK MOUNT EFFECTS

YAMAHA again tend to set the pace with reverbs and effectors, the SPX-990 is based on the SPX-900, but with 20 bit A/D & D/A conversion, RAM card expansion, and balanced XLR in & out. Tempo-based delay time programming, and intelligent pitch change are some of the other new thangs on this device.



DBX have a new line, the Project 1 - which includes the 266 Compressor/Gate (above), the 274 Quad Expander Gate, and the 296 Spectral Enhancer. All of these are priced keenly, at around US\$ 300 - \$450, implicating an Aussie retail of \$900 - \$1200-ish. DBX say they build these in the USA too, inferring some of their competition don't. So there.

THE REST:

How about a Monitor-Mate Personal Monitoring System? If you have a HotSpot type speaker, this little mic-stand mounting bhazo will drive it. Perhaps not. NEXT

BGW have a computer-in-a-box (below) that has real applications, the U-86. You can upgrade the sucker by swapping out the

EV/DYNACORD have the DRP-15 digital reverb/multi effector doing everything possible, with 24 bit processing to boot. Two programming modes - 'Expert' and 'Easy' make things easy or hard, (or hard and easy?) while the device has 128 memories, and up to six effects can be used at once. (See pic. below)



SONY are the serious effector people, with the DPS-F7 doing it's business with 32bit high speed processing, and offering virtually every kind of effect programme, including 'channel vocoder', percussion synthesizer' and 'fading parametric equaliser'. When Sony Australia have one, we'll get the Blind Lemon Pie duo to run it through it's possible paces, and tell you more.

DIGITECH follow up the raved about VHM5 Vocalist Harmoniser with the Vocalist II, a rack mount device with editable harmonic library with intelligent chordal, scalic and chromatic harmonies provided. DODD/DIGITECH had a whole line of new goodies, we'll report on these as they find their way into local distributor CMI's warehouse.



processor chip, and changing jumpers on the motherboard. You can equip the thing as a 386 through to 486DX2. In a rack case the thing is ready to tour, with two fans and 'road tough' hard drive. The keyboard is in a pull out draw, all you need is a rack mount monitor/VDU that isn't too massive. BGW are working on this too. Good idea huh?

There was more, much, much more, but this is the stuff that jumped up and said 'here I am' - so there you are. More details on new gear as it is released here, down-under.

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MICROPHONES

SHURE have a BETA 87 now, which gives you a high gain condenser for hand held vocals, and a bunch of feedback rejection, according to the Shure men. (pictured)



SENNHEISER have a raft of new mic's, starting with the MKH80 Condenser, a multipattern, transformerless member of the MKH family. Then there's the new ProForce family, a whole line of dynamic microphones for the musician market. These are formed from a glass-composite, so the case is (a) inexpensive to make, and (b) hopefully throw-and-break resistant. The real benefit, according to the firm, is that they have got handling noise sussed in these mic's. More soon.

AKG have a new entrant in the Tri-Power line, the C5900 (pictured) is a condenser mic for hand held vocals. It's got their new TPC-1™ condenser system. I love these buz names!



** Our deadline is a serious matter here at Connections. It is the 14th of the month- any month - whereupon the magazine is normally released on the first day of the new month. This report was written at and after NAMM, and screened and placed on Wednesday 27th January. Accordingly it may have some typo's, so we're sure you understand.*

HOW WE PICK WHO'S GEAR IS FEATURED HERE:

Take note, Aussie equipment distributors. The first preference is the 50 manufacturers who bothered to prepare press kits for distribution through the NAMM press office. These are 50 out of 1000+ exhibitors, the majority dont get it together. A press kit gets first look with us, because we know it reflects the manufacturers push, not the Aussie distributors stock situation! Then after walking for what seems like hundreds of kilometers through the tradeshow, looking, and talking for days, the products chosen are essentially new and with merit. That is not to say if we don't mention it here it isn't any good. We also are capable of MISSING something. So, we expect Aussie distributors will send us new product news as it comes to hand, even if it was shown at NAMM. Keep us posted, so we can tell others.

CIRCLE 146 ON READER SERVICE CARD

8 Track Digital war heats up at NAMM!

Julius Grafton attempts to cut through the hype, and comes away wondering where it all ends

Once a professional recorder was a lump of machinery that sat solidly on the studio floor. Today the distinction between pro and home recorders is very hazy. Project and personal studios use inexpensive rack mount processing, as do main line establishments.

The rush to Digital is what's happening this season- if you can get it, that is. "Alesis is my big problem right now", said Mark Spiwak, owner of West LA Music. "I can't get enough!"

This of course relates to the landslide called ADAT, which Tascam have met head on with the DA-80, demonstrated at NAMM, and due for release 'soon'. "It's the BETA vs VHS war all over again," Tascam's Bill Mohrroff told the Music Industry Report. Whoever lines up enough allies to make his format dominant will win. Beta was a technologically superior format but VHS won simply because more people lined up with it. The same applies here".

Adat's S-VHS choice will be the transportable tape medium if Fostex have their way, the recent deal with Alesis will see ADAT compatible Fostex machines released sometime this year, or in any minute if you believe the patter at NAMM. "Our VHS machine will have a full complement of capabilities similar to our current G-series recorders, including an on-board timecode reader, generator and synchroniser, video emulation, and the ability to convert SMPTE to MIDI timecode", said Fostex USA's Dave Oren.

"The ADAT was designed as a multitrack audio recorder, not a hybrid computer data

storage peripheral", he continued, proving that although Fostex has paid Alesis a license fee, this doesn't mean they can't slag each other off! "Fostex will offer features that clearly position our product for the television, film, and video post-production markets. All the chatter about tape format wars is irrelevant because the standards are no longer made by a single company or committee. Groups like NAB, SMPTE and IMA now recommend practices which specify a feature set, but let the market decide which type of technology solves the problem and fulfils the need."

Pre-empting the Fostex release, Alesis say the Fostex machine will be dearer because it is designed specifically for the post-production market, and will have synchronisation features like external SMPTE chase/lock capability, built in. Alesis have these on their optional BRC controller. Doing a PR job for Fostex is an unusual step, but Alesis are keen to keep ADAT dominant where it is, and not have potential buyers waiting to see the Fostex machine.

Tascam say the Video Hi-8 based DA-80 is the future of multitrack, and that this is a newer format than S-VHS anyway. The company states that their format is better as it is more suited to the stop-start operations that characterise studio and post-production environments. Furthermore, Tascam say they already make (in the TEAC division) transports for both VHS and 8mm - and that their tests show 8mm is superior for audio multitrack recording. Well of course they would say that!

Perhaps to counter this, Alesis stressed the

Alesis say the FOSTEX machine will be dearer! Tascam say THEIR format is the best. Yamaha stay in their own world, and Sony hint they may soon enter the fray. These ARE interesting times!

easy serviceability of the ADAT when it was launched, and reviewers have examined the transport's accessibility with replacement in mind. To date we have not heard any negatives in this department, and of course any moving part will wear, including a hard disk in a computer.

Alesis are cranking ADAT out of their plant now, but the pile of backorders is slow to diminish, caused by late shipping the product which was launched a little before time. Due to the shortages, the most popular person at Alesis is the allocations clerk, who doubtless has a few gifts arrive in the post! One positive (depending on where YOU stand) view of this is that ADAT does not get discounted by retailers when it is in short supply.

Yamaha have plugged on outside this particular battle, with no sign they will enter the fray. The latest release from Yamaha seems to confirm this, that being the CBX-D5 Digital Recording Processor, which is another story altogether. Likewise their new MT8X 8 track cassette recorder, which is of course entirely a different category of product. (See our NAMM wrapup for details of these.)

The 8 track digital tape recorder is a new creature, Alesis were first, Tascam and Fostex followed. Now watch what Sony do, because the rumbles are the technology giant is poised to release an 8 track digital product that will be tape based. Find out which tape format, and you are the possessor of knowledge that will change the marketplace. Rest assured, you'll read about it here first!

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CIRCLE 150 ON READER SERVICE CARD

Dr. Lite

New Standard for Colour Filters
BS3944 Part 1 1992.

This specification has been recently ratified for 'Colour and Diffusion Material for Theatre, Television and Similar Entertainment Purposes'. Part 1 covers the requirements for flammability and dimensional stability. This new standard came into effect in the UK and other countries using BS standards where their own standards do not cover a particular item (ie. Australia), in August of 1992.

There are two major tests for flammability, the first requires an inclined sample to have a flame applied to its centre, and the second is for a flame to be applied to the end of a strip held in the shape of an arch. Both of these tests are precisely detailed within the specification.

After ignition the test sample may burn briefly but must self-extinguish within a set time. Flaming droplets of material must not fall from the sample to the base of the testing apparatus if the material is to pass.

This specification also requires that the package or material shall be labelled with the manufacturer's name or trademark and the legend BS3944: Part 1 1992. This brings up an interesting issue for all the professional theatres, will they be insisting that their suppliers only supply gels that comply with this standard?

Eastcoast Lighting Brisbane has joined the ranks of Event owners with the acquisition of an Event 60 plus console.

Greater Union - Adelaide. Paul Beck fresh from his Joseph and his Technicolour Dream Coat triumph, has pulled off another coup with a sale of an Event 48 plus to the Parker Community Theatre.

More Paintball fun! I recently had the pleasure of visiting Australia's first indoor paintball skirmish field situated in Sydenham Rd, Marrickville. Paintball has taken off with many of the industry 'honchos' here in Sydney. In fact Andrew Kellerman of Chameleon broke his leg playing paintball (outdoors) last year.

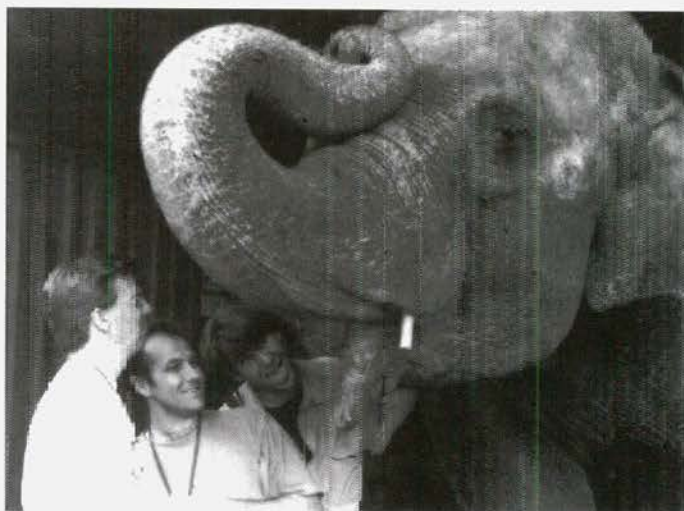
There are three fields including Desert Storm, Urban Guerilla, (a post holocaust field set) and Speedball - the most eerie. The object - wipe out your opposition before they get you! A bit like the hire and production business actually. Congratulations to Manuel Vargas and the gang at Speedball Skirmish ph(02) 557 2170, fax(02) 550 1757. The Jands Terminators will be taking the field at Speedball Australia against all comers on the 12th February from 9.30pm onwards, come on-make my day (or night).

The Doctor and the Matron are expecting a little intern - due August 1992.

Dr. Mike Tanner is a Jands' veteran

Catriona Forcer explores the cultural delights, dodges the elephant crap, and tells how they went about

Lighting The Moscow Circus



The Moscow Circus first visited Australia in 1965 and it was so popular it toured a further seven times. Widely regarded as one of the World's finest circus spectacles, such a production does not come together overnight. In the past four years, entrepreneur Michael Edgley and his executive staff have traveled literally hundreds of thousands of kilometers, from one end of Russia to the other, selecting acts, negotiating contracts and organising the tour.

Once the program had finally been decided the Edgley team started to plan how to bring the acts to this country. The Cossack horses required the most consideration. The 12 horses were put through stringent and repeated health tests and blood analysis. In May 1992 the horses set out on their long journey first traveling across Europe to England where they were quarantined, then onto Australia for further quarantine.

Meanwhile, back in Russia the acrobats, trapeze artists, clowns and jugglers were assembling at the beginning of October for their final rehearsals. By November a convoy of trucks had crossed Russia to Vladivostok where a chartered ship waited to transport 20 tonnes of circus gear and 120 people on a 20-day voyage to the South Pacific.

Lighting designer for the Australian and New Zealand tour of the Moscow Circus is Doug Brimblecombe who has worked with Edgleys, on and off, for six years. The circus will visit many places throughout Australia and Arena Technical Services of Sydney are

supplying the lighting equipment for the whole tour.

Doug Brimblecombe's illustrious career started at the age of fourteen when he already had his own disco system and light show. This was used to amaze the residents of his home town Dobby, in inland Queensland. By 1982 he was working for Vari*lites Australia on such varied projects as Opera in the Outback and the American Dance Theatre. Eventually Doug made his way to the UK where he worked for Vari*lites, Entec and Sam Jacksons. It was there that Doug first started working for the ice skating duo Torville & Dean and he continued to do their tours for the next five years.

The lighting rig for the Moscow State Circus employs all three of High Ends major products with 28 Intellabeams, 12 Data Flashes and 4 Emulators (the High End laser simulation light). There are also 30 LSD Colourmags, 6 2K Fresnels, 280 Pars, 30 motors, 4 Lycian short throw follow spots, some groundrows, foggers and oil crackers.

"We're flying the dimmers with the rig," explained Garry Brokenshire of ATS. "The centre hub is decked and the dimmers sit on the rig. We run the power through the roof up to the dimmers as it cuts down on the cable runs. If we had to run cables from the far truss to the dimmers out the back the cables would be about 80 metres. We've started doing this on a lot of the big shows to give more floor space. There were initial problems with the Russian rigging which hangs underneath the dimmer bridge so we drilled some holes in the

floor of the bridge so that they could get some of their cables through for their rigging. Festoon lighting was also added to give a tent effect."

During the show there are also three acts suspended from the bridge and in some areas, Melbourne in particular, the weight loading in the roof is very limited. Care will have to be taken as to what is put on it because there is already about three tonnes of gear up there and it is not a static load.

You may be wondering what a seasoned Vari*lite operator is doing with Intellabeams but, of course, it all comes down to budget. "This is the first time I've used Intellabeams," said Doug. "I've always used generic lighting with a Vari*lite system normally running everything through the Artisan. The Intellabeams have been a bit of a drag because the control isn't that fantastic but that's only because I'm used to Vari*lites and the control is just there. The product is just as good, it just takes longer to get there."

Control boards are an Avo 90way and a Jands Event which is used for the special effects like the festooning, starcloth and some ground equipment. Doug operates this desk and the matrix end of the Avo as well as calling the show. James Straw of ATS operates the playback end for the Emulators, DataFlash and the Intellabeams.

"I offer a whole package deal of me walking in, getting the gear, making it look good and making sure it runs for the whole season,"

Doug said. "That's what I guarantee. When you're dealing with most things in entertainment you're dealing with one or two people, ie the director and designer. With something like this the requirement is quite heavy because you're dealing with 16 different groups of people all wanting things all right now. With rock'n'roll you have time to program things and you're getting one or two inputs. With 16 numbers, I average about a quarter to half an hour time on each act and that's all I can give them before opening night. Although over the next few days it gets better and better."

From experience gained working with the Russians over six years, Doug feels he now knows what they require. Obviously the placing of lights is extremely important as it is not a good idea to shine light into the face of a trapeze artist as he does a backwards flip 60ft in the air!

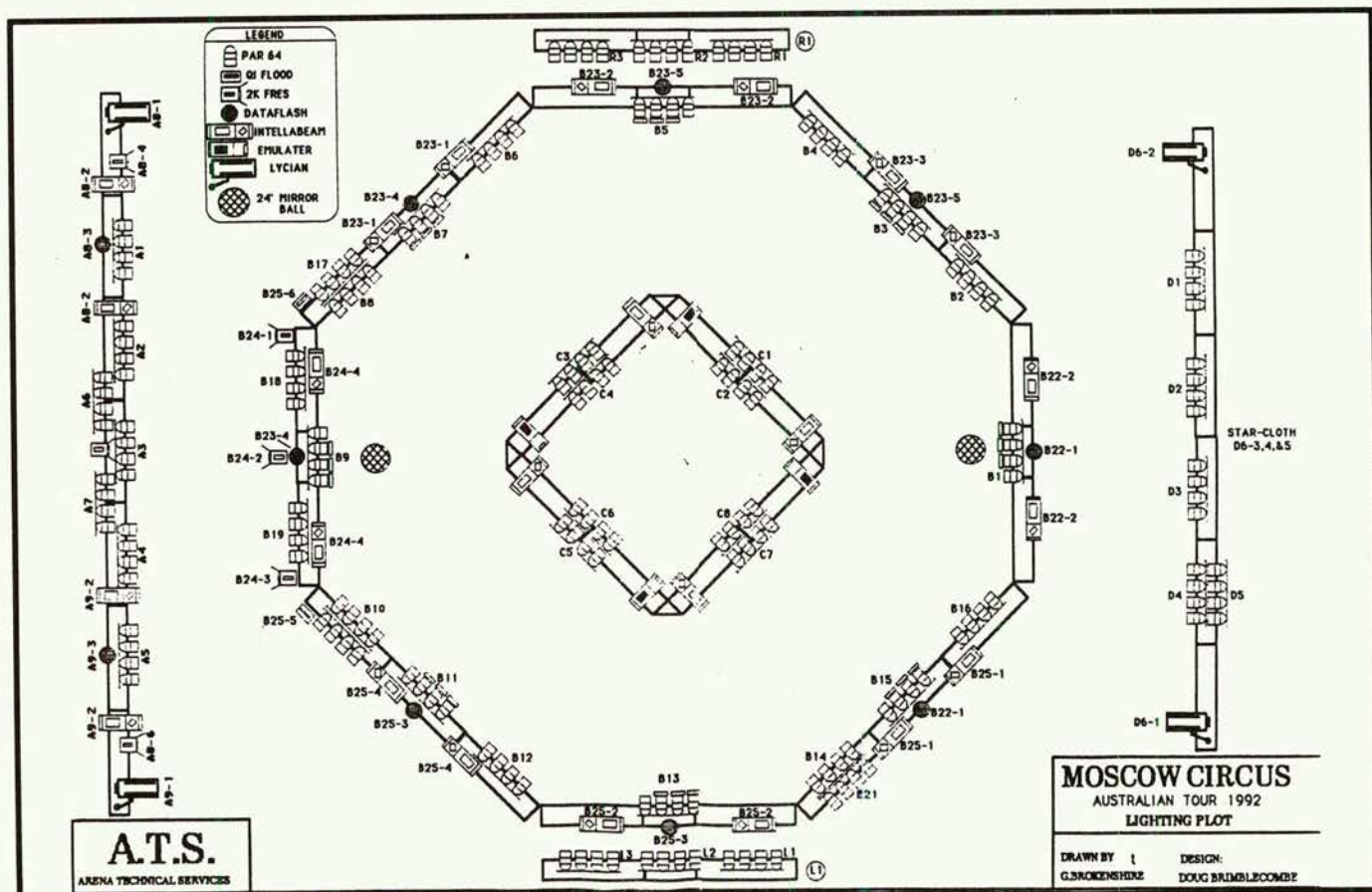
"In China, the guy doing the show missed a cue and didn't have lights in the right spot," said Doug. "The artist hit the swing, dislocating his shoulder, and they were literally picking teeth out of the ring. There's no way you can stop an effect once it starts with the tricks they do. You also have to watch the animals. If a bear gets a light directly in its face, it'll try get rid of it by swiping the air and someone might be in the way. So you have to be particularly careful with the follow spots. Every night we have a laugh at one of the Tigers called Boris because he insists on chewing up the carpet and every day it has to

be reglued. We reckon he likes the glue! It's the old tradition with the horses - they have to be able to see where they are going. If they can't, they'll simply stop. So you have to light a lot of the arena, basically wash the whole building. The ring is 48ft round and normally you'd light maybe 8ft above that to light that area. But performers like the trapeze artists go up to 50ft in the air for their tricks so you've got to light the whole column. The whole thing becomes very three dimensional. This is the first time I've had no complaints about the lights in their eyes which is a big plus for me. I'm limited to 90 channels with this amount of lights so I've got about 8 lights on one circuit. Consequently, if one light gets in their eyes you have to pull all 8 and lose half your wash."

Although most acts require just a traditional wash there is an aerialist act performed to the Queen soundtrack 'Innuendo' where Doug has the opportunity to stage some terrific lighting using the DataFlash and lots of smoke. The elephant act is also quite dramatic and colourful. Rumour has it that one of the elephants, Dumbo, has a serious vendetta against Garry Brokenshire and no one seems to know why. *(I do, but I'll keep quiet. -Ed)*

"Working with ATS has been good and they've been very flexible," said Doug. "The Russians always want eleven out of ten which is fine because most people do. They're very friendly and honest people although very naive in a way."

Below: The Lighting Plot



THE AWARDS BANQUET 1993

AES Melbourne August 24-26, 1993

All those who attended last year's AES Convention Banquet are still talking about the superb performance given by Tony Emmanuel and the great socialising, not to mention the fabulous food. Its traditionally a time when we all get together with friends and partners to have a great time and to acknowledge one of our fraternity with the Lifetime Achievement Award.

This year, in response to requests from several quarters, we are expanding the awards into a number of areas of our industry and we are seeking your involvement in nominating colleagues who are worthy of recognition so that the awards will truly represent industry sentiment.

You can nominate a colleague, an installer or a product under the categories listed on this page. And you can nominate in more than one category. All you have to do is contact the convention organisers.

So have your say. Tell us about the people and/or products that you think deserve an award. Your nominee could be an inaugural winner under one of the new categories.

And don't forget to book yourself into the banquet too. After all, you might just be called up during the evening to receive an award. And even if you aren't, there will be good food, great entertainment and lots of fun.

AUDIO INDUSTRY AWARDS

The Melbourne Section of the Audio Engineering Society will be making a number of awards to the industry at the 1993 Convention. Nominations are now invited in the following categories. Presentations will be made at the Convention Banquet in August.

Award Categories

Individual Lifetime Achievement

In recognition of a person who has made a significant and on-going contribution towards the development of professional audio throughout his or her career. This award highlights the dedication of a true industry pioneer.

Service to the Industry

To be presented to a person whose involvement in professional audio has over a number of years benefited the industry's image or viability, or who has provided a valuable service to the industry.

Encouragement

To be awarded to a young member of the audio fraternity, possibly one who is still training and who has shown great promise in his or her chosen field.

