

Channels

Studio News,
A-V & Contracting:
- big sections inside.

Australasia's Professional Sound and Lighting Magazine

Published every 6 weeks

Distributed DIRECT to industry professionals

Issue 18

15th December '92 - 1st February '93

SUMMER BIZ BOOMS



THE INDUSTRY is experiencing an upswing larger than anticipated, with strong equipment sales ahead of a buoyant summer boom in equipment rentals, production, and venue business. Internationals are locking strong through until the season slows in May, with Paul McCartney, Guns, & Elton all selling well. Leading Promotor Michael Coppel told journalist Brett Thomas in Sydney that "Japan is suffering," (from recession) "but it doesn't seem to be affecting the (touring) industry here. People are prepared to spend the

BEACH BOYS play outdoors in Sydney - although the tour lost, the local industry benefitted.

money." 2nd tier and local touring looks like returning a healthy season, while the Channels Studio Tracking Guide plots an upswing in Studio business throughout the country during Spring. Equipment sales in this sector are still sluggish, but product driven. Availability of ADAT and the impending Tascam DA-E8 Digital 8 Track indicates the market will spend, but is product driven. Moving Light distributors are writing record business as we go to press.

inside

Departments - all the the Regulars!

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MEGATONE

The Sydney firm hosted a Martin product night at year's end. Pictured on left are Martin agent George Louxas and Megatone's Emmanuel Ziinc (right). The moving light show was programmed by David Trenear. Lighting firms are turning to running trade displays, with Premier announcing a three state show run on Page 9.

Channels FAX
(02) 876-5715. Open 24 hours

FINAL ISSUE

Channels is no more. See Page 3.

You Can Take It With You.

Full of Features and Convenience.

The Shure VP88 MS Stereo Condenser Microphone marks a new age of convenience in the art of live and recorded stereo.

While reducing the setup complications normally associated with producing quality stereo, the VP88 offers a variety of stereo signals – from a single source – that never degrade if combined into mono.

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VP88 shown actual size.

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And the VP88 is a remarkable value. No other stereo microphone gives you so much versatility and quality at such an affordable price.

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JANDS

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Channels is no more- Jands explain why

This edition of Channels marks the end of an era. This is the last Channels. The idea of a relevant industry magazine arose in late 1990 when Julius Grafton was contemplating an excuse to return to Sydney after a "mid life crisis" moved him to Bathurst. In discussions with Jands and other suppliers, it was felt that the available media was not targeting our industry in a specific manner and was certainly not providing relevant editorial, value for money advertising, or even good gossip. We approached various other suppliers to see if they were interested in a joint venture but, of course, as soon as up-front money was mentioned, it became too hard.

So we went alone, received praise from most, accusations of bias from a minority, but generally a favourable reception. From Issue 1 in December 1990 to this issue, we have moved from a twelve page black & white newsletter to a 68 page colour magazine, carrying advertising from most of the significant players in the Australian Sound and Lighting industry.

Why stop now? 'Connections Pty Ltd' will now produce a magazine, published by Julius Grafton. Jands involvement- physically, editorially, and financially, will stop. It will be, we understand, a truly independent magazine.

This is because Jands never really wanted to be publishers, we just wanted a relevant media outlet that would cover many areas of a growing professional industry. No-one else wanted to pick up the ball so we did. We think we ran a fair and unbiased viewpoint in the topics we covered and no better proof of this came from the advertisers, but now it's time to move forward.

-Robert Young, Managing Director, Jands Electronics Pty Ltd.

New Magazine - CONNECTIONS out this February

It's a long story, but the outcome is fine by me. I'm going on to Publish, and the 'spirit' of Channels will carry on in a similar style. The new magazine will be monthly, Connections will appear from February, and if anything cater to an increased readership. It'll look a little different, cost \$3.95, but still be a quality production on great paper, with colour, lots of pages, and a lot of the features you like. The contributors will be there, along with Catriona Forcer who is well known for her work in Light & Sound International. She is now living in Sydney, and a welcome addition!