Products

Engineering Ingenuity

A number of awards for products which have improved the quality of audio, made the engineer's life easier,

or opened up new possibilities for audio professionals. These products are the ones which become the industry's de facto standards.

Installations

Permanent Installation

It may be a church, a sports stadium, a corporate boardroom, or any other installation which is not of a short term nature. The award is made to the designer and installer, with consideration given to the difficulty of the specification, creative solutions to the client's needs and quality of workmanship on site. The client's degree of satisfaction will also be taken into account and more than one award may be given.

Production

These awards are to be made to individuals or teams who have designed an audio component or product which is consumed by the public and in doing so have advanced the state of their art or in some other way excelled. All aspects of the production/s will be taken into consideration. Size and budget will be given no more importance than anything else. Each award may be given for a single production, or a logical group of productions. The categories for which nominations are invited are:

- Broadcast
- Live Sound - Concert
- Live Sound - Theatre
- Recording

Innovation

To be given for a product, system, design, concept, technique or work practice in recognition of a person or company that has developed something which has expanded the horizons of the audio industry.

For further information about making an award nomination, or attending the Convention and Convention Banquet, please contact the organisers.



AES Convention Information
Contact: Robert Walker, VRF Limited
Telephone: (03) 696 2022
Facsimile: (03) 696 2879

Inside Roland's High Tech Castle

In a day and age of such techno-logic hardware such as the personal computer, the drum machine and the talking alarm clock we sometimes have to ponder the question, "who pays for all these products to suddenly burst onto the scene and hypnotise our wallets?". Well it's quite simple really, we the users pay. By researching what it's buyers want, then going ahead to design, manufacture and market a product, companies obviously have to pass on costs upheld by them to their customers. Everybody groans inside when thinking of some R and D team aimlessly running up bills in our, "the customers", name; then laughing all the way to the bank when we're slugged with the price for current technology.

However most things are relative and whereas under \$5000 spending money used to buy say a car you could happily drive around, yes I know some people wouldn't sit in let alone buy this kind of vehicle, nowadays you'd be lucky to register a car like this let alone insure it.

So, with this sort of concept in mind we began to look at the relativity of audio equipment and where it fits in. Sure you can pick up sound modules cheaper than ever, but at the cutting edge of our particular field, equipment still appears expensive. But is it? Relatively it really isn't that expensive. Most small studios today will contain thousands of dollars worth of equipment to cover what maybe termed as normal operation requirements. Some newish concepts command what appears a high price and without trying to say "spend", they have to be considered in the realm of things as contenders for our hard earned dollar.

Last year we finally got to see and touch the much heralded digital multitrack dreams of the previous few years. Facts and fallacies shrouded the release of these new styled products, would a computer mainframe be necessary? Will I have to wear protective clothing? Does everything I own immediately become obsolete? On and on it went until these seemingly inoffensive units started to surface. Now everybody talks of digital multitracking and the digital domain in general like an old friend.

With the principals of multitracking under our collective belts and the fear of a new rack mounted unit out of the way we head into 1993

ready to consume and terrorise any new product daring to show that word "digital". Under normal circumstances the Blind Lemon Pies would lure a current product into the studio to tease and taunt it until it showed it's worth. Today however is a different day - Roland Field Trip Day!

DM-80 Multitrack Digital Workstation

With all the panache of hungry vultures we descended on Roland's DM-80 Multitrack Digital Audio Workstation (isn't workstation a wonderful word - it tells you everything and nothing). Question after question flew, 'can it do this', 'will it do that', 'may we have one for free!' But it soon became apparent that the word 'workstation' probably IS applicable to this system.

The breakdown of the DM-80 is simple, in it's most common form you can choose a 4 or 8 track version, the 4 track version is expandible to 8 track, the 8 track version expandible with additional units. A package may include the use of the DM-80R remote controller or Apple Macintosh interface and DM-80S software to make use of your existing computer. These units represent it's most basic configuration, a recorder and a remote control plus!

Coming to grips with the DM-80 is easy. it's remote is laid out with the person who has been using a tape format in mind, and let's face it we've all been using tape format. The front panel of the 4 rack unit high recorder shows metering for eight tracks as well as left and right, sample rate 32KHz, 44.1KHz, 48KHz, track status and A or B hard drive indication.

Contained inside are 2 x 100mb hard disks (1 x 100mb in 4 track version). Each hard disk represents 4 tracks (1-4, 5-8) and allow up to 18 minutes of mono recording at 44.1KHz. With 2 hard discs operating, this totals 36 minutes of recording space across 8 tracks. Now before the calculators come out some things have to be considered. At it's most direct division DM-80-8 would give you eight 4.5 minutes tracks, not long enough in this modern age you cry! Well, take into account silence uses no space on the disk as it would on tape. Subsequently your 36 minutes of recordable space on disk is actually that!

NOT LIMITED TO 36 MINUTES. Add to this the ability to bounce down, edit or reuse parts of your recording, 36 minutes of recording space is quite usable in a lot of

applications. This is not the limit on recording time and with any disk based system a little bit of organisation goes a long way. To help organise your work the software has been sectored into modes including Record, Playlist, Mixer, Tempo and Trigger. All modes or functions are accessed at the DM-80R remote controller.

Being a table top remote, the DM-80R is comfortably laid out, with clock read out at top and LCD display windows directly underneath. All other buttons are grouped into their respective categories across the face. The buttons may be pretty small but they work.

To initiate recording on the DM-80-8 you access the record mode, select which tracks to record on (up to 4 simultaneously) hit record and play. You are now recording. Surprisingly like a tape machine isn't it, so what's all the fuss about? As we've already discussed, the DM-80-8 is a hard disk based system that resembles a traditional recorder in as much as you can perform most known functions, what sets it apart from traditional recorders is the capabilities after recording.

TIME TO ATTACK! After having made a recording "take" you are free to attack it as it's stored on disk, so basically anything you do, short of deleting, is really only giving it a different set of parameters. Your take will appear in the LCD display as a horizontal bar across the screen beside the tracks earlier allocated. Only four tracks can be viewed on the screen at one time. To edit your take will require making a "phrase". This can be all, part or parts of the take and done in the playlist mode.

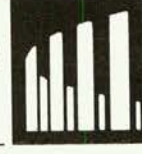
By setting time/out time, and fade in/fade out offset and level, basic editing can be achieved. These parameters will directly affect where inside the take the phrase will play in and out. The fade in/fade out times of a phrase are curiously short (5ms up to a maximum of 1 second) though you'd imagine this would be sorted out later in the mixer section. Other functions included in playlist mode enable phrase copying, new phrase creation, insert silence (time), phrase cutting and erasing. Further to this a created phrases' parameter may be assigned to different takes residing on disk, phrases can be split up time wise or into two by tracks and any phrase that overlaps another can have it's or another phrases' priority changed. *(continues over)*



The
P.A.
People

No 1 for

BOSE



The
P.A.
People

Once your takes are arranged into phrases, and phrases arranged into a project, you can start to enjoy "mixer" mode. Essentially this is an on screen 8 into 2 mixer with automation. The information you give it is updated and individual mixer events can be displayed and edited.

Now is probably a good time to associate yourself with the DM-80R's on screen patch bay for input/output assignment which is quite comprehensive.

Having seen that the DM-80 workstation is really nothing to fear and generically fits quite well into the scheme of things. Not being far removed from already common operations in multitracking, lets look where and how it would slot in.

For post-production this machine can perform most common tasks, it may be a little over involved for only mastering and it's smallest increment for editing may not be as small as some would like though bases have been covered.

Via back panel patching the DM-80 can stay in the digital domain with other compatible units using two digital busses. Obviously 8 track A/D inputs are provided as are 8 D/A outputs all using the 1/4" jack socket. SMPTE time codes, at all common rates (24, 25, 30 and 30 non drop frames), is inputted or output again using 1/4" jack socket and video syncing achieved with BNC connection. MIDI is looked after as well with in, out and thru available at the back panel.

SIMPLE FORM. Please keep in mind that so far we've only briefly outlined the use of a DM-80-8 system in it's simplest form (DM-80-8 recorder and DM-80R remote controller). What happens to all this when it's expanded? How far will it go? Well here goes. By connecting external hard drives to the DM-80 you can obtain up to 12 hours recording space (time) at 48KHz. To do this will require 4 gigabytes of memory.

To archive completed work or if space has run short one is able to backup all information to a number of mediums, these include magneto-optic disk, video 8 and DAT tape. For those who like to take a hands on approach to mixing, a separate DM-80 fader board is available. All parameters during mixdown can be automated and stored, the system also allows up to 4 fader boards to

be linked with a system that locks to almost anything, delivers 24 bit digital signal, has editing and construction capabilities and can expand to the outer limits.

SOFTWARE TOO. We feel it is only fair to mention something. There is more! Roland have decided that the DM-80 system should also be supported by Macintosh Compatible software. We didn't get to see the software run, though we did see Andrew Scott's (Roland sound school tutor) eyes light up at the mere mention of it. Apparently ease of operation is greatly enhanced.

It's hard to say whether people will rush head first into digital multitracking, though the DM-80 system has certainly given the word workstation meaning.

R880 DIGITAL REVERB.

Some other units made our eyes strain at the lids as well, namely Roland's R-880 Digital Reverb and the "more fun than a barrel of monkeys" RSS (Roland Sound Space) system.

Superlative is a large word and hard to spell, so of the R-880 Digital Reverb let us say - SMOOTH. Forget about guessing or imagining the dimensions or attributes of different reverb chambers, hell- you get to design them! Getting into and around this reverb is easy, good navigation we've been told is the catch phrase. All parameters are viewed and adjusted on the GC-8 graphics controller, a smaller style table top remote. Once at the display window you can call pages of parameters applicable to the job at hand as well as make use of the R-

880 on board effects, compression and digital three band parametric equalizer. Our short test of the R-880 proved positive that there is hope out there for enhancing even the lowest of drum machines. We did say short test.

The R-880 reverb is well laid out and provides two in / four out connection with full compatibility to other digital units. The GC-8 controller is not only capable of parameter adjustment, it will also handle MIDI commands and operate up to 16 other R-880's.

A depressingly short delay time of 400ms was the only real sore point about this reverb unit, but hey - you can't have everything, even if they are trying to give it to you.

Moving on, we found ourselves faced with a

rather peculiar looking item, words fail the weary typing finger for an apt description, at first we thought they'd redesigned the octapad, good thing we asked before going for a drumstick, instead we were handed the controls of the Roland Sound Space.

ROLAND SOUND SPACE.

The RSS is certainly an intriguing thing, comprising a controller with eight large dials, a processor and an analog/digital/analog converter. What's it for? For creating a 3-D environment for audio, silly, why else would it have a long name you can reduce to three letters. Though seriously once you begin to understand what you're actually doing when adjusting the dials it becomes pretty clear, in your ears, as to what you can create in an artificially extended sound field.

For each of the four inputs available two rotary dials will govern either elevation (L/R and top and bottom) or azimuth (L/R and front and back) in 3 degree increments. The enhancement achieved with this unit is certainly an interesting one, suddenly a "normal" stereo mix sounds a little confined.

EXPANDABLE. Once again Roland are making sure the expandability of the unit, an additional 15 RSS units may be linked and any mixes done using an RSS can have their moves written to MIDI.

It's hard to forget Andrew Scott's excited reaction to the Macintosh software for the DM-80 or Jim Hare's knowing smile when we probed with question after question or for that matter our imitations of stunned mullets when we found out students of Roland Audio course use all this stuff during their studies! One thing we found somewhat different was this:-

Instead of coming away from our Roland field trip with critical discussion of hardware features we found ourselves discussing application possibilities for this range of equipment. Not that this is entirely new to us it's just a good thing. In short Roland's top end digital equipment certainly evokes creativity.

Blind Lemon Pie would like to express thanks to both Jim Hare and Andrew Scott of the Roland Sound School for their assistance and for leaving us alone to have a look at the equipment.

Blind Lemon Pie is the operating name that Dave Macken and Bruce Waite work under. They have a project studio in the North of Sydney. You can call them on (02) 457-8304



Rick Gell (Product Manager) & Jim Hare (Roland tech type) - in the Roland studio.

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CIRCLE 166 ON READER SERVICE CARD

INTERNATIONAL PRODUCTION NOTES

From Debi Moen, *Performance Magazine



Who's Doing What?

- Lighting Designer **Roy Bennett** is designing for Van Halen's spring amphitheatre tour
- Video Director Carol Dodds, having finished u2's 'Zoo TV' Tour, is now working on video for Reba McEntire's upcoming tour.
- **Bob O'Neal** is coordinating production for Sade's tour.
- **Lee Charteris** (last seen down-under *Production Managing The Concert For Life - Ed*) was recently production manager on Erasure's tour, is now involved with Peter Gabriel.
- **Mountain Productions** have been busy with the inauguration festivities in Washington D.C., including building the stage and towers for the Liberty Bell replica, which President-Elect Bill Clinton rang after completing a bus tour of DC. They also built the stage for the Keith Richards/Pearl Jam New Years Eve concerts at The Academy in New York.
- Lighting Designer **Peter Morse** is learning Japanese - he enrolled in a community college in South Lake Tahoe, California, and takes his tapes and books with him on the road. He recently started illuminating Julio Iglesias (Michael Keller is Lighting Director) during the Australian tour. Morse has resumed work with Michael Jackson's tour in Tokyo, and picks up with Michael Bolton's European tour in spring.
- Dire Straits is currently in the editing rooms, piecing together a concert video and a live LP from their world tour, says Dire Straits' co-manager Ed Bicknell of Damage Manage-

ment. "They played 211 shows for slightly less than 3.7 million people," Bicknell notes.

● Dave Davidian says he is a 'classic workaholic' but he can reduce stress on the road by working out at local health clubs, and even horseback riding. Davidian is currently on tour with Clint Black as his touring video director. He recently did some tour managing/lighting designing for the kinks in Scandinavia in June, and prior to that was lighting designer for Van Helens' "For Unlawful Carnal Knowledge" tour.

George Lucas MultiSensory Adventure

Imagine scenes from your favourite George Lucas films like the *Star Wars* trilogy, *Indiana Jones* series and *Willow*. Intersperse that classic footage with an onstage cast of 60, add stunts, music, dance special effects with dramatic lighting and wall to wall sound, and you've got the \$25 million multisensory premise of the George Lucas Super Live Adventure.

Lucas has teamed up with Kenneth Feld Productions - which produces the Ringling Bros. and Barnum & Bailey Circus - to produce the family extravaganza. Following an April 27 debut in Yokohama, Japan, the tour is set to include four cities during its 22 week run of Japan. If all goes well, the USA will follow.

Lighting designer is Marilyn Lowey, who's worked with Neil Diamond for 12 years.

*Debi is International Editor for Performance, a prestigious industry weekly, from the USA.

CENTRE STATE'S TOURING SYSTEM UPGRADED FOR TAMWORTH

ORANGE (NSW) - Alan Brown has added extra QMX and SLAM-BOX PA cabinets to his touring system prior to a 10 day engagement in Tamworth for the festival last month. Centre State provided house production for the run of main line acts presented by West Tamworth Leagues Club, during the very busy period around the Country Music Festival.

Brown explained his system now comprises 4 Slam Boxes and 4 QMX boxes per side, powered by a total of 8 AM 1600 amplifiers. Australian Monitor features heavily in Centre States inventory, with several other operators located near Brown in NSW's Central West also stocking Australian Monitor's QMX/SLAM combination.

The system specification offered by Centre State is based on a Soundtracs MX-32/8 console, with a Soundcraft Monitor console for

8 sends. System processing is via Yamaha's new 2040 Digital Processors, providing crossover, time alignment and tweak horn EQ facilities. At Tamworth a delay system was run, flown from the roof.

Lighting supplied by Centre State included 60 cans, profiles and moles, run on a Jands Instinct console. The outfit have an Isuzu touring truck of recent vintage.

Contact Allan (Brownie) (063) 620-587.

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The HIRE BIZ BUZ

PERTH:

● **Mitey Lighting & Staging** warn the bastard that stole their big red roof tarp to watch out. He/She/It must have a bloody big barbie, ponders Bob Longwood.

● New Years Eve at Wildwood was wild. Tagged 'Woodstock at Wildwood' it was anything but Peace, Love and Happening Thangs - well, some thangs DID happen, most perturbing-ly to poor Richard Foster, who was minding his own business mixing the Spys when some thug clocked him on the scone with a lump of wood.

Proving that there is solidarity amongst our industry Brothers, Peter Ward from the Hoodoo Guru's fixed the wood fetishist with an even larger lump of wood. Thank you Peter. (*When you do this at a gig, dear workers, try not to do it in front of witnesses. Ask the offender to come into the dressing room for a smoke to calm him down. Then, with the door closed, kick the gravy out of him.*)

The gig was marred by the punters stealing grog, and trashing the bars. Audex were the lucky production vendors, with 20,000 fans to cater to. They used their new Soundcraft Vienna console, and a NOVA P.A.

● Big Day Out hit Perth at Presstime, with Audex supplying 48 Turbo's for two stages, thus three stacks, with 2 x 40ch desks. The third stage was reinforced with Meyer MSL's. Same day as Big Day Out was the Mandurah Festival, with Kate Cebrano, Diesel and James Reyne using the NOVA P.A.

● Wrapping up Perth, Audex have had a lot on with Opera in the Park, and theatre work at Her Majesties.

A.C.T.:

● **Topstage** have had some recent production work such as the 13th Multicultural Australia Day Festival in front of Canberra Theatre. Tommy

Powell and Dean Maddersun did this one, while the firm also had some club work at The Base Nighclub, where a live act - 'Swoop' was run for the first time. Topstage built the stage, draped and supplied production. It was a huge night, say the guys.

NORTHERN TERRITORY:

● **Top End Sound** are vendors for a tour by Djaambi, a Melbourne based 9 piece band who are starring in an SBS feature, 'Culture Shock'. Sound engineer Frank Cleary says he'll have 3 youths on the road in a training programme, and see some of the more remote missions around the tope end and big centre.

A Yamaha 3204II will be shaken out on the road, with 30 odd lights. Chris Davis is the LX LD.

NEW ZEALAND:

● **Oceania** are busy as usual, with The Rockmelons, Red Hot Chili Peppers, Diesel & Jenny Morris touring there recently. These road tours were typically crewed by some of these: Greg Peacocke, Mike Smeaton, Simon Venning, Gordan Rutherford and Greg Blades, and utilised Oceania's TMS-3's, with either Yamaha PM3000 or Soundcraft 8000 FOH consoles.

Oceania's house 40/20 monitor console or PM3000's are used at foldback, while the wedge specification is DLP/SLP JBL.

The Auckland based firm have also put a Meyer system into Grease - the stage show. This has a 14 ch NADY wireless system.

VICTORIA:

● **NOVA** have the new M12 Series, 12 send monitor consoles available in 24 and 32 input versions - now available for hire! Also happening is the new DCLP Series floor monitor - have a listen!

Black Sorrows have the new 32/12 console on

tour, along with new DLP wedges. Damien Young is monitor engineer. Also on the road with the 'Sorrows is young Joe Bird, who won a position on the crew in a contest. Short straw, Joe? FOH is Grahame frazer, LD- Ian 'Igggy' Gilmore. Sorrows truck is driven by Peter Clark, Simon Thornton and Yahn O'Donnell make up the crew.

● **Active Lighting** have things happening, with productions like the Walt Disney Product Launch, and tours for Tommy Emmanuel - Tim Hall was system engineer for this. New Years Eve at Torquay had them provide 90 x 64's, and an Instinct 60 for Hunters & Collectors, system engineer: Andrew Topp, and rigger: Andrew Jepson.

Call them - (03) 819-6912.

● **DB CONCERT SOUND** have had Frente out with a JBL modular system. Mark Woods is the engineer, with Gavin Hulme system engineering, and Brian Cavagnino on monitors. DB use Yamaha consoles, A.M. amps, with JBL bi-amped wedges and sidefills. The Geelong based firm also handled the local Carols gig at Xmas, with Simon Stavenuetter as Production Manager. Bill Dart handled the orchestra submix, which proves something Gavin Hulme was the engineer, Craig Funston mixed monitors/foldback.

✓ **The REST: CLS** are busy as usual, Louise sent us a long list - ta. They've got P.C. spots in Japan with Nobuyuki Ito, and business theatre type gigs almost everywhere.

A & R Australia have had some Dance Party gigs, **Joes PA Hire** have been out with Mentals, and **Floyd: The Concept** are set to go our with a radical lightshow featuring Clay Paky and Martin products. More on them soon.

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CIRCLE 167 ON READER SERVICE CARD

Screaming Jets trial new EV PA

The long hot afternoons just before Christmas are murder when you're setting up equipment, especially out on the western fringes of Sydney. The mountains to the West trap the air, with a smog and humidity buildup far greater than in town or on the coast. This is where they liked their music loud and hard, and this is where the Screaming Jets rule.

I'm inside Temptations at Mount Druitt, where the floor might be carpeted, but then again it might also be astroturf. The colour is black, with thousands of little craters where cigarettes have burnt through the first layer. The odour is that classic perfume, the decor is tacky. Familiar territory!

The sound department from the Screaming Jets is Pat Pickett (Foldback) and Colin Padler (FOH), who are road testing a new E.V. PA system, probably the only fully blown touring system introduced in this country during the past year. The system is owned by Vic Leto, who runs Music Box in Sydney with his brother Greg. Music Box is a diverse collection of rehearsal studios, with a repair business called The Speaker Hospital. Driveway hire makes up the third part of the business.

The system is based on the EVX, a new two way speaker box loaded with two of E.V.'s EVX 1,000 watt 15" woofers, and a DH-1 2" compression driver on a HP-904 constant beamwidth horn flair. A trapezoidal box, the EVX follows a tradition that EV have done well with, that being the front loaded 2 way PA box. The Cobra started this trend, taking off where boxes of that particular generation, like Etone's 1507, stopped. The key in the case of Cobra was a well thought out internal crossover network design.

EVX will end up run active more often than not, which is how the Jet's system is run. In fact this is a three way system, with a new

subwoofer from EV, the EVX Sub-loaded with 2 x 18" woofers. The subs operate at 125Hz and below, and are built as two sealed chambers in one dual driver cabinet. Up top the EVX horn crosses in at 1k6.

Vic's amplifier collection is based on Australian Monitor AM-1600's driving the 15" and 18" speakers, with Perreaux 3000's for horns. Based on the whole roll call of 12 x EVX and 6 x Subs, the amp count equals 9 AM-1600 and 3 Perreaux, for a total wattage of around 16,000 watts - a lot of horsepower! The way the system runs is neat, with two EV active crossovers in the main amp rack. This rack has two AM's and a Perreaux, and will run two stereo pairs of EVX's. Slave racks minus the crossovers will likewise drive 2 x 2 EVX, so for smaller gigs you just leave the boxes and racks in the truck.

The sub collection is run from one rack of three AM 1600's, all the signal connections come and go with multipin connectors, so it's pretty easy to patch.

Out from the console is new, it's an E.V. Interface 32:4:2, which boasts dual sweep four band EQ and six auxiliary sends, one of which is a direct send. "The best thing about it so far is the input metering", said soundman Colin Padler. "It's got multiple LED's on each channel".

Back at the difficult end of the electronic chain was Pat Pickett, having a few patching hassles between the ageing but effective TAC 16:8 console and the equaliser rack. A few grunts were all I got for a while, I stood back because signal patching dilemmas are perplexing to all and sundry. Eventually the lanky Pickett emerged with a suspect XLR patch lead, which he handed directly to an embarrassed Vic Leto.

The wedges are all EV, the 1502ER, and there are 8 in this PA. Then there are the Manifold sidefill boxes, a top box on a dual

subwoofer that carry a band mix capable of penetrating the guitar attack that characterises this loud band. Drumfill is a Cobra box, the drummer having forgone a second Cobra Vic supplied.

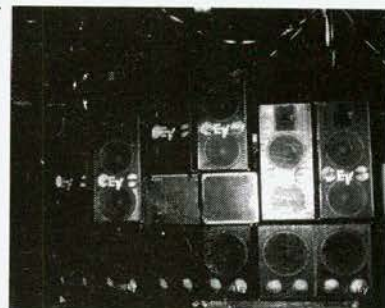
Settling down to talk about the system, Pat commented on the tribulations of mixing foldback. "They're not THAT demanding, I've done his voice three tours doing foldback for them. All the wedge mixes have just got their vocal in them, except one guitarist has a bit of high hat to keep time off. The drummer has a bit of bass with his drumfill."

At this stage the singer is happy, according to Pat, "but when he gets a few more gigs in and starts losing his voice he'll probably start kicking up". This tour is an easy one compared to the last, which was a triple bill with "guitars from hell - everywhere!" Guitar tech Ward had 15 guitars everywhere, today we find an uncluttered side stage and a no hassle air to the proceedings.

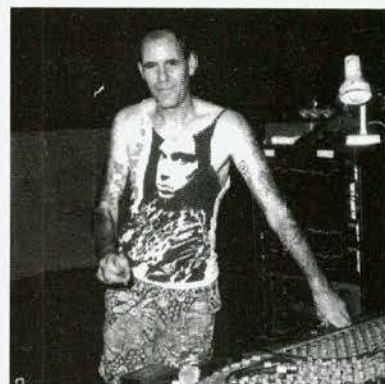
"All I've got to do is get Dave (vocalist) above the other guy - Paul - who redlines. His voice is full on, he had choir training. The band are used to a lot more amperage on stage, this stuff is cutting it at the moment. There's less than half what we were carrying, and it all goes in an 8 tonner."

The crew were still testing all the perambulations of this system when I visited, having only had the rig for a few days. Colin (FOH) was cautiously enthusiastic, obviously things worked out well because this first single week run was extended into a full tour with the system during January!

Vic Leto is not phased that the touring industry is suffering tough times. "I'm prepared to have a go. Other people are getting out, so I'm getting in! I'm



EVX 2 way boxes atop EVX Subs



Pat Pickett, looking relaxed



Vic Leto and Colin Padler (right)

a Chocko, Italian born, and I get Ethnic concert work too, so that helps". The preponderance of Electrovoice product here is testimony to a relationship Vic says works well, "EV look after me, so I spend money with them." Simple logic. N-Dym microphones feature heavily in this system too.

As I prepare to leave, two local lads advance upon Pat with trepidation, asking to help load out in exchange for tickets. He takes their names down, and as they turn to leave he gives them the standard motivational talk. "You'd better not fuck me around", he growls, "because if you do, I'll stick something up your arses!"

Music Box can be reached on (02) 550-6522. They also hire lighting.

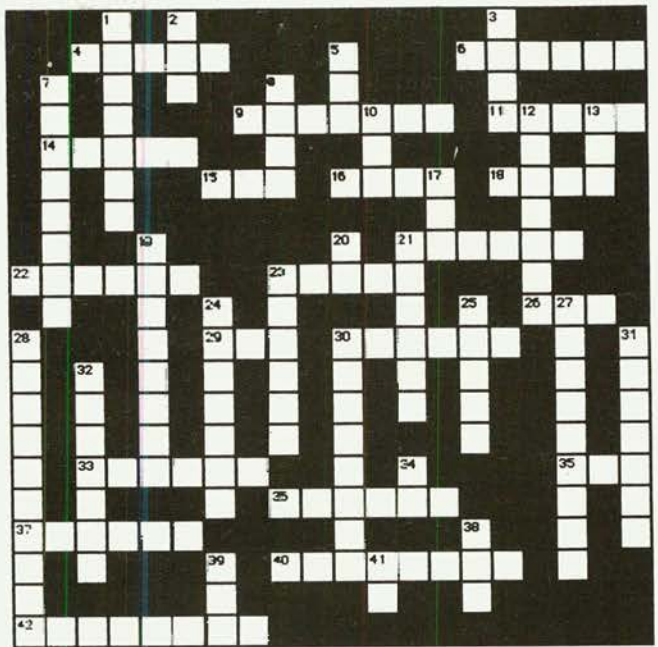
Activity Fun Page

THE PUNTERS' CROSSWORD

Across

4. English Captain of 1992.
6. W.I. Knight who hit six sixes in one over.
9. Refuse to attend.
11. W.G.
14. The Lion of Pakistan.
15. No wicket to the bowler from a out.
16. Qld player & English county.
18. Cold Pommie Bowler.
21. Bradman's Town.
22. Last Aussie Captain from Victoria.
23. Scored most runs in 1992 World cup.
26. Leg before wicket.
29. Jeff Thompson originally came from which state?
30. South African batsman Pollock's first name.
33. Lost his line when he lost his toe.
35. Moody.
36. Walked from John O'Groats to Lands End.
37. The Big Bird.
40. Intellectual middlesex and England Captain.
42. Cape Town's premier ground.

21. Aussie skipper of 1960 tied test.
23. Aussie all rounder became successful QLD entrepreneur.
24. Vivian Richards home island.
25. Little Pommie pace bowler.
27. Pascoe and Thompsons original Sydney club.
28. Former test batsman died in West Indies while managing English Team.
30. The razor that started one day cricket.
31. When he lost his cap he lost his wicket.
32. Last Australian to score 100 in a test session.



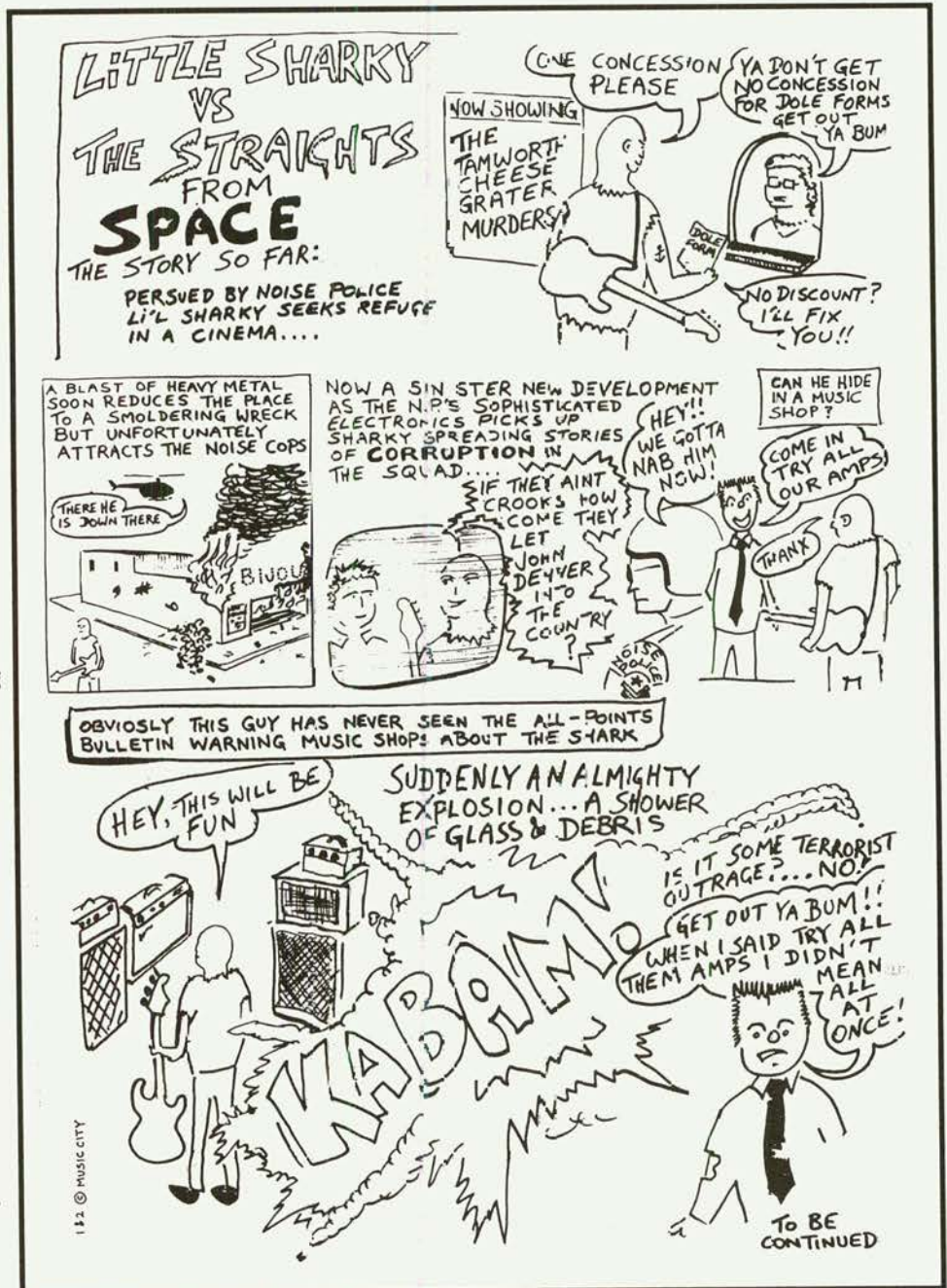
Down

1. Test wicketkeeper now bowls leg spin.
2. Australian Cricket Board.
3. Aussie quick, Rodney
5. English law makers.
7. Brian Lara comes from
8. First name of Aussie selector whose brother is a marvellous commentator.
10. Viv Richards highest test score 29.
12. 1977 Centenary test- pommie scored big century.
13. Deep mid-wicket is often known as corner.
17. Bradman played for ... states.
19. What country did herald writer Peter Roebuck captain?
20. Not out.

ANSWERS: Channels 18 X'Word.

- Across:** 1 BMW. 6 Gottlieb. 9 Garages. 11 Moss. 12 Toronado. 16 Edsel. 17 Grice. 20 Simca. 22 Futura. 23 Enzo. 26 Chevrolet. 27 Jaguar. 28 Lauda. 29 Martin. 30 Studebaker. 31 Holden.
- Down:** 2 Morgan. 3 Rover. 4 GTS. 5 Belmont. 7 Rambler. 8 NSU. 10 Stewart. 13 Nine. 14 Jelinek. 15 Renault. 18 Charger. 19 Citroen. 21 Dodge. 24 Tiara. 25 Triumph. 27 Jones.

WINNERS: Mr & Mrs G. Byrne, of Queenscliffe NSW won a Shure Travel Bag!



Perils of R & R Decadence

Guns & Roses test Eastern Creek Raceway- the new Sydney outdoor venue

Outdoor Sound Challenges

Every Clair Bros. S4 cabinet in Jands' possession is flown in two arrays on each side of this stage. 30 Sub/low cabinets are stacked underneath the arrays on each side. The system is about to handle the ultimate test - an outdoor concert in our un-predictable summer, where blistering heat can overcome amplifier's cooling systems and sudden summer storms dump an inch of rain in minutes. Four huge Aggreko power sets silently hum as they kick out thousands of kVa through strengthened neutral links. Behind the scaffolding and many tonnes of cable make the scene. Numerous airconditioned site sheds serving as offices and dressing rooms. A catering marquee is home to the culinary delights of caterers 'More than a Morsel'. Toilets, trucks, shuttle busses, duck boards, walkways, more scaffolding and many tonnes of cable make the scene.

"We play rain or shine", says soundman David Kehrer, "and I've mixed from under a plastic sheet more than once!" Dave is a G & R veteran, having been with the band for five years or so - the past two years on this tour alone. "There have been plenty of breaks in the tour", he explains, "but the main people have been on retainers throughout", giving some idea of how the act can stop and start a tour through the departure of a member and throat problems endured by the vocalist.

The mixing tower is about 170' out from the stage at Eastern Creek, a new concert site. Delay towers are set behind the mixing position, one immediately behind, and two further rearward offset to the left and the right as stereo fills. A total of 64 Turbo Sound TMS-3's, with amplification are used in these flown delay systems.

These towers cater to the rearmost half of the audience, and are time delayed so their output matches the sound wave from the stage. The amount of delay is temperature and humidity variable, with somewhat erratic behavior occurring at nightfall when the air cools with the audience temperature remaining relatively constant. EQ is applied to each delay tower with the low-end rolled out, it is accepted the stage bass-wave will generally carry further than the mid/high, or 'intelligibility' component

"I'm using two boards, primarily a Gamble EX-56, with a Soundcraft Series Four, where I mix cymbals, percussion and some of the effects", said Dave. "I have 54 lines coming back from the stage". The mixing consoles, effects racks, and the entire monitor system are owned by Electrotech- who'se Q-2 system the band use in the Northern Hemisphere.

"Before this tour we had some sound companies set up their systems in an arena, with the band playing through them. It was part of the bid process, and Electrotech won", Dave said. Dave is somewhat of a specialist in the hard rock genre.

The greatest challenge Dave faces is the lead vocalist. "Axl is very dynamic, from screamer to finesser. I

>Cont; at END of classified section

Guns' Lighting & Stage design - Phil Ealy is the 'Gun' for hire!

The 'Use Your Illusion' world tour took eight months of production planning but the concept was a year in the works. By the time the Australian leg of the tour is completed, the band will have played 133 dates, most of them in the US. During the last leg of the US tour, 1,129,068 people went to the concerts. In the States Guns'n'Roses double billed with Metallica splitting tour expenses 50/50. Metallica insisted on playing first to guarantee them a proper set time because if you



Dave Kehrer (band engineer) & assistant engineer Dave Zammit

follow Guns'n'Roses, you never know what time you'll hit the stage! It was during this stage of the tour that the scrim depicting the album covers were added to differentiate the stage from the Metallica set. The tour will continue for another five months in the US and Europe before the band considers heading back into the studio to record their next album, which band members are writing while on the road.

The first major tour that their lighting and stage designer Phil Ealy worked on was Motley Crues 'Too Fast For Love' tour back in the early eighties. That was followed by the 'Shout At The Devil' tour before he moved on to design three tours for Ratt. After designing the 'Skyscraper' tour for Van Halens' David Lee Roth, Phil Ealy was signed up by rocks notorious Guns'n'Roses.

"That was back in 1989 when we supported The Rolling Stones' 'Steel Wheels' tour in Los Angeles and there were no rehearsals," Phil told me. "We only had a few warm up dates. The whole show was completely preprogrammed and everything was a colour changer or a Vari*lite for the most part. I had a Celco Gold and a Colourmag desk in my workshop in LA so that Doug Brant (Colourmag operator on both tours) and myself could programme the whole show there. We walked in the night before, did some editing and did the shows. The band and management were pleased with the shows and we waited nearly a year to start this tour. Some of the shows for

>Cont; at END of classified section

FRONTIER TRIUMPHANT

In the great tradition of rock'n'roll the Guns'n'Roses Australian tour was billed as the Greatest Concert of 1993 when it was announced last November.

Frontier Touring Company head Michael Chugg had the difficult task of ensuring the day ran smoothly. There was obviously a lot of concern about the potential problems of crowding about 80,000 people into a confined space for a show of incredibly high energy by a band which has reportedly had more than their fair share of drama. It was also important that Eastern Creek worked as a venue so that other major international acts who insist on playing outdoors, like Madonna, may tour.

To create a relaxed atmosphere and good vibe for the day, Chugg placed the emphasis on information. With the help of Triple M, an Eastern Creek radio service was set up which broadcasted news, traffic information and music. PA systems operated on site, particularly at the gates, to direct fans to the appropriate entrances. 350 security personnel from Australian Concert Security as well as 250 police were on site. Fans were kept entertained in the queues by jugglers, buskers, street theatre and even parachutists. Local bands were playing from a couple of stages outside the gates to warm up the audience.

"We want this concert to be something to remember, something good to remember for the fans and the industry," Chugg said before the day. "Certain elements are hoping it will fall on its face but this concert is very important to the local industry."

-By Catriona Forcer.

Eastern Creek Raceway a viable venue:

See first editorial page following classifieds.

Schedule from Hell:

Again, go to end of classifieds!

Only way to fly!



Forget the scheduled airlines, when you got 80 people in your party the nicest way to fly is Charter. Naturally a road hardened act like Guns & Roses prefer to travel in style, so for them it's MGM Grand Air, a Vegas based airline who outfit older clunkers like this, the Gunner's DC-8, with an all first class configuration.

A flight deck crew of three, plus a mechanic and a bevy of attractive hostesses ensure the tour gets in and out at a convenient time. The schedule down-under was very easy on the flight crew, having carried the act here they had a layover for four days, a flight to Melbourne, day off, then out. They are paid by the flight time, it seems, but surely don't complain! Boarding is more relaxed, formalities restricted to clearing customs, and what occurs on board is really up to all concerned. But WHO chooses the movies?

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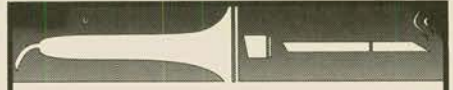
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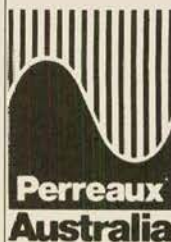
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Guns: Sound

ist. "Axl is very dynamic, from screamer to finesser. I have an Aphex Dominator as a peak limiter, chained to an Aphex Expressor compressor, with a TC 1128 third-octave EQ inserted on his mic. Half the stage is in front of the PA, when Axl is singing a ballad he'll get right in front of the PA. Getting the vocal on top of the mix in that scenario is a challenge. What we do is tune the PA, then take the microphone and go in front of the PA with it and ring it out with the TC insert."

"The first 3 rows (columns) of speakers I have on a separate send so I can send less vocals there. I follow Axl around the stage with one hand on the pan pot also, when he goes in front of the left PA, I pan right slightly. The whole thing revolves around how strong he's singing."

Monitor engineer Mike McNeil runs 16 sends from a Gamble EX-56 monitor board, including a send way out at the end of the PA wing on stage left, where Slash the guitarist likes to go. In fact he is so far from the action he must rely on the monitors to stay in time.

Outdoors you have no venue reflections, so your monitors run louder, and in Sydney the monitor level during setup was blistering. McNeil fussed and EQ'ed for hours, and did so again just before the band were scheduled onstage during the changeover. Of course, they then put on the great wait.

Just as well they did, for as sure as Murphys Law is writ to test, the generator running the 100v monitor system and the FOH desk and effects underwent meltdown. The system crunched to a

Eastern Creek Passes test

Let it be said, this is not by any means the perfect concert site. But when you consider Sunbury almost was, and that was the venue of a forgotten rock festival 20 years ago, you realise how tough it is to find somewhere to do this thing. Unlike Sunbury, Eastern Creek is a little closer to town, and has some bare facilities, like toilets. The main limiting factor out at the 'creek, is the terrain itself.

The only place to put the concert site is to the south/east of the race circuit, where there is a valley of sorts running down to the track. Problem is, it's asymmetric, and the stage must be put on the side, so the audience area is a bit narrow to the north. This matters not one iota, except when you have over 60,000 punters, like Frontier did for the Gunners. The punters spill out to the top of the hill, then go North around the top of the track. They get no sound, and see little.

So maybe the real limit is 60,000 people - and that's OK, isn't it? The walk in is a good 2 kilometers, but that's standard for large events, yes?

Acoustic consultant Rod Stevens was hired by the Raceway to measure noise during the gig, his 8 stations were all about 3k away in an arc, and measured ambient only, while his reading at the mix was 110dB peaks, 'A' weighted. Loud enough. The Creek wins! -Julius Grafton.

halt, Wyn Milson & Pat Richardson (Jands) flew to the drive racks to mute the crossovers, and power was off for 9 minutes.

The prospect of rain doesn't matter

Schedule from Hell!

The concert at Eastern Creek finished at 11.45pm on Saturday 30th January, having run about 45 minutes overtime - because the band was 50 minutes late onstage. This was not due to any technical glitch, rather a personal, artistic whim of the act, who also do not schedule a regular set. They sort of wing it. This means the end of the concert is not scheduled formally, rather it is a kind of 'fluid' time.

With this in mind, the production crew planned to load out in a kind of decent haste, because the following outdoor concert was on Monday at Calder Park Raceway in Melbourne. The proposed schedule went something like this-

Concert ends: 11pm. Strike stagegear, drop delay towers, packout FOH tower. Load 19 semi's in no particular order, but DO designate which semi is carrying what for scheduling at the other end.

Finish loadout: 6am. Last truck departs for Melbourne.

Crew: Try to sleep a few hours. Aussie crew: catch Ansett flight early afternoon. US crew: board chartered MGM Grand DC-8 with band and arrive later. Go straight to gig and pitch in, stay up all night.

Setup in Melbourne: Trucks arrive from 5pm, loadin at 6pm. 80 loaders. Work all night, desperately attempt to get the 1,000 fixture lightshow ready for focus while still dark. In probability focus in daylight, this can be done, but it

Line test PA, have stage-techs play instruments before gates open at 11am Monday. No sound check.

Do the gig!

This is irrespective of weather, the band will play rain or shine, so the crew will struggle through the setup if the weather is bad.

Asked about the schedule, Production Manager Dale 'Opie' Skjerseth was not phased. "we've got a whole 24 hours, it'll be fine", he said, looking tired. Provided a truck didn't crash, all should have worked out. Did it? -JG

too much. "We turn the wedges on side to minimise damage. The main PA boxes don't mind rain too much, but the scrims - once they get wet, they sort of go glassy and bounce the sound back. It's like I've

had a system failure all of a sudden".