I need to unburden a few things here. First,

Jands paid sales tax on the printing of Channels, and paid retail postage, not the magazine concessional rate. This is because at the onset they chose not to hide behind a shelf company, but be upfront about Channels and who published it. In this manner the magazine was viewed officially - on a technicality- as pure advertising. This cost Jands \$70,000 more than it could have, had they been sneaky.

Thanks to Paul Mulholland for giving me the chance, and to all the staff at Jands who helped in so many ways, especially Dayle, Kellie, Debbie & Gayle - a great collection of troopers all.

-Julius Grafton.

Channels subscriptions will be honoured by Connections

Channels

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It's a Boy! Colin & Julie Park say baby Joe will grow into another audio problem person in years to come. It's the first kid for the pair, Colin is a director of ARX, the Melbourne Audio Co.

Kathy Ball is the new editor at Rolling Stone, surely the most credible of the monthly music magazines. 50 people applied for the job.

Employee pilfering is an art in the USA. A lighting firm in LA sent a trusted expatriate back to hometown Mexico to install a nightclub, which he did in complete style. The US \$90,000 payment for same was proffered to the dude who then debunked to the horror of the LA firm. The Mexican Police set about looking for him, (because he had a lot of money on him) and he decided US \$90,000 would only keep him out of trouble in a Mexican jail for just so long - so he hopped back to LA. The law there said the offence was outside their jurisdiction, so stiff.

Despite the fact the production company was liquidated with the sets and costumes sold at auction, Buddy is by no means over. Moves were afoot at presstime, Theatres had been booked. see story elsewhere this issue.

The Company that provided the set for Jesus Christ Superstar has briefed Clayton Utz regarding possible legal action against this publication, for 'disparaging comments' on page 16, issue 16. The comments are contained, apparently, in an article headed: "Superstar - Behind The Show". The company paying Clayton Utz is identified in the legal letter as 'Y.W.I.B.W Productions Pty Ltd'. The letter asks us to preserve our interview tapes and notes, and confirm they will not be destroyed. They are here guys, come and get them. Oh- bring a subpoena with you.

A former star of this column, Joanna Lloyd (ex wife of Trevor Lloyd, CLS), is sitting in her native America writing a book on the Rock Industry, apparently a 'warts and all' expose of all that is bad and rotten. Given she lived here for some time it should be close to home! Aux would like a mention within its pages, and desperately seeks syndication rights for these (future) pages!

Martin Straede has resumed his position as Mastering Editor at Regency Recordings, after 7 months in California. He ended up as head sound engineer for Steve Jones (ex Sex-Pistols) in Argentina. Sounds very hippy! He says to keep an ear out for the new band, 'Fantasy 7'.

... and so the last Channels Aux 1 column grinds to an end. Aux is happy in the knowledge that the campaign will not end here, a retainer has been offered to continue in a like styled column somewhere in the pages of the forthcoming 'Connections' magazine, somewhat cruelly tagged 'Terminations' by some desperate types at Jands. The number of times old Aux has failed to do in the guilty at Jands in these pages are legion - but now it's open season, the problem is getting access to the place for future 'on the spot' crime reports!



World Supply Line

- Is JBL owner Harman International stalking Shure Brothers in the manner of a corporate raid? "I really don't think so", says Paul Mulholland, head of new Australian Shure importers, Jands Electronics.
- Does Ushio, the Japanese lamp giant, own some or all of Intellabeam makers, High End Systems? "Absolutely not", say High End. Just mates.
- Laser Graphics of the U.K. are looking for Australian representation, they have an 8 page colour flier that goes a long way towards explaining what they do. Fax them in the UK - 44-763-246-306.
- Ramsa are said to have shown a 'Digital Microphone' at the Interbee show as we go to press. This could be serious.