At the mixing tower all is calm during 'the wait'. "Axl needs to do his vocal exercises before he goes on", Dave tells me. He looks relaxed. -Julius Grafton.

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Lighting Guns & Roses

(Continued from 36)

the current tour were two years in the making."

When it comes to the overall look of the show, the band has two visionaries - Axl and Slash - but because of their different schedules, Phil had to meet them individually and try to please them both. They agreed that they wanted an up-stage perimeter ramp because they intended to sell seating all the way around. Originally, Axl wanted the stage set to be a crashed plane and so Phil came up with some sketches and Ian Knight built the models as well as contributing to the set design. Everything was confirmed and then the Iraqi war broke out and Axl thought a crashed plane was not such a good idea after all.

Phil went back to the drawing board and designed a series of ramps, steps and a drum riser. Stage effects include a grand piano that rises up from beneath the stage on 'November Rain'. The whole model process was reworked and the band were pleased with the results. Phil's policy is always to design the sets as well as the lights because he believes that you achieve a better continuity. Once the set is done he usually overlays the lighting system onto it.

The stage at Eastern Creek was the largest yet seen in Australian rock history being 72ft wide and 64ft deep with the PA scrims measuring 60ft x 40ft. Altogether the stage weighs 50 tons. The total tonnage transported to each show is 150 tons - this includes the bands' equipment (which weighs 7 tons) and the steel and scaffolding. The stage and set take three days to construct and a day to take down with 80 people needed to do this. Incorporated in the show are three massive video walls - one either side of the stage (16ft x 24ft) and one at the back of the stage (16ft x 16ft). It's no wonder that 'Performance' magazine honoured the Guns'n'Roses production team as 'Crew of the Year' for 1991. Two giant inflatable 'monsters', each operated by four men, are erected during 'Welcome To The Jungle'. The monsters were an idea that Axl came up with and are reminiscent of those used on the Rolling Stones' 'Steel Wheels' tour. They depict the monsters found on the inside cover of the 'Appetite for Destruction' album. Originally the band wanted them on the album cover but they did not pass the censors (how very Spinal Tap!).

The pyrotechnics during the outdoor show included 20 bangs, 28 sparkles, 15 air-bursts, 20 flashes, 25 waterfalls and 32 fountains. The performance ended with 20 bangs, 4 fireballs and a 1000 piece fireworks display.

The lighting rig for the Guns'n'Roses 'Use Your Illusion' tour encompasses over 1000 fixtures. The rig is designed in a pattern resembling five fingers which can descend over the stage like a closing hand. It comprises of 700 Par 64s, 144 ACLs, 42 x 8-lamp Mole fays, 8 x 1200

watt HMI Starklights, 4 Terramag units, 100 Colormag colour changers, 4 Mini Molemags, 32 Molemag Colour changers and 48 Vari*lite VL2b fixtures. Originally the plot also included 4 x 1200 watt HMI Cinepars with remote faders and colour changers but unfortunately these were lost in a riot - an occupational hazard on this tour. They were replaced with 5Ks with colour changers and Mini Molemags. Phil has also selected 153 Dataflash units for the tour with 125 of them mounted in the rear wall of the stage which measures 6ft x 32ft across. The remainder are placed internally in the trussing. Slash, the lead guitarist, wanted a rear logo that displayed 'Guns'n'Roses', so Phil used the pods of the Dataflash to alpha-numerically display the groups' name.

"Although I was not the first person to use the actual units, I was the first person to use them in such a large array," Phil told me. "Richard Steel, the salesperson at High End Systems, was looking for someone to use a large amount of the Dataflash and I agreed. I got as many as I could and I guess I'm showcasing them around the world."

Dimming consists of 6 Avolites dimmers and control is an Avolites QM console which has been specially customized for Phil and consequently travels everywhere with him. The hoist control is computerized and uses the Skjonberg motor control system. Apart from the more specialized pieces of lighting equipment, like the Dataflash, all the lighting equipment was supplied by Jands both in Sydney and Melbourne.

At the moment Guns'n'Roses are one of the most controversial bands and wherever they go they attract bad press. The shows are highly unpredictable. Early in the tour, at an American show, there was a riot by the audience and a lot of custom pieces made by Light & Sound Design Inc. were either wrecked or stolen. Axl frequently kicks the monitor wedges off stage and at Eastern Creek he hurled the mic into the audience. The band never follow a set list, in fact Axl doesn't want to ever hear the words. He picks the tunes as he feels right and Phil never knows what he is going to start the show with.

"It's challenging to me especially with a show of this magnitude being completely programmed," said Phil. "You never know what Axl is going to do next. One minute he can be having a good time and the next he doesn't want to play anymore so he'll disappear for awhile. That happens almost every night. One show only lasted an hour, whereas another went on for three hours and 36 minutes."

"They're just rock'n'rollers and they do whatever they want. Sometimes they get caught and I guess that's how the whole reputation started. It's not like they go out trying to get into trouble or they have it preplanned. That's just the way they are."

Phil was fortunate to have a 'mater-

nity leave' whilst the band played South America and Butch Allen stepped in for him. It was there that the band almost got caught up in a military coup in Caracas and in Bogota the roof was lost at the venue due to heavy rain.

The majority of the local lighting system was destroyed - the rig had been reduced to 'three fingers' of trussing and

there were no Vari*lites.

On the night in Sydney the band went on 50 minutes late before an excited but patient crowd. Punters amused themselves by lighting bonfires, building human pyramids and raising cigarette lighters aloft

as if they were at a Barry Manilow concert. The most memorable number was certainly 'Live & Let Die' with exploding pyros and the Dataflash wall blinding the audience. A true rock'n'roll spectacular. It was during the song 'Bad Obsession', nearly half way through the show, that things started to go horribly wrong. The whole Vari*lite system was lost so the operator, Erick Dismuke, transferred to the second board. That was on line for a while and then that too was lost. Erick returned to the original board and although the Vari*lites were there for the rest of the show, they were sporadic. Sometimes they were on and sometimes they just packed up.

"When the Vari*lites weren't on the show looked very dark to me," said Phil Ealy after the show. "I tried to compensate by bringing extra washes up when I knew Erick had to be covered. We're trying to figure out what went wrong, we think it might have been a snake. We have two snakes running and two different desks and we have the same symptoms with both. So it's either the snakes or something like the ASC rack at the back or something to do with the main power supply. It's the first time anything like this has happened."

Apart from that problem the Sydney show was great. The heat was a problem setting the show up, it tends to make you work at half speed. On the night it was a little too windy and I couldn't really keep the amount of smoke on stage I would have liked. Also not having a back scrim across the back of the stage accounted for non-use of smoke too. Normally the impact is a lot more and the light more intense. The spot operators were excellent."

After playing Melbourne and Auckland, the tour continues to Europe and the USA again. This time, instead of trying to out do themselves in the States again, the band intend to go back to the basics. Renamed the 'Skin & Bones' tour,

the backing singers as well as the horn section will be lost and everything scaled down. There will be less trussing, less par cans but the same amount of Vari*liters.

The concert at Eastern Creek finished with a spectacular firework display and messages on the Dataflash. Considering Guns'n'Roses are supposed to



Phil Ealy (LD) & Erick Dismuke (Vari*Op)

be the meanest, dirtiest rock'n'roll band it was surprising to see an insincere and vomit-inducing 'We Love You' flash before your eyes. More suitable for a Whitney Houston concert, I think.

Although several arrests were made outside the concert grounds for drunken behaviour, there was no evidence of 'trouble' as feared. The eloquent Michael Chugg summed it up in his audience address at the end of the show with these immortal words 'Sydney, you were fucking fantastic'. Following the success of the sell-out concert, Eastern Creek will be used by several outdoor concerts each year by major Australian and international artists. Raceway general manager, John Stathers, said that leading international music promoters had expressed interest in using the site for concerts, and that the Guns'n'Roses event had been closely monitored. Money from a special fee will be set aside for permanent concert facilities, including undercover and outdoor seating, toilet and amenities blocks and facilities for the disabled and elderly.

"My idea is that we place a levy on promoters and guarantee the money is reinvested in the site. That way when promoters come back they will see the improvements," he said.

-By Catriona Forcer.

**These stories were compiled early on Sunday 31st January & printed into the completed magazine over the following night. The magazine was distributed on Monday 1st February. Accordingly some typos and errors may have crept through the net. Special thanks to Dale 'Opie' Skjerseth, 'Guns Production Manager for consent's and co-operation on site.*

EX-TRACK

WHO & WHERE
By Caroline Grafton

Caama Music in Alice Springs (which is NOT a suburb of Darwin in the Northern Territory), have purchased and installed a new ME700 Amp. Stanley tells us that one of Caamas pet bands "Sickness" have just signed with Empire Records and "Amunda" are on their way to Sydney to chase the

carrot of fame and fortune. good luck to those guys.

National Recording Studios, Canberra ACT, have added to their facility by acquiring and installing a Fairlight Series 111 CMI.

Metropolis and Gotham Studios in Melbourne Victoria, have permanently promoted Ms Kerri Minchin to Studio Manager, after the departure of Tom Kehoe in December 1992. Kerri's posting is well deserved. Good luck Kerri.

Suite 16 Audio Produc-

tions, Milton, Q'land now have Lynx Time Code equipment installed, allowing the studio Audio - Visual synchronization.

The Giant Production House, Balmain NSW, have completed a new "live" drum room adding to the Mastering facilities outlined in Update this issue.

Grevillea Recording Studios, Albion Q'land, now have available in their facilities a Roland RSP-550 Stereo Effects Processor and a Roland R70 Human Rhythm Composer

Enrec Studios in Kurri Kurri NSW, (from where the highly unusual 'Little Sharkey cartoon originates) have produced in five out of eight categories, including two acts as finalists in two sections each for this years Tamworth Country Music Awards. Michael Roycroft & Jan Cooper (on RCA) for Best Duo and Best Song. As well as Pixie Jenkins (on Gumleaf/EMI) is up for Best Album and Best Instrumental. The nominated tracks were recorded in Tamworth before the studio

* NATIONAL TRACKING GUIDE *

ARTIST	PRODUCER	ENGINEER/S	NOTES & DETAILS
A.C.T.			
National Recording Studios	Contact David Small	(06) 251-6333	24 Track
Mike Jackson Studio Cafe Empee Michael White Canberra Region Campaign	Ian Blake Compilation Empee/Nunzio Gambale Michael White Grey Advertising	Nunzio Gambale David Small Nunzio Gambale David Small David Small	Album-ABC Records Album Album Album Jingle
New South Wales			
Charing Cross Studios	Contact Gordon Hervey	(02) 387-8362	16,24 Track
No More Crime Lost Angels Disciples of John Charlie Midnight Hummingbirds Nunbait	Tim Powells Greg Henderson Gordon Hervey Gordon Hervey Nick Mainsbridge Michael Degan	Tim Powells Greg Henderson Julian Slade Andrew Mison Gordon Hervey Gordon Hervey	Tracking & Mixing E.P. Tracking Demo's EP for release in France Tracking & Mixing EP Album
Damien Gerard Studios	Contact Elia Bell	(02) 660-8776	16/30 Track
Maybe Dolls Dave Steel Daze Lost Angels Hoodoo Gurus	Chris Morrow Dave Steel Lost Angels Dave Faulkner	Russell Pilling Russell Pilling Daze Tim Powles Mike Wood	EP Album Josh McLeod EP Demos Demos
Enrec Studios	Contact Ed Matzenik	(049) 36-1376	32 Track
Julia Starr Norma O'Hara Murphy Festival Studio Hard-Ons Psychone Smyle The Choice The Celibate Rifles	Steve Newton Steve Newton Contact Vicki Eldridge Thee Slayer Hippy Mark Thomas Not Advised Kent Steedman	Steve Newton Steve Newton (02) 660-4022 Tony Lash/(asst)Mark Thomas Mark Thomas Mark Thomas Mark Thomas	Came from Darwin to cut four songs Album for Festival Records Album Record+Mix E.P. Single Mixing Live Album
The Giant Production House	Contact Penny Seta	(02) 555-8999	36 Digital Track
Margaret Ulrich Things of Wood and Stone Barb Waters and the Rough Diamonds Matt Finish Clem East Band Images	George Gorga Not Advised Not Advised Peter Dawkins Peter Dawkins Paul Grant	Paul Grant Paul Grant/Peter Dawkins Mixing Peter Dawkins/John Vittorio Paul Grant/Peter Dawkins Peter Dawkins Paul Grant	Album Tracks and B-sides Live Tracks AlbumTracks Album Tracks Single Single
Hullabaloo Music	Contact Glenn Heaton	(02) 684-2039	24 Track
Strum Jungle "Bill" Michael Wells Harlequins Rio Grande	Heaton/McGarvey "Bill" Not Advised Not Advised Not Advised	Glenn Heaton Murphy/Heaton Murphy/Heaton Heaton Heaton	Single Demo Demo Single Demo
Main Street Studios	Contact Rob Specogna	(042) 83-4515	16 Track
Ukikuna	Ukikuna/Specogna	Rob Specogna	CD Album

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Warrabush "Wilder Side of Japan" "Secret Places" Snakebite Hillis Daihatsu Utopia Ebony Rose	Warrabush Damen Smith Damen Smith Snakebite Way To Go Utopia Ebony Rose	Rob Specogna Rob Specogna Rob Specogna Murray Nicholas Rob Specogna Murray Nicholas Rob Specogna	Album World Around Us, A.T.N.7 World Around Us, A.T.N.7 Demo Jingle Demo Demo
Rich Music Studios		Contact Elise Huntley	(02) 264-7734
Radio Freedom Tiny Tim Greedy Smith Wes Beavis Phil Emmanuel	Lindsay Jehan Martin Sharp Not Advised Not Advised Phil Emmanuel	Karen Hewitt Tom Kazas David Price Peter Lees Peter Lees	Single Mixing EP-Mixing Album Re-mix
Skyhigh Recording Studios		Contact Rob Taylor	(049) 50-1574
Swoop Project X Burning Winter Vault of Heaven The Sound of Music The Shrine Me Me Me Floyd Vincent & The Childbrides Joshua Brave	Swoop Lowry/Taylor Rob Taylor Jacqui Lawson/Paul Dear/Taylor Mark Roberts Rob Taylor/D.Henderson Rob Taylor Neil Farmer David Henderson	Rob Taylor/Craig Beck Rob Taylor/Midi-Neil Farmer Rob Taylor/Beck Rob Taylor/Paul Dear Mark Roberts/Beck Taylor/Henderson Rob Taylor/Beck David Henderson David Henderson/Beck	EP & Final Mix Down Techno EP EP Mixdown Dance EP EP Tracking Album EP Mixdown Single Release - Mix Compile
Festival Studio		Contact Vicki Eldridge	(02) 660-4022
Hard-Ons Psychone Smyle	Thee Slayer Hippy Mark Thomas	Tony Lash/Mark Thomas Mark Thomas	Album Record & Mix EP

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EX-Track (continued)

moved to its current location.

Charing Cross Studios, Bronte NSW, have been testing some ATC SCM10 Monitors, courtesy of importers AR Audio Engineering. Gordon Herve studio manager believes that this product is the best 2-way system available in terms of frequency response and imaging. The Sydney Opera House have several sets of these Monitors used for various functions and appear happy with the systems

capabilities, according to AR's Tony Russo.

Paradise Studios, Sydney NSW, vs. The Sydney Morning Herald: An article in the SMH on 4/12/92 in the "Stay In Touch" column made several comments about Bill Field that could possibly be construed as a little hard to understand, if not perhaps ever so slightly, um, untrue. Under duress from Bills management, the SMH has retracted the comments, stating that "the report made in Stay In Touch was related to a joke that went amiss," it continued. Amen

to that. (We KNOW about jokes that go amiss here at Connections Publishing!) Stick it to them Bill!

Damien Gerard Sound Studios, Sydney NSW, have their new 32 Track System in Studio A, totally up and running having completed an EP, an Album as well as a current project with Jon Stevens. They have also added to the FX selection by purchasing the latest Ensoniq DP4 processor, with 400 presets of just about anything you can imagine. Studio B has been occupied by the Gurus, doing demos, setting up and playing LIVE in the studio.

Jim Taig has departed **Studio-FX**, leaving Peter Bondy in charge. The up-front, never shy Taig has assumed a major role within EMI's Studio 301 in Sydney. Studio FX is pressing ahead regardless, having bought plenty of new gear in recent months. They are about to receive a new BRC (Big Remote Controller) from Alesis to compliment the batch of ADAT machines they ordered.

SEND YOUR STUDIO INFO!

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ARTIST	PRODUCER	ENGINEER/S	NOTES & DETAILS
The Choice The Celibate Rifles Troy Horse Studios	Not Advised Kent Steedman Contact Michael Levis	Mark Thomas Mark Thomas (02) 557-3129	Single Mixing Live Album 8,24 Track
Tinkuna Disneyfist Big Heavy Stuff You Am I The Goddards Phoenix The Flies Wirra Willa Studios	Not Advised Not Advised Not Advised Not Advised Not Advised Not Advised Not Advised Contact Will Rout	Michael Levis Michael Levis Bruce Waite Colin Wright John Rafferty John Rafferty Michael Levis (02) 605-1203	Album EP Demo Demo Album Demo EP 8,16,22 Track
"A Touch of Brass" Workers Compensation	Chris Luke Dion Wilton	Will Rout/Connie Cuderrou Will Rout/Sharon Markut	6 Song Demo 5 Training Videos
Northern Territory			
Carma Music	Contact Stanley Satour	(089) 523744	24 Track
Gus Williams & Country Ebony Sickness Red Shift Matt Taylor	Gus Williams Gus Williams Gus Williams Herman Marcic	Stanley Satour Stanley Satour Stanley Satour Mark Manolis/Stanley Satour	Country Gospel Album Demo Album Demo Album 1 Song For Album
Queensland			
Grevillea Recording Studio	Contact Malcolm Jacobson		(07) 262-842224 Track
Brasilia Children Arise Time Trax Suite 16 Audio Productions	Brasilia George McArdle Music by Gary McDonald/Laurie Stone Contact Murray Lyons	Malcolm Jacobson Malcolm Jacobson Bruce Jacobson (07) 369-8733	Demo's Album Not Advised 24 Track
"Yo!Way To Go" "Suncorp-More For You" Ton Ton Marcoute	Garry Smith Garry Smith Garry Smith	Julian Lynch Julian Lynch Brent Clarke	Jingle Jingle Album
Victoria			
Metropolis Audio	Contact Kerri Minchin	(03) 696-2111	48 Track
Bad Loves Tim Finn Cruel Sea Outlaw James Reyne Cameron Daddo Platinum Australia P/L	Bad Loves/Doug Roberts Tim Finn/Paul Kosky Nick Harvey Cameron Craig James Reyne Keith Glass Contact Gary Moorhead	Doug Roberts/Greg O'Shea Paul Kosky/Greg O'Shea Tony Cohen Cameron Craig Ross Cockle Michael Letho (03) 824 0370	Album Single Mix Album Album Single EP 48 Track
Shane Howard Anthony D'Fina Masetoshi	Shane Howard Sam Panetta TBA	Mike Letho/Stewart Day Kalu Tonuma TBA	Album EP Album Mix

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ARTIST	PRODUCER	ENGINEER/S	NOTES & DETAILS
Venom P Stinger Kenny Lopez The Sharp <i>Sing Sing Recording Studios</i>	Not Advised Kenny Lopez Nick Mainsbridge/Peter Farnan <i>Contact Mark Wood</i>	Simon Polinski Chris Corr Kalu Tonuma <i>(03) 428-4622</i>	EP Album Album <i>24,48 Track</i>
Keith Glass Andrew Sefton Ripe Lani Zaitman <i>Studio 52</i>	K.Glass Kas Dahlstrom Chris Thompson Joshua Abrahams <i>Contact Paul Higgins</i>	Trevor Reading Kas Dahlstrom Chris Thompson Kas Dahlstrom <i>(03) 417-7707</i>	Album Single Album Album <i>24/16 Track</i>
Beltane Maireid OM Marshal Law Scapegoat Sugar Mountain <i>Studio RB-X</i>	Trevor Carter Maireid Sullivan/Paul Higgins Trevor Carter Trevor Carter Trevor Carter Trevor Carter <i>Contact Ross Burton</i>	Trevor Carter Paul Higgins Trevor Carter Trevor Carter Trevor Carter Trevor Carter <i>(03) 429-6199</i>	Track For NuMusic Series6 Album to be completed in Jan'93 Track For NuMusic Series6 Track For NuMusic Series6 Track For NuMusic series6 Track For NuMusic Series6 <i>16,24,32 Track</i>
Guru Foundation Lisa Miller Wayne Malcolm Gibbs Run Away Boys Myrek Stekla	Mark Roberts Gordon Blake Ross Burton Scott Owen Myrek Stekla	Mark McDougall Gordon Blake Mark McDougall Mark McDougall Mark McDougall	Demos Demos Solo Soundtrack Demos Album

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New PA for the Melbourne Cricket Ground

by Peter Blackmore, CTS

The Melbourne Cricket Ground - also known as the MCG - is the largest cricket stadium in the world. Rim to rim it measures 290 metres or 950 feet.

In 1988, the 'Great Southern Stand' project was born. This was to involve demolition of a number of old grandstands which included some standing-room-only areas. This stand was to incorporate a number of corporate boxes which would finance a large part of the project.

In 1990, construction company John Holland began work on the demolition to make way for the new stand. Services engineers Rankine & Hill were working on electrics/mechanicals, etc and were asked to solve the problems of the existing PA. Steve Underwood headed up the team at Rankine & Hill which produced a preliminary specification.

For many years, the quality of the P.A. system had been an issue of contention. Swirling winds, thermal pockets, deep recesses under tiered seating and low SPL's were some of the problems. The system comprised hundreds of re-entrant horns and 8 inch speakers driven via a 100 volt line. Over time, more and more horns were added to improve the system but basically the system was completely inadequate to the task of providing sufficient level and intelligibility for medium sized crowds, let alone a large one.

As part of the Great Southern Stand project, a new sound reinforcement system was to be installed. Over the years, the MCG had experimented with clusters mounted at one side or another of the ground. Uneven level, spill and flutter were regarded as unacceptable. The new system was to service the requirements of paging, announcements and entertainment events.

Oh No, Ball Park Figures Again!

However, a gremlin crept in. At some stage during the estimation/quotation/contract approval phase for the whole project, the builder included the lowest ball park figure for a replacement system similar to the original system. Thus less than A\$500,000 was allowed for a high quality sound reinforcement system for a 110,000 seat stadium. (See our story re. *Australia's lack of spending mentality elsewhere in this issue. This is typical. -Editor*)

Whilst this was becoming apparent, suppliers were working on preliminary designs, with lots of CAD design programs being given a thorough work-out. The ball park estimates for these systems started at A\$1,000,000 and went up from there. Not unrealistic when compared with Anaheim (L.A.) where the new system cost well over US\$1,300,000 - for only 78,000 seats.

System Type: Part of the design brief placed stringent restrictions on permissible

noise levels to ensure that the East Melbourne area was not affected by the installation of the new system.

An early consideration was a distributed array using a total of 44 zones, but the client wanted a one button configuration approach. Preliminary estimates were showing that any form of high quality distributed system was going to cost too much and the Architect believed that the sound system should be invisible to the spectators. A central cluster using high directivity horns came out as the best approach. But where to locate it?

There are six very large lighting towers around the perimeter of the ground. A central cluster suspended on catenary cables would be ideally located. But Aussie Rules Football is a game of long and high kicks- speakers hung at the 35 metre height would create a problem for the players. In addition to this, there would be shadow problems during the summer which would affect the cricketers. Unfortunately this location had to be ruled out.

The scoreboard position has a large Mitsubishi video screen adjacent to it. This seemed to be the next best reference point but it faces the East Melbourne residential area. Concerns about noise spill ruled this out as a possibility. Finally a position at the end of the new stand was selected. The cluster would be suspended under the canopy. Additional delayed speakers would be used for areas shadowed by the balcony.

One of the problems facing the designer was the distances involved. The scoreboard position opposite the proposed cluster location is approximately 250 metres (820 feet) from the cluster. At these distances, the problems of thermals and wind can exert a detrimental effect on system performance.

A single cluster, located at the end nearest to East Melbourne (and facing away from it) was to be implemented. It was to deliver 95 dBA to the far fence 220 metres away and no greater than 110 dBA to those seated nearest to the cluster.

The time delays would make it impossible for entertainers on the ground to use a central cluster located at one end - foldback monitors would need to be delivering in excess of 120 dB SPL. It was obvious that the planned system could not be used for entertainment segments. The practice of renting in additional systems would have to continue.

Dr Norman Broner of VIPAC, a consulting organization with expertise in noise transmission and electroacoustics, was commissioned to evaluate tender submissions. The noise aspect was an important part of the brief and as VIPAC have been involved in a number of projects including airport noise assessment,

they were a logical choice. Part of the evaluation process was to be carried out using the EASE program. This particular software package was chosen primarily because of its extensive acoustic tools.

Neilson Electronic Systems won the tender process. Principal Murray Neilson had developed his design using the Electrovoice range of horns and drivers. All modelling was carried out using AcoustaCADD.

Power amplification was predominantly to use the new Neilson Compact Professional Series on all 100 V in-fill and internal PA areas, which enabled considerable rack savings to be realised. In the control room this also meant that the original allowance for four rack bays was reduced to one. The Neilson 5300A is a 2RU dual 200W into 8 ohms professional power amplifier, originally developed as a studio monitoring amplifier for the Australian Broadcasting Commission, which was used for the HF horns. As the amplification for the main cluster was to be located on the cluster structure, space and weight was an important consideration.

Zones and Control: The final design divided the main system up into four zones, with an additional three delayed zones for under balcony feeds.

A custom remote control system, was developed to enable the (non-technical) operators to easily set levels and equalization for the zones. There are a number of pre-programmed system configurations and the operators select these with one button (nine memories for each of the four zones). The PA422 protocol is used to recall program and equalization settings on the Altec 8553B third octave equalizers.

A means of monitoring the amplifiers located behind the cluster was necessary. Incorporated into this Neilson 651 multi channel monitor system is an LCD screen which in its default setting gives a concurrent bar graph display of all 24 amplifier input levels. Amplifier/s can then be individually selected for special attention. There are two control panels, one in the Control Room and the other in the equipment rack on the cluster platform.

The Cluster Components: Using dual drivers gives the capability of high sound pressure levels being generated by smaller, lighter arrays and with a large reduction in the interference effects (including comb filtering) inherent in closely aligned sound sources. Given the high sound pressure levels required in this project, there are a total of 30 Electrovoice HF drivers, being fifteen DH1A/2MT- the 2MT refers to the dual Manifold Technology assembly. This delivers phase coherent summation with extremely close driver packing. The High Frequency horns included the HP4020, HP940 & HP640.

One DH1A on a HP940 was used as a near fill under and to the rear of the cluster platform.

For low frequencies, the MH6040 horn was selected, which has the Electrovoice DL10X driver. This 10 inch driver has a massive

magnet assembly and is covering the range from approximately 100 Hz to the 800 Hz crossover point (HF roll-off is set in the crossover at 70Hz).

In addition to the horns, there are two LF direct radiator enclosures. These are the TL806DX, which incorporates two drivers in an enclosure ported to Thiele Small parameters. The TL806DX enclosures provide near fill for patrons under and behind the cluster platform and were equalized to maintain correct LF response to that of the main system.

It is interesting to note that the performance of the low frequency horns proved to be as predicted. As a result of this, patrons seated near to the cluster platform are not subjected to high levels of low frequency sound.

There are two equipment racks on the cluster platform. These house the control electronics, compressors/limiters/crossover/EQ, programmable equalizers, remote monitoring system, power sequencer and power amplifiers. Whilst adding considerably to the weight of the platform, the location of the power amplifiers in this position allows for very short cable runs. This compares with the 150 metre runs that would be needed if the amplifiers were located in the control room as originally planned. As all levels are remotely controlled from the main control room, there is no disadvantage in this choice of location.

Additional Systems: There are two types of loudspeaker used for delay fills in the stand. The first of these is the Electrovoice FM-12C. This is actually a floor monitor utilizing a 12 inch low frequency driver and a 1.5 inch super dome tweeter loading a 5 inch 'Direktor' horn. This horn is coaxially mounted in a frame of the 12 inch driver. This results in a small enclosure providing a smooth response from 100 to 18,000 Hz.

The enclosure itself is a one piece moulded polyethylene. When designing a mounting bracket to enable suspension of these units, it was discovered that there were virtually no two surfaces that were perpendicular. This necessitated an interesting bracket construction.

On the second and third levels, the architect wanted the loudspeakers to complement the downlight fixtures, which are a surface mount cylindrical enclosure.

Neilson Electronics manufactured a matching enclosure which houses an Altec 409-8E 8 inch coaxial unit. This enclosure was optimized using a CAD system.

For delay units, three Yamaha C20

digital delays were used, giving the capability of nine separate delays. The delay settings range from 50 milli seconds to 507 milli seconds.

The Cluster Platform: A frame 12 metres wide and 4 metres high was designed as a three dimensional model on Connell Wagner's (project Structural Engineers) CAD system. Given the location (and height above ground level) of the cluster, the high wind loadings and the cluster weight (1 tonne), a rather substantial platform constructed of high tensile steel was designed. The roll, pitch and yaw of each horn was carefully calculated.

Eight weeks after the design process started, the 2.5 tonne frame arrived on site. A hole had been left in the roof which was almost complete. The frame was lifted into place, bolted and welded and then the crane immediately dismantled.

Murray Neilson inspected the new platform and noted that it was 5 degrees above horizontal. As the platform was in place, it was necessary to alter the horn mountings to adjust to this interesting variation.

Finally: Now Neilson Electronics had four weeks in which to complete the installation. At this stage, the horns had not cleared customs.

A team of nine worked on the installation. One of these, Tony, managed to erase the magnetically striped information on his credit cards whilst getting too close to the DH1A/2MT driver assemblies! When the system was almost complete, the builder and engineers were able to measure 95 dBA at the opposite side of the ground. Further tests indicated that the system performed to expectation according to the CAD prediction programs.

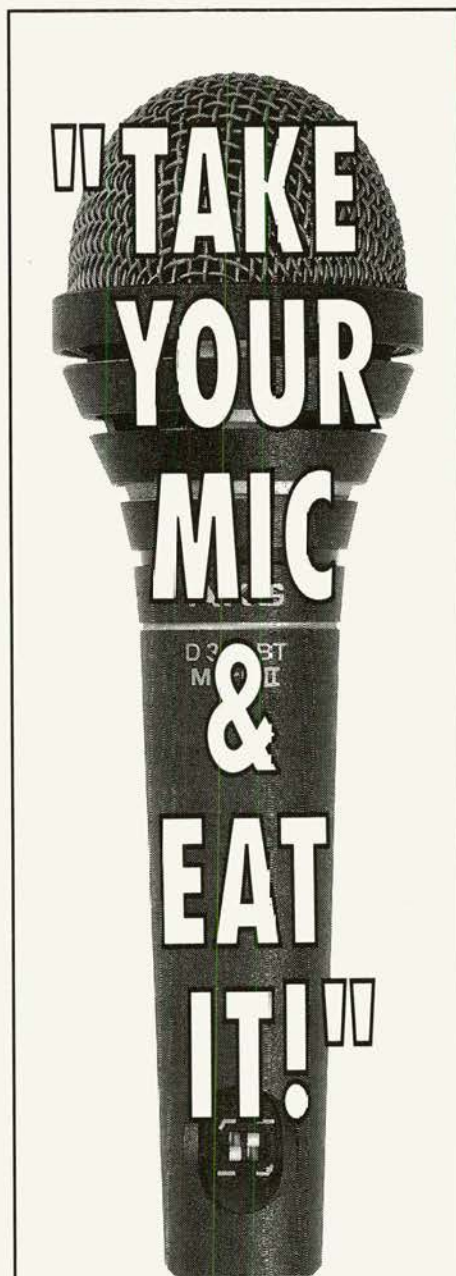
Later tests indicated that on music program, levels of 105 dBA are reached in the Western Stand which is 200 metres away. Typical level variations around the ground are +/-2dB. Under the cluster the anticipated +8dB level increase is in evidence.

Murray Neilson is as delighted with the accuracy of AcustaCADD as he is with the performance of the system.

Peter Blackmore is a consultant in Melbourne, commissioned by Connections to write on subjects of interest. He can be reached on (03) 882-9750.



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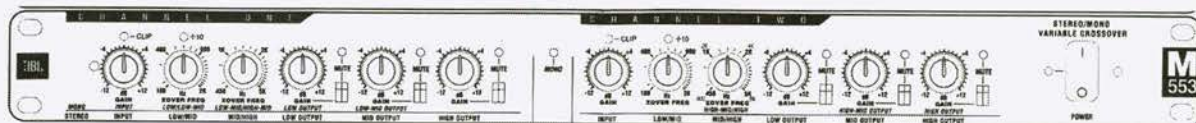
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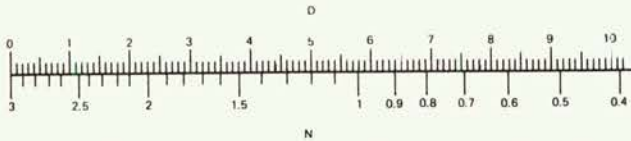




The Decibel (Continued)

ADDING POWER LEVELS IN DB

Quite often, a sound contractor will have to add power levels expressed in dB. Let us assume two sound fields, each 94dB-SPL are combined. What is the resulting level? If we simply add the levels, we get 188dB-SPL, clearly an absurd answer! What we must do in effect is convert the levels back to actual powers, add them, and then recalculate the level in dB. Where two levels are involved, we can accomplish this easily with the data below:



Nomograph for Adding Levels expressed in dB. Summing Sound Level Output of Two Sound Sources Where D is Their Output Difference in dB, N is Added to the Higher Level to derive Total Level.

Let D be the difference in dB between two levels, and determine the value N corresponding to this difference. Now, add N to the higher of the two original values.

As an exercise, let us add two sound fields, 90dB-SPL and 84dB-SPL. Using the above Nomograph, a D of 6dB corresponds to an N of about 1dB. Therefore, the new level will be 91 dB-SPL.

Note that when two levels differ by more than about 10dB, the resulting summation will be substantially the same as the higher of the two values. The effect of the lower level will be negligible.

REFERENCE LEVELS

Although we have referred to some of the common reference levels already, we will list here all of those that a sound contractor is likely to encounter.

In acoustical measurements, SPL is always measured relative to 20×10^{-6} newtons/m². An equivalent expression of this is .0002 dynes/cm².

In broadcast transmission work, power is often expressed relative to 1 milliwatt (.001 watt), and such levels are expressed as dBm.

The designation dBW refers to levels relative to 1 watt.

Rarely encountered by the sound contractor will be acoustical power levels. These are designated dB-PWL, and the reference power is 10^{-12} watts. This is a very small power

indeed. It is used in acoustical measurements because such small amounts of power are normally encountered in acoustics.

PEAK, AVERAGE, AND RMS SIGNAL VALUES.

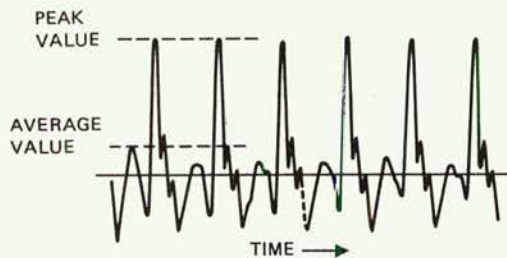
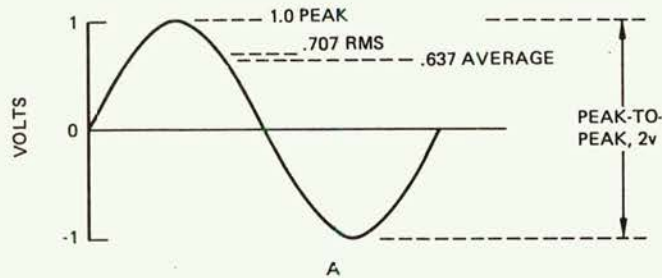
Most measurements of voltage, current, or sound pressure in acoustical engineering work are given as RMS (Root Mean Square) values of the waveforms. The RMS value of a repetitive waveform equals its equivalent DC

In this chapter, we have in effect been using RMS values voltage, current, and pressure for all calculations. However, in all audio engineering applications, the time-varying nature of music and speech demands that we consider as well the instantaneous values of waveforms likely to be encountered. The term headroom refers to the extra margin in dB designed into a signal transmission system over its normal operating level. The importance of headroom will become more evident as our course develops.

NEXT MONTH:
Chapter Three:
Directivity and angular coverage of loudspeakers.

Review:
Already covered-
Chapter one. Wave propagation.
Chapter two. The Decibel.

value in power transmission. Referring to the figure below for a sinewave with a peak value of one volt, the RMS value is .707 volt, a 3-dB difference. The average value of the waveform is .637 volt. For more complex waveforms, such as are found in speech and music, the peak values will be considerably higher than the average or RMS values.



The waveform shown above is a trumpet waveform of about 400Hz, and the spread between peak and average values is 13dB.

Waveform of a trumpet tone (about 400Hz). The spread between average and peak values is 13dB.

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Duncan

The Return Of Chickenman!

People have often said to me "Do those things you write about really happen? Or do you make them up?" And the simple answer is yes and no. Yes, they do really happen, and no, I don't make them up.

The truth is that I don't have to. If you live long enough you'll get to see and do just about everything, and if you're lucky you'll remember enough of it to write it down. There's nothing like a good dose of real life to make you realise that you couldn't possibly make up any fiction as bizarre or as funny if you tried. I filter out some of the more unbelievable things to make the stories more readable. But yes, they're definitely true.

However, funny things do happen to other people as well as me, and occasionally the people involved (members of the universal

Society Of Underpaid Nameless Dudes Getting Up Your Sister - S.O.U.N.D.G.U.Y.S.) share their stories with me on the condition I keep their names out of it. So, here's one now. It's the honest truth - believe it...or not!

A friend of mine (let's call him Greg) got a call from a footy club who were having a function at a local hotel. Would he be able to supply a PA system for the night, they asked? They had a band all lined up, some friends of a friend who knew someone who had another friend who had a band and they'd do the job cheap. So they hired the band, sight unseen (and unheard).

Personally, I used to hate doing footy club gigs. Hot sticky unventilated rooms, over filled with neanderthal drunks whose sole aim seemed to be to spill whatever they couldn't drink over you and the mixing console, and then deliberately get in your way when you're trying to load out. I used to do them quite regularly with one band, and it left me with an abiding dislike of that type of sub culture.

As for the sort of band, it's been my experience that footy club members like a band that can play a bit of Chisel, Tie a Yellow Gibbon (sorry Goodies) and/or Yellow River, and Bad to the Bone. If it's a soccer club, then they'll want 'You'll never walk alone' as well, so they can sing themselves hoarse, wrap their arms around each other (the guys, of course) and cry in each others beer. This was obviously the type of band they were expecting, but definitely not what they got.

Anyway, my mate Greg arrived, set the PA up and waited for the band, playing a few cassettes while the crowd milled around, all asking "When's the band going to start?"

Finally four guys arrived, and Greg had his first inkling that all might not be as it seemed. They didn't look like your typical covers band, and they had a very strange stage setup, consisting of four vocal mics, six instrument mics to mike up six little portable cassette players, and one other instrument microphone. Curiouser and curiouser, as Alice would say.

Fry



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Tony Gortelier, Lighting & Sound International - May '90

"Mike Lowe applied his own sure touch to Teatro's new range of followspots and came up with what may well amount to a mini revolution in the science. He recognised that zoom is probably a nonsense when it comes to limes..."

Graham Walne, Lighting & Sound International - July '90

"The best product award went to the 'Talento' followspot from Teatro. As an ex Palladium Stelmor operator I approach all modern followspots with in-built scepticism, but the Talento does have a good mechanical dimmer and should prove very popular with small to medium venues."

NEED WE SAY MORE!

The band didn't want a soundcheck, and for good reason, as it turned out. They stood on stage with their backs turned towards the crowd, who were gathered around, eagerly waiting for the band to start. Suddenly, with a yell of "1 - 2 - 3 - 4" the band simultaneously jabbed the Play buttons on all six cassette players and launched into the first number.

It was absolutely unbelievable. Each cassette had an endless loop of the noises of various bodily functions - one was great big juicy farts, another was giant burps, another was rasping phlegmy coughs, another was obscene sounding slurping, squishy noises, that sort of thing, at excruciatingly distorted high volume.

While this organic ensemble gurgled merrily away, all four of the members alternately chanted and screamed obscenities into the microphones. The rhythm section, and indeed the only instrument that needed miking up was played by the lead singer and consisted of banging on a 44 gallon drum with a rubber chicken!

The footy club members stood there transfixed in absolute horror, mouths gaping open and beer spilling from their glasses as they clattered to the floor. The first 'song' belched and farted its way to a stop, and there was a moment of stunned silence.

"Thank you very much", yelled the lead singer, "And now for our next number..." What it was going to be no-one ever found out, since he got no further. With an enraged roar the footy club stormed the stage, grabbed hold of the band members and their equipment, dragged them off the stage, threw them out into the street and kicked the shit out of them! Then, still not satisfied, they stormed back into the hotel looking for vengeance.

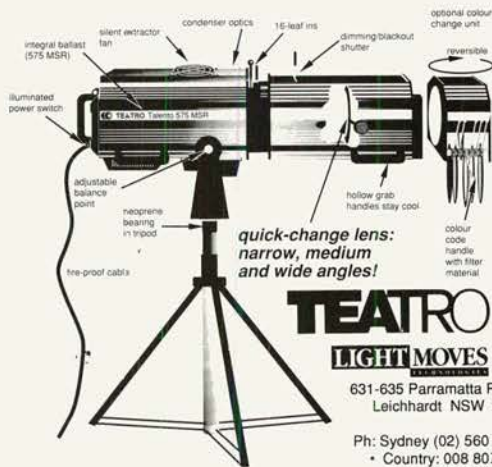
Luckily the club's social secretary, the one who had somehow authorised the band and finalised the booking, was nowhere to be seen. Having witnessed the debacle, he had wisely pissed off as soon as the first sounds of body functions reverberated around the room. So, after much yelling and many recriminations as to how such a thing had come to pass, the crowd gradually settled down to some serious drinking.

"Play some cassettes, mate, willya", they asked Greg. "Here's some of me favourites. Stick 'em on and let's have some decent music!"

The rest of the gig was pretty uneventful, consisting of just sitting there playing tapes through the system, while the footy boys leaped around to the strains of...you guessed it - Yellow River, Bow River, B-b-b-b-bad to the Boner and Knock Three Times.

Now how could you possibly make up a story like that!

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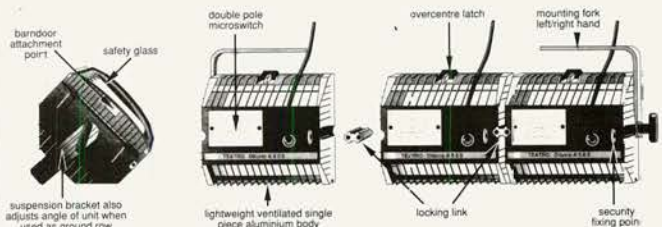
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My purpose in this new magazine, according to the Editor, is to flesh out the Human Side of our industry - so what better way to do this than to call in at the NAMM show in Los Angeles during late January- Winter over there.

NAMM is the United States' largest music show, where 1,200 exhibitors take heaps of space and 40,000 music types swoop on the place for some action.

You *don't* go to NAMM for the gear. Oh no no no. It's the sideshow that takes centre stage every day. How can there be THIS many rockstars in the world? The whole of Anaheim is chocka with psuedo stars and those who follow same. It's Saturday night at the Inn On The Park, and the Groupies are stacked 10 deep around the bar. This is exactly what the cliché says a groupie should look like, bouffe hair, stockings, high heels and deep, deep cleavage.

"G'day" is a neat opening line, but you need a fast followup, and: "Do you like chocolate" doesn't get you far, according to some Aussie industry males I cornered.

Cheri doesn't really want to waste time talking to me, but when pressed admits her lifetime ambition. "I wanna' be a slut in a Bon Jovi video!" she blurts out through a Grasshopper fog. Hey, lofty heights for the girl from Seers. The place is crammed full of talent looking for .. well, talent.

The big joke about NAMM is the 40,000 odd guests that come

down for the weekend are mostly music shop owners and hangers on.