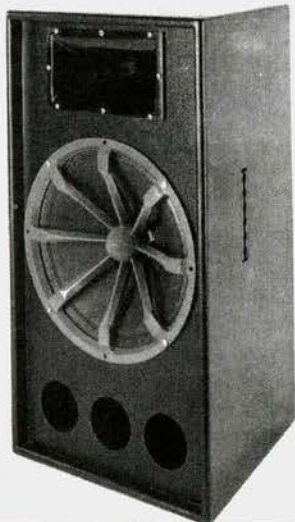
Coemar Win

Dallas- Coemar won "Best Light Show" at LDI 92, with ShowCAD driving the thing on a PC compatible. Carl Dodds & John Lindsell ("The Happy Men", the Italians call them!) were the programmers/operators.



Why 'Spyder' -? Indeed!

London- Wembley Loudspeaker has released the creature below, which has another 'inside out' woofer. Can anyone explain the benefits of this from a physics point of view? The marketing angle is obvious, Marmaduke.



Nady for Production Audio Services

Emeryville CA- Nady Systems, the world's leading wireless system makers, has appointed Production Audio Services P/L as the Australian distributors for Nady Pro products.

Jim Mericle, Export Sales Manager at Nady USA said: "Nady's Australian customers will get a high level of service & support - the guys at Nady Systems Australia have expertise with wireless - especially UHF - and that will be a tremendous asset."

To kick off, Production Audio Services has announced new VHF and UHF systems, headed by the 950 UHF, a 10 channel selectable system with interchangeable mic elements. Four new models have arrived.

Production Audio Services (Nady Systems Australia) can be reached on: (03) 852-0900 and (02) 954-5100 in Sydney.



LE MAITRE FOR LIGHTMOVES

Coloured Pyro New Feature In Extensive Range

Sydney- As we go to print Lightmoves is really happy that it has won distribution of Le Maitre pyrotechnics, and to make things even better they say they have a 'Queen Of Pyro' on staff, none other than Christine Ellis, who until recently worked for Le Maitre in the United Kingdom. (Always interested in Queens - Ed.)

Lightmoves head Jonathan Ciddor said: "We have a strong commitment to the products and unrivalled experience, having stocked them continuously in Australia since the mid 1980's. We understand stocks are the primary concern, no matter how long the season or tour requirements can be met."

The new coloured effects include coloured jets, flashes, stars and glitters. Lightmoves' Merrick Bakels is in charge of support, he is known for the smoke cloud that often surrounds the premises in Sydney.

To tie down distribution enquiries, Lightmoves has a 008 number, so callers can be directed to the nearest place where Le maitre is available. Lightmoves themselves operate from Sydney as Lightmoves Technologies, while Lightmoves Pro. Entertainment Services is the Melbourne stockist of Le Maitre, -call (03) 819-4566. Other outlets are being finalised, (outside Sydney) call 008-807-805, in Sydney (02) 560-0000.

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March 4, 1993

Great! Stagehand wins!

Sydney-- Syntec have a lifesaver with the sennheiser Stagehand - a one-grab disconnect for mic



clips. No more unscrewing the clip from the mic stand, just press the button and disconnect the top bit with the mic clip attached! Call (02) 417-4700.



AVW Quit Oz

Sydney- Audio & Video Wholesalers (Australia) Ltd have sold their Sydney operation to Production Audio Services P/L. Murray Hunt of AVW said the closure in Sydney will not affect operations in AVW's main market, New Zealand. All staff and stock in Sydney will move into Production Audio Services premises, where it will be business as usual for all concerned.

The move is an expansion for Production Audio Services, who now handle Crest power amplifiers, DIC tape, Quam Loudspeakers, Biamp, Pro Co, OWI loudspeakers formerly represented in Australia by AVW. These join traditional P.A.S. lines; Ashly, Countryman Associates, Sescom, and HME amongst others. P.A.S. recently were appointed NADY distributors for Australia.