Genuine A1 certified rock stars stay away in droves, unless they've been hired to do an endorsement. Even then they're in the VIP door and out again 55 minutes later. The turkey with big hair, (often a rug), ripped jeans and booties you see sashaying down the aisle is really an imposter, and most of the time a friend of a music shop owner! You

can pick the music shop owners, because they are either: (a) In a suit; or (b) looking like a failed 1970's rock star. Some examples actually come dressed in jeans and collared shirts, but are mistaken for Media.

Really, the passing parade is bizarre. Most of these posturing turkeys have been no nearer an arena stage than row Z, seat 10. The irony of all this is that there are no Girl Imposter Rock Stars on hand. Why? Simple. No woman would be THAT stupid!

Studs wanted - time for some butch industry males on this page. Could the dark, good looking Vari*Lite type who worked on the Julio Iglesias tour please contact Dolly **A.S.A.P?**



Candy Davies from Soundcraft caught with two would-be star types. 'So WH? the hell ARE you guys?' 'I demand? 'Oh, no-one important!' they quickly say. It's easy to believe.



Scoop pic -inside the Ladies Lav at the Hilton!



Yolanda, Lynn & Dana- waiting for Mr. Right? in the Hilton Bar.

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CIRCLE 149 ON READER SERVICE CARD

Conventional OR Processed PA Systems - a discussion.

By John Monty*

Over the past few years the term "processor" has become something of a buzz word. Unfortunately, the internal workings of a processor, or the advantages of "processor-based" loudspeaker systems have rarely been explained, leaving an information gap. To complicate matters, when the first "black box" processors were introduced, little information was made available regarding their specific purpose or operation. This has led to a great deal of speculation and more than a few misconceptions about processors. In an attempt to shed some light on the subject, the following discussion will present an overview of the basic design concepts and potential advantages of processor-based systems.

During the late 1970's, an emerging class of loudspeaker systems sprang from the basic concept that a loudspeaker system should be designed with a "total" package in mind, as opposed to a conglomeration of stand-alone components. This approach resulted in the development of "integrated" or "dedicated" processors.

Conventional loudspeaker systems more often than not include a small arsenal of electronic devices such as the following:-

a) **A Crossover** (passive or active) is essential in any multi-way system to divide the full-band signal into frequency bands for the individual drivers. Since the highest performance systems are at least bi-amplified, an active crossover is one of the most common signal processors found in a conventional system and is usually one of the first devices incorporated into an integrated processor.

b) **High Frequency Compensation** is normally necessary to counter the effects of power roll-off, a common characteristic of compression drivers. Many conventional systems incorporate either a parametric or graphic equaliser to correct this common problem.

c) **System Equalisation** is usually required

to compensate for frequency response anomalies inherent in the drivers themselves or caused by interaction between drivers and/or between drivers and enclosures. Since few conventional loudspeakers perform so well that their frequency response could not be improved by the careful application of equalisation, many designers rely on EQ's and filter circuits to flatten loudspeaker response. These can take the form of passive networks or active and usually adjustable multi-band devices such as graphic and parametric equalisers.

d) **Electronic Time Delays** can greatly improve the intelligibility and clarity of multi-way loudspeakers in which the driver's voice coils are physically offset from one another. While it is debatable whether or not all physically offset drivers need to be aligned, it has been fairly well established that proper alignment is crucial to intelligibility when the crossover point for the drivers in question is in the vocal range.

e) **RMS and PEAK Limiters** have been used for many years together and separately to provide a measure of protection to the drivers.

In application, some or all of these components are usually strung together in series and inserted between the signal source and the amplifiers. This approach has some inherent shortcomings which are easily overcome by integrating these devices into a single dedicated processor.

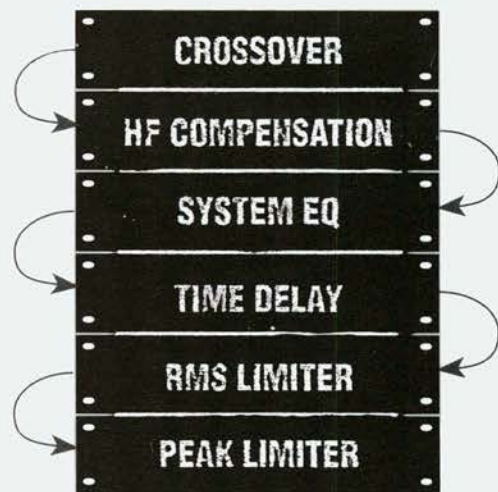
These can be attributed to two design facets:

a) Those which come from refining and integrating multiple general purpose components into a single dedicated device and

b) those which spring from the "systems" design approach which treats the loudspeakers and signal processing electronics as a unit rather than non-related components.

Dedicated Device.

By definition a dedicated device can be expected to outperform a general purpose device which must sacrifice performance for versatility. Reducing circuits to essential elements minimises many undesirable side effects such as noise, phase shifts and distortion.



There are two ways to hook processing into your system- using a 'Processor' integrated to the system, or with add-on electronics. This diagram shows what you'd need if external units were to do all the tasks accomplished by some dedicated 'Processors'.

A dedicated design allows desirable system attributes such as bandwidth, power handling and acoustic output to be optimised. The performance of each stage is matched, removing the weak links which normally limit overall system performance and waste money. Interconnections are minimised, increasing reliability and reducing maintenance.

Finally, set-up and operation is greatly simplified, thus promoting consistency, saving time and reducing the possibility of user error.

"Systems" Approach.

Manufacturers of conventional loudspeakers must take a relatively conservative design approach, since they have no way to control

the selection of the signal processing devices which will be added to their speakers. Hence, anyone trying to optimise the performance of a conventional system with a general purpose signal processor will be restricted by the fixed characteristics of the loudspeakers and the inherent limitations of general purpose devices.

It is common for a single equaliser to be used to correct both the loudspeaker and room response anomalies simultaneously. While this appears to be a valid approach, experience will reveal that it is often impossible for a single equaliser to adequately correct both systems at the same time. A more plausible approach is to correct the loudspeaker response with one EQ in a controlled environment using precise test and measurement equipment and the room resonances and anomalies with another. By relying on the processor to insure that a loudspeaker frequency response is flat, an engineer can use his/her equaliser to exercise much greater control over room resonances and other acoustical conditions. In turn the channel EQ's can now be used more for artistic rather than corrective purposes as they were intended.

In any case, a significant number of buyers and users do not possess either the skills or tools necessary to "finish out" a conventional system by assembling and calibrating the various general purpose devices as described

earlier. As a result many conventional loudspeakers fail to deliver the performance the user paid for. Even when optimally adjusted, the reliability and stability of multiple adjustable devices cannot compare to dedicated circuits. Dial settings on the conventional devices may be accidentally or intentionally altered with potentially disastrous results.

Extending the electro-mechanical/acoustic system design concept to include the signal processing circuitry allows the enclosures and drivers to be refined and improved in ways that may otherwise be impractical or impossible.

Manufacturers of processor-based systems benefit from having greater control over how their speakers will actually perform. Extending the system design to encompass the signal processing reduces the possibility that the quality or addition of inferior, inappropriate or misused electronics.

Whilst the apparent additional cost of the average processor may at first seem unnecessary to the average buyer, when it is clearly understood that a processor replaces several components which must be purchased anyway if remotely equal performance is desired, a proper cost comparison can then be made.

Most major loudspeaker manufacturers now produce processor-based systems. They differ widely in form and function with processors spanning the gap from high tech multi-stage devices to simple crossover networks.

In follow up articles, we will explore the major brands of processor-based loudspeaker systems including Apogee, ARX, Deltamax,

A summary of "Apogee Engineering Brief No. 1 - Processor-Based Systems, Part 1: General Discussion"

**Compiled by John Monty. John is a Director of Entertainment Services Australia, (E.S.A.) who import Apogee Systems. This article is of generic usefulness, and so we print for you. Any similarly useful product application article lurking in the filing cabinets of distributors out there will be equally considered for publication, if adapted to our format. (As long as it's interesting reading, that is!)*



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Great Moments

My Disaster Tour

Gary Glitter toured here with the Glitter Band in the early 1970's. These were intense gigs, I even remember one tour had Jands as the promoter on the posters! Come 1982 and the idea the Great One would return was a passing thought, until I got the gig.

My garage touring company comprised one double 4 way system then, so to do this tour I needed to add some gear. I arranged to subhire another system, and a lighting rig from Yoda-an independent lighting operator. His name wasn't really Yoda, but that's what happens. Nicknames stick, and his did because his ears did too. They stuck out like Yoda, the short grey creature in 'The Empire Strikes Back'.

Like all tours, I felt I couldn't trust the promoter. The guy had to pay my accountant the first week up front, and the accountant would hold the \$3500 in trust until the end of the week. This was in place when we setoff for the production rehearsals at the Manly Vale Hotel. The band arrived jetlagged after just a few hours rest, and walked in to find my crew pondering their rented backline. Particular confusion related to the Yamaha Analogue Synthesiser, one gargantuan example of which had been found in the country, and there it was. All 250 kilo's of it. I'd provided a stage technician, in the form of the second PA owner, who we knew as 'Keg the Clog' for reasons that become obvious later.

The rider was awesome. Aside from the humungus synth, there was a CP-70 electric boatanchor, 8 x 8 drumriser (why not 6 x 6, I'd asked?), a flight of five stairs, another 8 x 8 riser for keys, Marshalls and a bass stack. The kit of drums was on the excessive side too. We had two trucks, mine and one very recently bought by the foldback guy. My P.A. rigger was John Pope, and he'll kill me for associating his name with this tour.

Keg was having communication difficulties with Eddie the Keyboard player, who couldn't believe Keg, Manly Vale, being jetlagged, or the fact his rig wasn't setup, in various order. Keg knew nothing about keyboards, in fact the rest of the band discovered in short order that Keg knew nothing about much at all, except beer. Keg also owned the other PA, which was why he was here. I knew this, the band didn't.

After a great deal of muttering and stuffing about, the band were setup, foldback and lights were ready, and the Great One swept in. He was really cool, did a few numbers, listened to the drum sound with me mixing, and left for a night on the town. Roger Clapton (now of CC's in Melbourne) was his Aussie minder, an English Tour Manager 'Smiley' with a perpetual smile, and Gary Junior (aged 17) made up the touring party. The promoter and his wife, a Greek duo from Melbourne, appeared and disappeared, each with a matching attache case. Very strange.

The next day we loaded into the first gig at Doyalson RSL, which was the start of a cat and mouse game between the Smiling Tour Manager and the crew. Foldback no good, backline setup wrong, complain and grumble. The accommodation featured one double bed for five crew. The idea of sleeping next to Keg's Clog's, (which he never took off) was too much to bear. We drove back to Sydney, then back up to Cardiff Workers for gig three, which was OK. Le Hoodoo Guru's, without bass player, were the support. Their drummer's party trick was wandering around the venue at the end, drinking whatever dregs were left in the glasses.

Selinas followed, it was sold out. This was where it was my turn to screwup, because Smiley cued the intro tape and the blackout, whereupon nothing happened. I'd forgotten about the new consoles mute buttons, so a silent blackout occurred for about 30 long seconds while the crowd punked out.

At Maquarie Uni Smiley decided to invoke clause 37 of the Gary Glitter contract, and blew the gig out because there was inadequate roof height for the stairs, which were the centre-piece of the set. Gary Glitter would make his grand entrance at the top of the stairs, dressed in .. well, Glitter, and wearing this ENORMOUS chrome plated cod piece. So no Gary tonight, but our suffering continued because the desperate promoter paid the Glitter Band to play a short set.

The crowd had paid for Gary, so they rioted. We were pelted with bottles and full cans, punched, battered and bruised. Keg felt no pain. We loaded out the wreckage and departed straight after the gig for Wagga.

Truck #2 ran out of fuel just out of Wagga, so this delayed things, and we arrived to find Smiley ready to blow out another gig. I'd never actually seen a gig blown out like the previous day, and was impressed it may happen again! The promoter was on site to haggle, so 12 sweating club employees built a stage out of beer barrels and chipboard. Smiley would test it by jumping up and down, shake his head, and they'd add gaff tape and beer barrels until he approved. It was great theatre, but created a late start, so we missed dinner again.

At 3am, while searching for our flea pit Hotel, truck two died in the middle of an intersection, the diff was blown. A few hours

The gig was blown out because the stage wasn't big enough. The crowd rioted, we loaded out the wreckage.



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sleep hardly helped, at 6am I was driving around Wagga looking to hire a truck. Can you believe it? I found one, a four tonner that went at 70kph. I took it, we loaded it, we went to Melbourne. Naturally we were late for the gig, and Smiley started on the promoter about clause 54 of his contract, whereby the act had to soundcheck every day before 6pm. I was on notice now.

Meanwhile Roger Clapton was tearing Melbourne apart, because a fast woman had kidnapped Gary Junior for devious purposes. His dad was pissed off, because he'd missed out. The regular procession of 'older' ladies Gary Senior had known once and would know again was impressive.

BOMBAY ROCK. We did the infamous Bombay Rock, where Smiley had two site sheds plonked in the street, surrounded by a temporary chain link fence. Clause 74 (dressing room size and proximity) cost the promoter big! We had to load out and drive straight to the next gig and setup, because they had Bingo at 1pm. This was where old Brian the sax player found us in the restaurant, and pulled out his family snapshots. His children were grown up now, he explained, and here's the dear wife at home ... oh, and here's a picture you chaps will like! The Polaroid he passed around featured one of the previous

nights collection of Glitter Madams, this one was naked on a pool table. Old Brian was there too, along with a packet of marsh-mallow's

The next venue was undergoing renovations when we arrived, with six carpenters frantically rebuilding the stage to conform with Clause 12, width and depth. More delays. The bass player fell through a hole in the floor, spraining his ankle. Keg, it seems, wasn't where he should have been with the torch!

After this show I threw in the towel, and advised Smiley and the promoter that I'd be terminating my contract at the end of the week. I'd already called the other bidder for the tour, who was ready to take over with a crew. They would meet us for the show in Albury for the handover. Naturally when they arrived they had an attitude, not unlike 'ha ha, you blew it, we'll show you how to do it!' A bit like the naughty trucks on Thomas The Tank Engine! I gave them the low down, and implored them to get the money a week up front like I had. I even offered them my standard contract draft. They didn't listen- in fact they sneered.

At their Lismore gig a mysterious gunman robbed the box office. Nobody saw him except the promoter and his wife, but the money was gone! The last gig at Penrith Leagues would be pay night for these guys, but of course when the Great One finished and was ready to go

back to the Gazebo Hotel, the promoter had disappeared with the transport and the cash. The hotel bill hadn't been paid either!

(Some) of the morals of this story are:

(1) The promoter didn't read the contract with the act, then didn't think it'd be enforced.

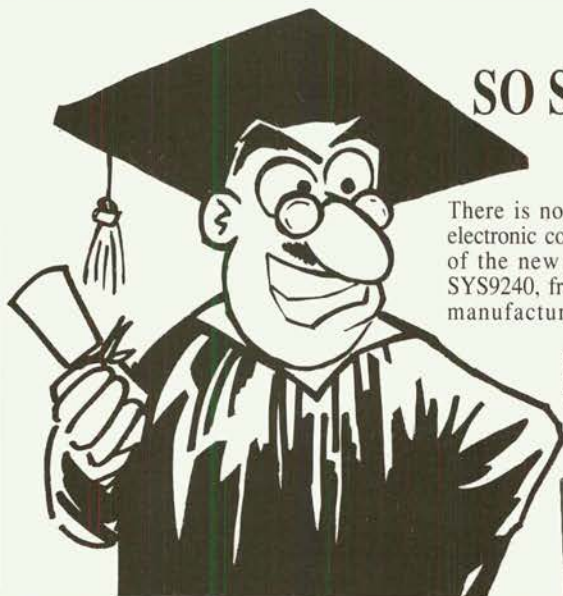
(2) The act enforced the contract because the promoter tried to stiff them in other ways.

(3) I shouldn't have taken on the tour using stopgap measures like two trucks and a makeshift stage technician I couldn't fire. (He owned the other PA, right?)

(4) When someone who's been there tells you to get your money up front, get it up front. The other guys had to fork out thousands for sub hire and truck hire, and I honestly felt no sympathy. They even stiffed me \$300 in followspot hire - and I sued them for it. After all, if they'd listened, I'd have got the \$300.

An admission by Julius Grafton.

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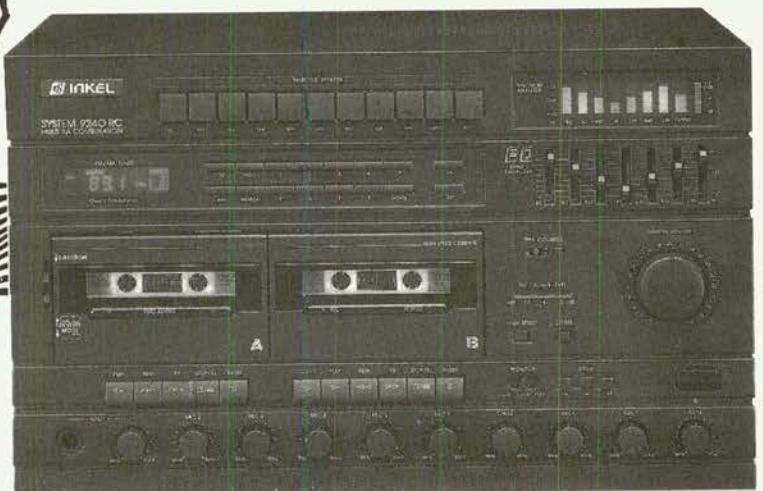


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Glenda & Dave Suttor - remember when Dave ran Orana Truck Rentals in NSW?

Peter Kemp (Coemar deSisti Aust) & **Richard Skarzinski** (T.C.P.) in Texas.

It's *that* time of month for Sonics' **Greg Simmonds** - time to find out WHAT'S HAPPENING out there! Secret revealed!

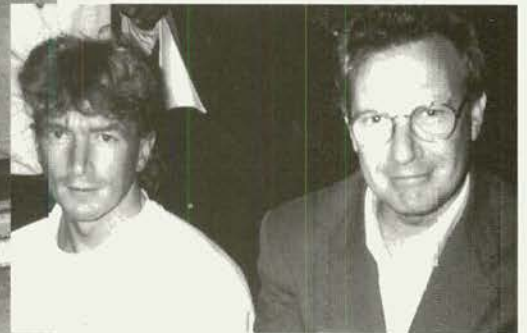


Mal Hadfield (Dynamic Music) & **Ben Finn** (Parramatta Pro Sound) - doing business.

Grahame Harrison (Mark IV) & **John 'The Beard' Clintn.** Both wearing ties?



Col Formston & **Ian Johnstone** - the Mark IV men hosting a Dealers pre-Xmas Lunch



Craig Foot (Novacastaria) & **Denis Braham** (A.T.S. Boss) in Dallas at an Intellabeam function.

Jands M.D. Robert Young delivers thoughtful Xmas gift to our office. Ta - but Chookshit?



Noel Bourne (GUVT), **Phil Stafford** (ELS) & **John McKissock** (Clearlight) at LDI92, Texas



At Mark IV's lunch: (left) **Gary Barr** (M.s.Proshop Qld), **Steve Bray** (AAB) & **Peter Troy** (Troy Balance), 2nd picture: **Matthew Kline** (Avsound), & **John McCaully**, (Noise-ox).



Nice Letters

Congratulations on the move to total independence (with the exception of bank managers, advertisers, creditors that don't pay, readers etc.)

In reference to the last issue of Channels, and the Random Components section:

1. There was over 100Kw of lighting installed on the rammed earth wall at the Strehlow Centre.

2. Calling Alice Springs a suburb of Darwin is akin to calling Melbourne a suburb of Sydney, liable to start a civil war. Not a good ideal!

I have also been intrigued at the number of spelling errors that appear through your erstwhile magazine. Have you ever thought about using a spelling checker? It makes reading (for those of us who get the magazine for more than the pictures) a heck of a lot easier.

May Connections prosper in the same manner as Channels did.

Rod Louey-Gung,
Integrated Media, Darwin.

Thank you for the copy of Channels, and especially the section you ran on 'Major Building Projects'. We particularly liked the line "... and others responsible listed for your harassment potential". Of course, we hope many in the sound and lighting industry will be interested in exploiting our sources of information and "cough up \$290 for a year".

Channels is obviously a very professional, well regarded magazine by those in the industry. I hope the transition to 'Connections' is a smooth and successful one.

Alison McIvor, Burwood Publishing,
Hawthorn VIC.

Upon my return from LDI Dallas it was indeed a pleasure to read of your announcement of 'Connections' publication. You can be assured of our continuing and expanded support given the similar format and distribution base to that of "Channels".

I would like to take this opportunity to wish you every success for the future with this publication, and may you grow from strength to strength with the deserved support from all segments within the entertainment industry.

Noel Bourne, Product Manager, GUVT, Qld.

No doom and gloom around here over the last issue of Channels. I think Connections can only go one way and that's up! The last issue of Channels was great, but with so much debate and controversy do you think we'd let sleeping dogs lie? Hal

It seems most people don't do much else apart from worrying about ads and articles in Channels (and probably will with Connections too). Is it really that much of a bother to them? I was under the impression that this was a free country. Publish and be damned I say. The medium is available for all to use. My advice is - don't worry guys, relax, have a beer - 1993 is here and we have a new magazine to look forward to (possibly a new P.M. too!)

One more question - who is Duncan Fry and why is everybody picking on him?

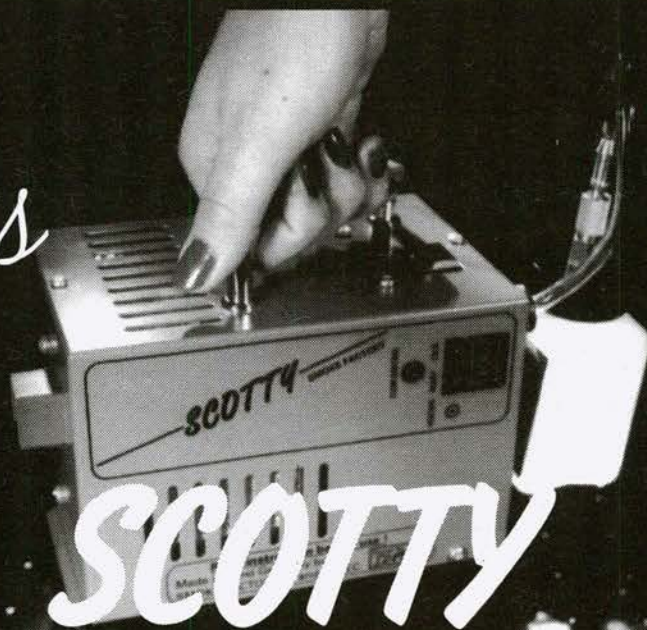
Good luck with the new mag.

Emmanuel Ziino,
Megatone Enterprises, Sydney.

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CIRCLE 141 ON READER SERVICE CARD

Duncan Fry vs. Ian Messner. Round 2. (Rated PGR)

In the final issue of Channels, two letters were published disagreeing with the points raised in one of my articles. One was from a Fred Amphel in Perth, who put his opinion in a calm, rational way, and the other was from someone called Ian Messner. His letter is signed 'Engineering Director' of Jands Production Services, and since it was faxed from Jands-Varilite I can only assume that it represents the official Jands Production Services attitude.

As a writer, I'm all in favour of free speech. I believe that any issue should be open to discussion, and all points of view allowed to be aired.

But when a director of a major production company resorts to the lowest form of libellous, personal abuse in an attempt to stifle any opinion that differs from The Gospel According to Jands Production Services, then I believe he has overstepped the mark.

Unfortunately he appears to have spent too long staring down the wrong end of one of his 'beloved' lights, badly affecting his eyesight. Apart from the personal abuse, he takes up a large amount of his letter (4 paragraphs) saying what great production values the Superstar show had.

Well, if he had been able to read, then he would know that my article agreed that the show was (and I quote directly from the article) "incredibly well produced", but it was the "regurgitating of previous success stories" and "recycled shows like JCSS" that are causing a loss to the "grass roots end of the business". That's all. The fact that Superstar wasn't a show I felt like spending \$41.60 on is surely my prerogative; I wasn't aware that it was compulsory to see it and like it. At no stage whatsoever did I denigrate the efforts of those who worked on the show.

However, I notice that there is no argument about the rough financial figures I worked out;

indeed Mr Messner's mention of "a platinum album, a record box office, a sell-out tour" suggests that I may have been conservative in my estimates. Perhaps the embarrassment of riches that the show has brought accounts for the self-justification and paranoia in his letter.

But Ian Messner is right about one thing; I certainly don't want to be a 'self appointed spokesman' for his industry. I don't want to be anyone's spokesman, least of all his, but I'll tell you whose side I'm on. I'm on the side of the thousands of local bands and PA operators who sweat away night after night in clubs and pubs around the country. The very same people and pubs that Ian Messner sneers at and ridicules in his letter, looking down on them from his privileged position as a very important 'Engineering Director'.

Doesn't he realise that at least 90% of people who work in the live sound business don't work on big concert productions, and will never mix on a major tour; at least, not while such production is concentrated in the hands of one company. Obviously not. From his rarefied view as an 'Engineering Director' he only sees what he wants to.

I'll deal with his other points briefly:

Half a million dollars for Homeless Charities is wonderful news, but I can't see what relevance it has to the story, except to relegate Australian music to the status of a deserving charity.

Yes, it was a juvenile April Fool exploit on a record retailer, but life would be pretty dull if nobody ever did anything silly, wouldn't it. Besides, I have to point out that most people with any sense of humour get a little chuckle out of that anecdote when I tell it. I try to write articles that are entertaining, and I make no pretence of them being otherwise. If Ian Messner doesn't like them, that's OK with me; no-one is forcing him to read them.

Lastly, I'm the first to admit that my book

"Live Sound Mixing" isn't perfect, but then I wrote it for people like myself who aren't perfect and don't know everything. However, that impediment has not stopped it from being a worldwide best-seller currently being translated into several other languages. Still, if Ian Messner would like to send me a copy of his best-selling book then I'd be happy to slag off at it the way he has done to mine.

Obviously he can't do this, because he hasn't written one. It's far easier to sneer at somebody else's book than to write one yourself so, to use a traditional Australian saying: 'Put up or shut up.'

Duncan Fry, Melbourne.

**Not wanting to buy into a class A Barney, (but enjoying the controversy anyway!) one thing needs to be clarified. Ian Messner's letter came WITH a Fax Header that stated it (the letter) was only his personal view, and NOT the official J.P.S./Vari*Lite company line. -Ed*

Problem with this

The only problem with Channels and its link to Jands was:





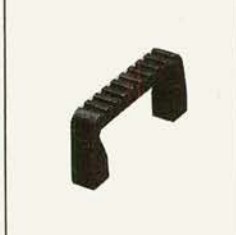



- (1) The dominance of Product News and Advertising by Jands, and ...
- (2) The bias of press releases. Releases on Jands product that competed strongly with our products tended to be very biased, ie: actively denigrate our products wherever possible and offer no balance when we were better.

As a non-specialist company in audio, we cannot compete with Jands' time and money. Are any of these concerns not likely to re-appear in Connections?

This doesn't mean I wasn't happy to use Channels for releases (thank you for printing them), or that I won't use Connections.

Name & firm withheld.

**Do any readers share these views? Tell us.*

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GETTING ROCK & ROLL ON THE ROAD

from page 17

stage right. That creates a large insurance incident, it limits any accidental (claim) we may have where she can't do a show for 30 days because she's injured her ankle.

Marty Holm: Our insurance on that tour was \$5000 a week!

Steve Lemon: On the last two Bon Jovi tours we've had a couple of ridiculous stunts with Jon Bon Jovi travelling over the audience along an I-Beam, the whole thing weighing 7000 pounds and overhanging the audience 120'. The insurance company doesn't want to know about that. If the artist requires and demands this sort of thing then they're going to have to be willing to self insure themselves, because no amount of insurance is going to cover a falling object onto 20 people.

A couple of years ago we had a back board of a basketball arena crash onto the sound and lighting board - a QM-500. Thanks to the touring professionals we had at the time - LSD and Showco - we got the show up on time. Thank God.

Richard Hartman: But you're talking about a different animal when you're talking about Pink Floyd. They didn't take insurance into consideration. They took extra measures with safety. Pressing that envelope was what Pink Floyd did - the episodes with Flying Pigs were trying for the insurance company. We had several instances of Flying Pigs (getting away) around the world, getting tangled with smoke stacks at power stations or radio masts. Then there were Pigs descending on highways, lots of people screaming and yelling, people who'd never SEEN a Flying Pig before.

Then there was the inflatable pyramid roof that took off and landed in the corner of a distant parking lot - that didn't come back in sections any greater than about 2 square inches, because it had been immediately torn apart by the fans!

Morris Lyda: With so much help out there from bands like Guns and Roses it makes it a little more difficult to get insurance than it used to be, artist non-appearance insurance is going to be more difficult to get. You can predict from a production standpoint whether a shows in good shape or not, just by looking at the number of trucks, the amount of time it takes to set it up, and the personnel involved.

From an artistic standpoint of a performers capabilities it's very difficult to ascertain if an artist is capable of carrying off this number of shows. When they walk up there (on stage) at 5 o'clock in the afternoon, and you can't hear

them talk, calling the insurance broker at that point of time and saying 'we're in trouble' is sad. Insurance brokers this past year have been really hit from a standpoint of artist non-appearance. We had a couple of problems with Genesis, I think in future insurance for non-appearance due to vocal problems is going to be very, very expensive.

Does it really take a year to get a tour on the road?

Morris Lyda: It takes a minimum of six months, and probably more like ten months to a year to get a major show out. That's what it should take. If you've got three months, it costs the artist a tremendous amount of money. Jackson went out with three months prep, they ended up buying time. I never have enough time to put my shows together anyway!

What's wrong with taking out a stripped down show and charging a lower ticket price?

Morris Lyda: Genesis have never done stripped down show. When an audience buys a ticket for Genesis, they know they're going to see a show like they've never seen before. I don't think a stripped down show with Genesis is going to achieve anything.

Steve Lemon: ... Whereas a Mellencamp can get around with a three truss tour and no distractions. He doesn't want the audience looking at the moving lights anyway.

Can an act re-use a set, or modify it for another year?

Marty Holm: Let me tell you, after a tour the sets are history, they get demolished. We take those sets, sometimes well over a million dollars worth, and they get trashed. We have trucks drive over them, we

don't want to see them again.

Steve Lemon: In contrast, we had the Scorpions use a set last tour that they used before. We took it into the shop, we spent \$30,000 refurbishing instead of \$100,000 building.

Morris Lyda: The artist might think they can re-cycle the set, but then they say 'let's have it a little taller here, a little thinner there', and you end up re-making the whole set.

Michael Keeling: It can cost \$1000 a month to store a set.

Don't you end up with an overlap of positions and responsibilities on a big tour?

Steve Lemon: With U2 we had four qualified Production Managers out on the road, with only one carrying the title, on a tour that is very title oriented. We have the Tour Co-ordinator, Production Co-ordinator, Production Director, Production Manager, Assistant Production Manager, Assistant to the Assistant, Junior Assistant, Senior Assistant. But I try to

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Catriona Forcer caught up with a former Sydney-sider who a few years ago moved onto slightly greater things in another land

I was Elvis' soundman - Bruce Jackson

Bruce Jackson describes himself as one of the geriatric founders of Jands having formed the company 25 years ago with Phil Storey. Bruce and Phil met at High School where they ran an AM radio station using an antenna run from one end of the school to the other. They managed to broadcast all over Sydney until they got busted. The two entrepreneurs then went onto University where they began to build strobes, colour organs and other prehistoric pieces of lighting equipment. They began to make instruments for Roger Foley who was then running a company called LSD Fog. As demand took off, they began making things directly as Jands. Originally they called themselves J and S until Roger Foley said 'that's bloody obvious - Jands!'.

The company grew building PA systems, lighting and fog machines as well as operating a successful rental division. "The company started getting bigger and bigger and Phil and I started fighting!" explained Bruce. "I had the shits with it. Eric Robinson was working for us, and he saw the opportunity to buy out the company along with his brother Ed, and brothers Paul and David Mulholland. I left to do a large lighting installation in Brisbane and Phil remained to work for them."

After engaging in some recording with Howard Page, Bruce decided to go to London via the USA. "I had met up with Clair Bros. at a Blood, Sweat & Tears show in 1970 when they bought the first real PA system to Australia. I knew a way across the back fence into the concert where I met Roy Clair. He showed me around and I thought the system was amazing. He left the PA in Australia with me because he was coming back to do a tour with Johnny Cash and so I helped organize and build some cabinets for that tour. So when I was in the States I went to visit him. They were a tiny company then who had just got going and were based in a barn in the middle of nowhere. They really didn't have that much electronic expertise so I helped them design new mixing consoles and grounding schemes. Infact I helped them organize a bunch of techniques which they still use.

I then started touring with various bands and in 1970, Elvis started touring again. Back then sound companies didn't do the whole tour, only regional reinforcements. I started doing it representing Clair Bros. and the other companies had all these problems because it was the first show ever to be hanging sound from motors. This was because when you hang things you have to run long speaker cables all the way down to the amplifiers and the next thing, when you're driving those long lines, things start oscillating and blowing up. We had less blow up than the rest of them and eventually I was asked to do all the shows."

So at the age of 21, Bruce Jackson found himself mixing and engineering for Elvis. The

kid from Sydney was responsible for the sound quality of the worlds most famous singer playing five nights at Madison Square Gardens, New York. "It was great fun," remembered Bruce. "We'd have 4 or 5 jet planes on tour and he would tour like nobody else did. I got a lot of experience at an early age, doing things at a level you wouldn't normally get an opportunity to. I got quite friendly with Elvis and so was involved in all the various dramas that would go on. I remember him calling me at 3am saying he wanted to see me. At the time we were on tour doing about 21 shows in 19 days so I was really tired. Elvis had just bought a fast 4 engine plane complete with queen size bed, second bedroom, conference area and a set up for 21 people.

Anyway, I go to his room and there he is sitting in bed with his karate coat on and his gold plated gun by his side. He says to me 'Bruce, the goddam sound system on the goddam plane is all fucked up. I don't care what it costs, fix the goddam thing, please.' I was told to take the plane up to see what I thought and consequently I bought ten JBL control monitors and a bunch of power amplifiers. So there was a couple of thousand pounds worth of HiFi gear on a plane where normally you worry about every little pound but it flew so empty it didn't matter. The funny thing is that after I got finished, all Elvis ever listened to was Monty Python tapes on the TV!

Elvis always had good intentions about rehearsing and I'd fly down to Memphis in my Crummond Tiger overloaded with sound equipment. We'd set up in the racket ball court and then we'd sit around in front of the TV watching trays of junk food go up stairs to his bed room and he'd never even show. We sat there with the band and he wouldn't even come out of his bedroom. We'd meet him on tour, infact we did three tours without him even meeting the band off stage. I was one of the few people who got to talk to him before a show. I remember one time he wanted to talk to me privately and he took me into a toilet for a conversation!"

Bruce did hundreds of shows with Elvis up until he died. Or did he? Bruce's curious reply to the question of whether Elvis is still alive was 'if you want to believe it and that makes you happy, I guess he is but I haven't seen him'. Hmmm. During his time with Elvis, Bruce pioneered many audio techniques that are now taken for granted, like hanging (flying) sound. In between Elvis tours he came back to Australia and started up Clair Bros. Australia which later became Artist Concert Tours and then another part of Jands. (*Following a buyout -Ed*) Bruce developed a prototype mixing console which is now somewhere in Asia. That was in turn a prototype for the Clair Bros. console which is still on the road today.

In Australia Bruce did tours for bands like

MUNCHY

Bytes

Our thanks go to Jands for supporting the inception of Channels (RIP) and the development of that publication.

As you may recall, Munchy Bytes began as a light hearted general information newsletter back in 1986 and has been produced by Bytecraft on a somewhat irregular basis. With the advent of Connections, Munchy Bytes has been reborn for these pages.

While we were sunning ourselves over Christmas, Bytecraft engineers Michael and Andrew have been enduring the French winter with temperatures of -6° to install and commission a Bytecraft *State* flying system at the famous Opera House in Lyon.

More on the international front. Christmas also saw the first major West End installation of Bytecraft 483 dimmers with some 420 channels installed into the Prince Edward Theatre to control stage, house and exterior lighting.

Bytecraft's national service network continues to expand with two new faces joining the team; Andrew Greenwood ex RAF and Murray Rogers ex London West End. Murray is spending a short time in Melbourne before going to Sydney with the Phantom of the Opera to help settle in the relocated show.

Still on service, Joe (Dr Dark) Krnjak has recently returned from a trip to Hong Kong and the UK where he studied a range of new products from Strand Lighting and other manufacturers. Trouble is, Joe can't resist temptation. Really Joe - three Light Palettes as excess baggage?

Different Joe but same Light Palette desk. While Joseph and His Technicolour Dream Coat has enjoyed instant success, in the background, controlling six Bytecraft 48 way Tour Series dimmers, is the first Strand LP90 Light Palette installed in Australia.

In the new faces department, Gillian Simpson is another relatively new addition to the Bytecraft family. As reported elsewhere in this issue, Bytecraft has been appointed as the sole Australasian Distributor for Strand Lighting and Gill, along with Stephen Webb in the warehouse, has been living and breathing everything from lamp bases and barndoors to HMI's and ballasts.

Until recently, the score sheet showed VAC 4, SOH 3 and AFC 2. The SOH has raised their score by one to level with the VAC with the installation of their latest Galaxy. Stay tuned. As this new baby was born at Bennelong Point, the father, Peter Marshall, (*AKA 'Mother' - Ed*) was overseas leaving step dad, Eddie Fardell, to dote over his new arrival. In fact, my spies tell me that Eddie has even moved his office to be nearer the new pride and joy. Good to see that a sound man has finally seen the light.

Phone Bytecraft - (03) 587-2555



With buddy Shane Morris (left) - and The Bruce (Jackson)

The Jackson Five, T-Rex, Rod Stewart and The Faces but after a while he decided to return to the USA. It was there that he was asked to help sort out some problems on a Bruce Springsteen tour and, as they got on so well, he decided to stay. "He gave me a lot of latitude as far as making decisions, spending money etc.," said Bruce. "It was fun for me because I like to try new ideas and work on new techniques. After the first tour I did with Springsteen, I left Clair Bros. to become independent. I did all of Springsteens tours, except for the last one. Another group I enjoyed working with were Fleetwood Mac because they were great fun and always toured in style. I think they were probably my favourite group to tour with."

After nearly twenty years touring Bruce was feeling fairly burnt out. In between tours he had been doing electronic design and eventually he hooked up with Betty Bennett who was the president of Soundcraft in the States. Leaving the road behind him, Bruce decided he wanted to stay in one spot and so they started up Apogee Electronics - Apogee coming from Bruces' obsession with flying. "About a month later Apogee Sound started up but there is no association, we just refer calls backwards and forwards," explained Bruce. "We started out doing stuff for digital audio and basically digital audio was supposed to be Gods' gift to audio but it had a lot of limitations. So we addressed those limitations and developed some components which you could replace the Japanese components in these digital multi-track recorders and two track mastering machines that would let you make digital audio sound more natural. It removed peoples' dislike for digital audio. We built these little anti imaging filters that filter the audio with open, clean results.

In hindsight it was a pretty ballsy thing to do but we retrofitted into these digital multi-track recorders, which cost between \$150,000 - \$200,000. Most people wanted to know why something that already cost that much money needed fixing up but when they heard the difference, they understood. We've sold about 25,000 of these little modules. We then went on to look at a whole lot of other areas in digital audio and we've built a reputation as a leading company in that field. Now we make very high quality analogue to digital convertors. Basically it's all just high tech little modules and filters, analogue to digital, digital to analogue conversions. All bits and pieces which are used in the production side of things. Pretty much all of the mastering guys in the States and now a lot in Europe, with a small handful in Australia, use our digital analogue convertor, which was the first one out, as their reference for listening to digital audio when they've done a mix.

It's a different world to touring but my experience of being on the road, listening and knowing what things should sound like, gave me the knowledge of being able to work on the digital side of things and make things sound natural." *Shane Morris is Apogee Electronics' agent - (02) 953-0020.*



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INFORMATION TECHNOLOGY

Magnasync Digital Voice Logger Seminars Soon

AWA say the Magnasync Digital Voice Logger (DVL) is the answer where analogue multichannel units currently record up to 80 channels of phone or on-air audio. The beauty of the DVL is, of course, that Digital Technology (*there is that damn buzz phrase again*) allows instant access to the required track without a lot of hunting about. In fact the DVL can give you information while the system continues to log (record) other information.

Analogue systems need to be

CIRCLE 113 ON READER SERVICE CARD

stopped in order to replay material. The material is stored on hard disk and backed up onto an optical disk for storage. The retrieval of information on the DVL can be as easy as logging a time into the computer - no searching required. The DVL is expandable from 2 to 80 channels, and the redundancy factor of having the hard disk recorder AND the optical disk recorder is a big plus, say the AWA'ers. To attend a seminar/demonstration, contact Michael Guest on (02) 888-9000.

Shure 'Consensus' - Audio Teleconferencing System

SHURE BROTHERS have been producing products for contracting and audio-visual for decades now, the latest is Consensus - an all-in-one teleconferencing system with some neat features. This is a plug in and go tabletop module containing three Shure Condenser microphones, a loud-speaker, and a whole pile of digital electronics. The idea is to relay a meeting into the phone system without drama, Shure have applied years of research into doing this. They say it is vital to have a system that is full-duplex, so the natural 'give and take' of enthusiastic, high-energy discussions can be conveyed down the line without momentary pauses. Communication in two directions, this means. While Consensus does this, it doesn't get thrown off by the rustling of papers and the hiss of the air condi-



tioner. Consensus has enough 'smarts' on board to equalise poor acoustics out of the equation, and overcome distracting noise in the room. You plug Consensus into your phone socket, and then dial your other party on the inbuilt keypad - then talk. For more information about Consensus, call Peter Grisard at Jands.

CIRCLE 114 ON READER SERVICE CARD

Megatone's new mega-Strobe is dimmable

Megatone, through the Australian DJ Supply Co, have new Strobes and Controllers from Geni Electronics Australia. How about a dimmable 1500w Strobe for \$999 - the controller for it will control up to 16 strobes. A non-dimming version

costs \$799, with a Disco-Strobe for \$269. A single strobe controller and a 4 channel strobe controller flesh out the range.

More details from Megatone, (02) 564-2277.

CIRCLE 116 ON SERVICE CARD

Is Size related to Volume?

Anchor introduce 50w Mosfet Powered Monitor

Anchor are a Californian company who make really neat little devices of a PA nature. The AN-1000X powered monitor has a 4.5" woofer with a ferrofluid-cooled dome tweeter. The back of the unit has an XLR for mic input, a jack and an RCA line input. Line out and speaker outputs complete the back panel, inside is a 50w mosfet power amp which should be adequate we think. On the front panel are volume, treble and bass controls. The unit can be rack mounted, and is magnetically shielded so you can sit it next to video or TV monitors without whizzing the picture tube!

The people importing Anchor are

Entertainment Services of Australia (ESA). Call (03) 562-4505.

CIRCLE 115 ON READER SERVICE CARD

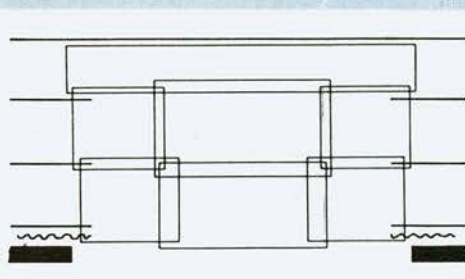


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sides will allow balancing for maximum 'enhancement' of the look of the scene.

TIPS: Adjoining areas MUST overlap, both side to side and back to front. Remember these are areas where an actors head is to be lit, and they are unlikely to be the same as the light patterns on the floor.

Courtesy Bytecraft. From *The Strandbook*.
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Roland & AFTRS innovate

High-Tech course at Roland's new Studio educates

The new studio at Roland's Sydney HQ bristles with up to now technology, a model for making and producing music 1993 style. Rather than just a product development cave, the facility has been thrown open as the centre of an innovative course run by Roland in association with the AFTRS. It's an intense 21 week competency based course covering music production. 18 participants pay \$2100 each for stage 1, which entails a Tuesday night lecture, then a scheduled hands-on workshop session in the studio later in each week.

The presenters are both infamous, **Tom Lubin** is a former Yank who has produced useful training videos, lectured, and written for magazines around the globe. **Andrew**

Scott founded Rhinoceros Recording Studio in 1976 and built it to greatness. He sold out triumphant, and since has designed many studios including Jimmy Barnes' home version, and of course engineered many a session. Guys with cred.

The course is not open to anyone with the money. You need a working awareness of what you are getting into, according to Roland's Rick Gell. Aside from the technical stuff, the course will touch on the basics of starting a music business.

During the course, participants need to work on several field projects, study, read and be quizzed on matters so far. Details: (02) 982-8266.

**See our story on Roland's studio, page 27*

CIRCLE 117 ON SERVICE CARD

16ch: 2 grand

MELBOURNE: C.M.I. are importing the new ROSS Minimix, a 16ch rack mount mixer that looks suspiciously like one Hill Audio make. In any case, this device has all the goodies, starting with four auxiliary sends and two band EQ. The price is somewhat less than \$2000 retail, which is bargain territory.

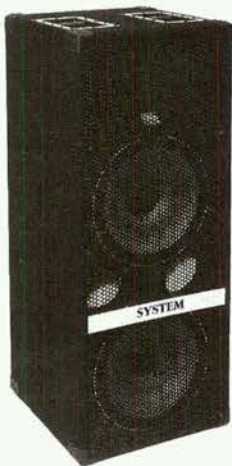
Two inputs per channel are supplied, mic inputs are XLR, and you can switch to Line input, which is through a 6.5mm jack. The first two auxiliaries are pre fader post EQ, so are only dependent on the input gain. Auxiliary 3 & 4 are post EQ and post fader, so thus suitable for effects sends. Each channel and the master pair have an 'off' switch. Details: CMI (03) 315-2244.



CIRCLE 109 ON SERVICE CARD

System 1400 with JBL

JBL loaded System cabinets are Jands' recommendation where easy to use composite boxes are needed. Loaded with V.G.C. woofers and Bi-Radial horns, System comes in two main PA configurations. The System 1400 (right) is loaded with two 2226 15" woofers, and a 2" 2445 compression driver on a Bi-Radial horn. A smaller single 15" box - System 700 - has a 1" compression driver. Two subwoofers and a new Satellite box are available. Details: (02) 516-3622.



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NEW MITEK MIXER FAMILY

German Manufacturer Releases 'Performer' Variety

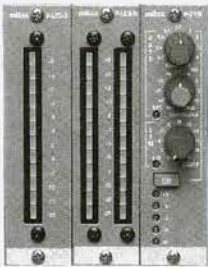
The Performer is a range of mixing consoles that offer Stereo, 4 subgroup, or 8 subgroup configurations. Unique dual stereo masters are fitted to each type of console, which are switch selectable at the channel. This means

The Performer configurations available are: Stereo- 16, 24 & 32 channels. 4 buss & 8 buss- 24, 32 & 40 channels. In addition, an 8 channel expander is available for each console type, having it's own external power supply.



you can have different assignment of channels to outputs, useful where a stereo subwoofer pair is used for effect. Quasi-quadrophonic is possible here, but the feature is more akin to an ultra-basic matrix output, or 'Zone B' sends.

In true German style, Mitek say you can make "A Cockpit For Sound Pilots", (I LIKE this concept. -Ed) by adding on an overbridge. The bridge can then be optioned with LED ramps for input gain, or individual processor modules. a gate/limiter module is available for each channel. (See Picture below).



Each channel has four band EQ with sweeps for both high-mid and low-mid. These sweep the effective point to anywhere from 70Hz > 700Hz; and 700Hz > 12kHz. The high frequency fixed point is 12kHz and the low:80Hz.

Five auxiliary sends, pan, group assignment and a mute button make up the channel features, along with the now obligatory 100mm long throw fader.

The Mute function on these consoles is very cunning, comprising a MIDI mute/memory device that allows up to 100 plus mute presets. MIDI activation of these mutes are quite possible, but unlikely, perhaps?

Imported by Australian Monitor, (02) 816-3544.

CIRCLE 103 ON SERVICE CARD

Return of the Glass Effects disc. Did it ever go away?

In Theatre the traditional way to project effects on a back cloth used to be with an optical projector (was it a Patt. 252?) and a slowly rotating glass wheel. Strand nowadays make the Cadenza EP, onto which you can fit a VSF (Variable Speed) effects wheel, with rain, snow, fleecy cloud flame or whatever. White Light in London make this modern version, contact them: FAX (42)2-839-773.



BUSINESS

Dollar Fall Inflates Imports, U.S. Products To Rise

As our dollar falls in value, mixed blessings afflict our distribution industry. Those distributors with something to export, like Australian Monitor and Jands, stand to benefit - while anything imported is slated to increase in cost.

All currencies are affected, the Japanese Yen has devalued worse

an exchange rate of just 72c - in fact some importers had been working at the higher rate of 74c. This would make the rise in price greater than indicated on our chart.

The chart is a good rule of thumb, generally the retail price here in Australia is 5 times the original cost in the U.S.A. - and along the way the margins are not really excessive,

INCREASE IN COST; IMPORTED ITEM COSTING \$10 IN THE U.S.A.

Exch Rate	US \$ Cost	A \$ Conv.	Freight (est)	Landed Cost	Tariff Duty	Markup +60%	Whole-sale	Sales Tax	Markup +50%	Retail Price	% Incr.
72c	10.00	13.89	1.00	14.89	2.53	10.45	27.87	5.57	16.72	50.17	0%
71c	10.00	14.08	1.00	15.08	2.56	10.59	28.24	5.65	16.94	50.83	1.3
70c	10.00	14.29	1.00	15.29	2.60	10.73	28.61	5.72	17.17	51.51	2.6
69c	10.00	14.49	1.00	15.49	2.63	10.88	29.00	5.80	17.40	52.20	3.9
68c	10.00	14.71	1.00	15.71	2.67	11.03	29.40	5.88	17.64	52.92	5.2
67c	10.00	14.93	1.00	15.93	2.71	11.18	29.81	5.96	17.89	53.66	6.5

% Increase assumes original costings done at 72c exchange rate

than the US \$, so rises are either being effected, or have occurred already on almost all imported equipment, regardless of origin. Our chart (above) demonstrates the usual effect of a swing downwards, where the original price was calculated on

compared to many other industries.

The first markup (60%) is the importers margin, from which the cost of arranging the shipment, storage, marketing, warranty, and all overheads must be taken. Not to mention the differential between actually paying for the goods, say in January, waiting 6 weeks (at least) for arrival, selling the goods, then waiting another 60 days for the Retailer to pay. A long wait.

Equally, the Retailer (with the 50% markup) must buy the goods into stock, usually pay freight, and find a purchaser. Along the way the average small retailer with 3 or 4 staff will need to find at least \$3,000 in sales per DAY to meet the overheads - and that is a lean operation.

As our chart shows, the direct Government 'grab' of the action is about 13% - the 20% Sales Tax rate is levied on the wholesale price. If you import yourself, you'll pay a greater Sales Tax amount, & duty.

HOW SMART IS IMA BLOGG?

Well, to start with there is the question of TAX. IMA has a Tax Deduction now, because he/she is a Connections Subscriber. The main reason IMA chooses to Subscribe is to **save 25% against the cover price. IMA pays \$2.95 per issue, not \$3.95, and the mailing price is included!** The second reason was to get the magazine FIRST, because Subscribers are mailed their copies first. This is only fair! But the third reason IMA signed up was to claim the whole years Subscription as a Tax Deduction. You can too, even if you're a PAYE employee. See the subscription card towards the middle of the magazine.

HOW Using Polar 'Null' angles



The 'Null' angle is where the microphone is least sensitive. Different polar patterns have

Nulls at different angles. Aim the 'Null' at background noise to minimise spill.

Microphone Application Guide © Crown. Courtesy Bose Australia.

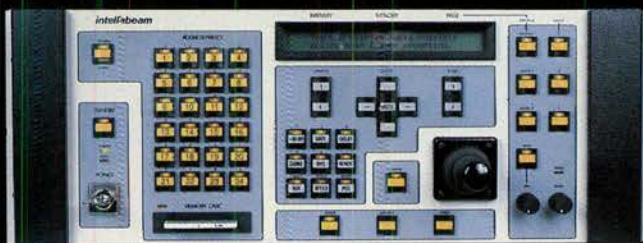
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Tannoy CPA-5 Contractor Series

SYDNEY: The CPA-5 has been designed to offer the user one of the most versatile speakers on the market, according to importers Syntec International. The point-source driver is both woofer and tweeter together, with a response of 80Hz - 22kHz - in fact it is



still effective at 20kHz, according to the plot. The power handling is 100 watts, size is 219mm high, 155 w, 129 deep. Mounting hardware includes a uni-bracket.

Details: Syntec, (02) 417-4700.

CIRCLE 119 ON SERVICE CARD

Karaoke from Denon

SYDNEY: They are still singing in the bars and nightclubs, according to the Denon-straters at AWA. They have the HMA-500 on offer at \$799. It is a Karaoke preamp that will accept a VCR or Laserdisc player IN, and send audio and video OUT. Key changes and DSP echo are on board, and three mic's may be connected at once. All together now : 'Are You Lonesome Tonight ...' etc. *Call your nearest AWA office for an accapella rendition today!*

CIRCLE 120 ON SERVICE CARD

BRIEFS

OTARI has a new automatic audio cassette loader - the AL-662. It has a conversion kit to handle DCC when that format gets going. *Details from Amber: (02) 975-1211.*

FAIRLIGHT are selling MFX-2's steadily, Apocalypse have added one, as has the Australian Film and TV School. *Details from Fairlight, (02) 212-6111.*

SOUNDTRACS new SOLO Monitor console has 10 sends, and a dual mic split on every input to avoid the need for a multicore splitter. This can be a real advantage. More details next issue.

Distributor is Amber, (02) 975-1211

FAX your news to Connections- (02) 876-5715. Deadline is always the 14th of the month!

SALES

Industry reports rising activity, December strong

Reinforcing reports of an upswing in the United States, local distributors report sales in December were ahead of expectations in Audio, Lighting and HiFi markets. Signs of a greater-than-expected run of sales started in late september, with October and November generally ahead of budgets. The surge carried late into December, surprising relieved head executives after the two previous Summers disappointed. Behind the rhetoric is the possibility sales were budgetted very conservatively this season - but a mood of positive boyanacy leads into Autumn.

Reported activity:

YAMAHA DIGITAL: 3 DMC-1000 consoles, 3 AD8X, 3 DTR2 DAT recorders to Audiobrien; NSW. 2 x DA80XD to David & John Recordings. DMR-8 to Adam Studios, Townsville. Vendor: **PA People**. **SOUNDCRAFT/JANDS:** Vienna 40 channel & 24 channel consoles to Adelaide Festival Centre, Vendor: **GUVT S.A.** Venue II: 32ch to Mackay Entertainment Centre, Vendor: **Kennedy Amplifier Hire**. Soundcraft 6000 to Dept. Education Media Centre, Vendor: **PA People**. Soundcraft 6000/32 w/patchbay to Edith Cowan Uni, Perth. Vendor: **Kosmic**.

VENDORS & SUPPLIERS can report significant sales to: Sales Watch, Fax (02) 876-5715, or PO Box 439 Epping 2121 NSW.

INKEL PUT PA IN THE BOX

SYDNEY: Magna Systems say the SYS 9240 is every small installations answer to a compact 'all-in-one' PA. This multi-PA has 240 watts output, with in-built double cassette deck, AM/FM tuner, 7 band graphic EQ, and 10 external inputs. 10 speaker zones can be switched, and up to 6 microphones connected. A siren and a chime are installed, with a selectable microphone

mute. This system thus becomes extremely useful in places like schools, where



noise. The Guns & Roses tape can then resume playing, having been muted by the dulcet tones of She Who Must Be Obeyed!

More details on this machine from Magna Systems, (02) 417-1111.

CIRCLE 118 ON SERVICE CARD



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READER SERVICE CARD:

You can obtain information on Products and Services in this magazine where a reader Service Number is indicated. Just fill out the Reader Service Card near the middle of the magazine, and send it to us.

NEW SOUNDTECH SPEAKERS

Electric Factory debut new range against Ross

Pitched hard against ROSS in the retail arena, Soundtech have a new line that includes the RT215C (pictured right) at \$1449 sell price. It is a dual 15", 640/1200w trapezoidal 2 way box. Price points are serious in this sector of the market, where products are pitched at musicians and semi-professional operators alike.

The Sound Tech range starts with a 12" 2 way box at \$1149, and works through the BT15HC, a 2 way box with 15" woofer and horn, offering 250/400 watts output at \$1249 sell. There are a pair of three way boxes, the BT 156C has a 15" woofer, 6" midrange and horn, while the BT 153C has a 15" woofer with mid horn and h/f horn. These both get down to 55Hz.

For more details call the importers, The Electric Factory, on (03) 480-5988.



The Sound Tech PT215C box (above) delivers between 640 and 1200 watts. It is trapezoidal, and the frequency range is 40 - 19KHz, probably at -4dB (not stated). The rear connector panel (left) has a Speakon connector (not clear in our pic) for full range input, along with bi-amp input via 2 jacks.

CIRCLE 121 ON SERVICE CARD



A final note

That's it, almost the end of the first Connections. We've tried to spread the contents to appeal to the interests of our diverse readership. In the month leading up to deadline we launched the magazine, set the style, signed up launch advertisers, and experienced another hot Aussie Christmas. Everyone said 'Great idea, but it's a bad time to start a new magazine' - but we did it anyway.

In truth the move was supposed to happen last Winter, but it was important to satisfy our obligations to our previous publisher, who owned 'Channels'.

Then there was the diversion of an offer from a publisher in the United States, who wanted us to take over a magazine there and give it a workover. Naturally this needed investigation, so more sand dribbled through the hourglass.

In reflection, either staying on at Channels or moving to the U.S. would have been safer and easier than starting this magazine - but hey - this is a challenge! The finances are tight, because we print here in Australia at greater cost than many other magazines. We **don't** have a massive national magazine company

behind us with better buying power. When we need to get information interstate we have to fly there. It all costs us more than it might cost a savvy conglomerate.

Finally we've got to be sure this magazine gets to every relevant person in the business, and that the material inside is interesting. You can help us here, because your thoughts and suggestions are really, genuinely, appreciated. Without your continued feedback (and we got plenty with Channels) we couldn't produce a magazine. Over to you - let us know how we're doing!

HOW YOU CAN PARTICIPATE IN BUILDING YOUR INDUSTRY MAGAZINE:

1. Letters - suggestions, industry comment, situations. Let us hear your view.
2. Articles - we are open to any suggestion. You may wish to write for us.
3. News - you may not think it's news - but call us anyway. We will listen to you!
4. Right of reply - we may not always get it right. You should point out inaccuracies or errors, so we can put the matter right.

CONNECTIONS. Phone: Julius Grafton (02) 876-2612, Caroline Grafton (02) 876-3530.
Fax (02) 876-5715. Write to: P.O. Box 439, Epping 2121 NSW Australia.

More Exciter Data

While most people think ordinary Exciters 'work their magic by introducing additional harmonics', this is untrue according to Audio Visual Designs of Sydney. They say the HOEF SPECTRAL EXCITER II - Class A - is not just another exciter. Of course, you'd expect them to say that, wouldn't you?

So, to cut to the chase, they say the Hoef EX II will reveal additional harmonics and rich overtones, because 99% of the other exciters on the market work by phase shifting alone, while their device is a real psychoacoustic processor.

Statistical mass research is, Hoef say, the best way to understand human hearing. This reveals there are numerous NOT YET DETERMINED psychoacoustic structures which are the basics for the quality of human sound perception. Yup.

The Hoef has 4 band adjustment, bass exciter, and room exciter processor all on board. Call A.V.D.: (02) 550-0982.

CIRCLE 148 ON SERVICE CARD

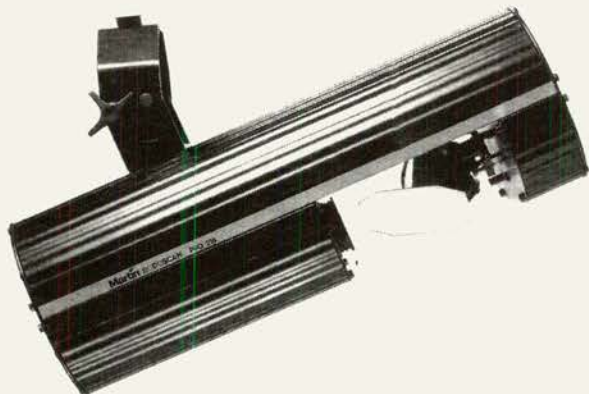
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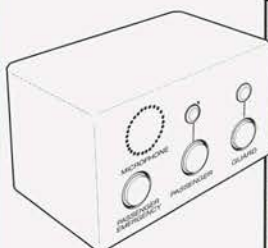
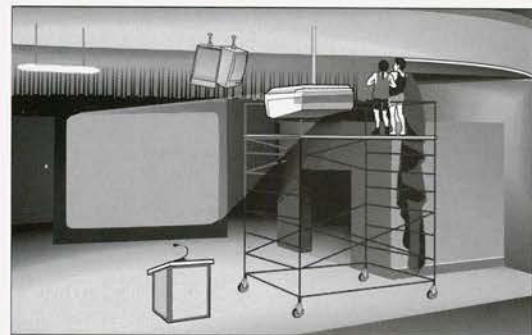
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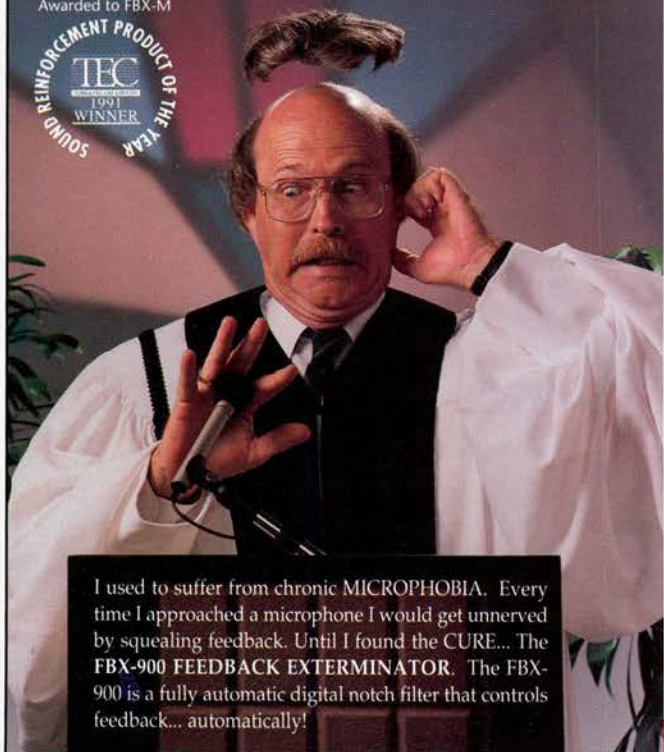
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Microphobia

(mī·krə·fō·bē·ə) n. The fear of feedback.

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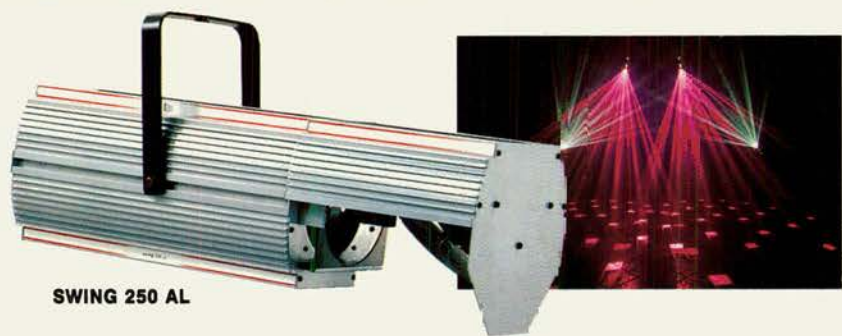
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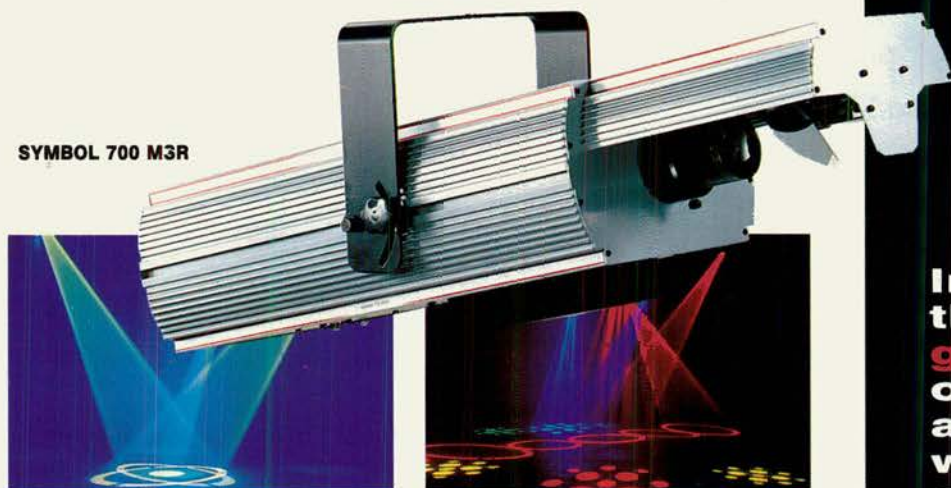
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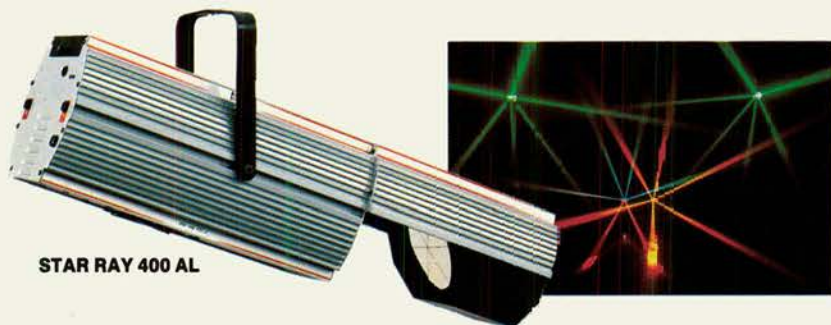
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CIRCLE 123 ON READER SERVICE CARD



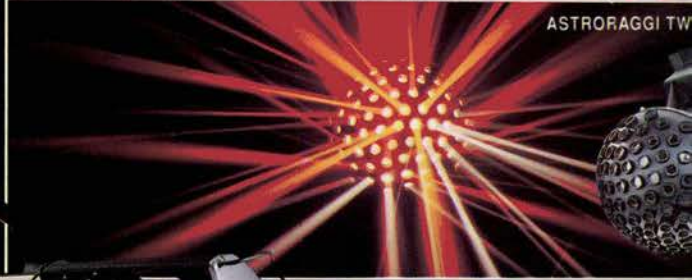
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