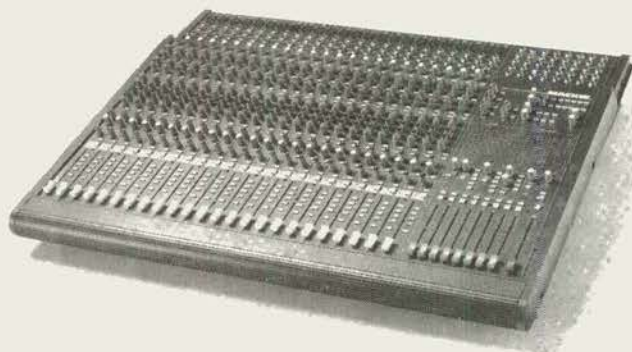
Murray Hunt of AVW is resolute in that the New Zealand market is expanding for his business, and he is confident P.A.S. will do the product lines they have just acquired justice. Call Production Audio Services on (03) 852-0900 and (02) 954-5100 in Sydney.

MACKIE TO STAR AT NAMM

Firm To Debut New 8 Bus Series Mixing Consoles

Sydney- Australian Audio Supplies are all in a lather of anticipation as the NAMM Show rolls around, scheduled for mid January in LA. As the story flag indicates, Mackie will then release what has been in the pipe for a while, the 8 bus console. This is but one of a line of products that have forced a 'sit up and notice' action on the audio community. Designer and Mackie principal Greg Mackie is somewhat the charismatic yank mixer guru, and his products and marketing are making hard inroads.

Let's take a look at the 8 bus: this is a mixer that comes in 16, 24 and 32 channel sizes, with 8 subgroups - and is built in the same 'style' and mindset as Soundcraft's Spirit Studio. What Mackie do is offer their own interpretation of how a console should be, taking a clean sheet approach. Thus the 8 bus offers a true parametric equaliser on one of the two sweeps EQ stages, with fixed Hi and Low EQ making up a versatile 4 band equaliser on each channel.



Like Spirit, 8 bus has a split mix path so inputs and tape returns can appear on each channel, doubling the input capabilities and eliminating repatching. This mixer has 6 stereo auxiliary returns, 6 auxiliary sends (split to mix A or mix B) and 2 headphone systems make a unique addition. A 'MIDI later' hookup is inside the board for whatever forthcoming MIDI automation feature Mackie come up with.

The feature Mackie press hardest is the reduced noise floor and extended headroom of the console - and the 'English Console Sounding EQ'. We look forward to seeing this at NAMM. Debut price range is suggested at about \$8500 - \$12,000 here, but watch that exchange rate!

Details - Australian Audio Supplies, (02) 879-6788



SALES TAX LAW- CHANGES

Sales Tax is a subject akin to a discussion of the effects of a debilitating fatal disease, but new laws come into effect during this issue cycle that could ease the burden. Retailers who have hassles selling to exempt parties such as schools and churches can now apply for a refund of sales tax, direct from the tax department.

Those who have attempted to obtain goods free of tax in the past from a wholesaler will now breath a sigh of relief as this option is still open, but the ability to claim a refund from the department if all else fails will give comfort.

Of particular note, all exempt organisations will now give declarations bearing different numbers. From January 1, these are: School or University: 109; Govt. Dept's: 126; Local Govt. Bodies:127; Public Hospitals: 140. Call the sales tax dept. on 13-2866 and get the booklet before you are faced with the possibility of a confusion in your shop.

✧ Tom Kehoe, the well respected manager of Metropolis & Gotham Studio's has opted for a lifestyle change - and departed the leading Melbourne studio combine. For now, Kerri Minchin is holding the reins there.

✧ Rick Browne, formerly of Nova Sound, Melbourne, has been appointed Technical Supervisor - Audio; at Burswood Resort Casino (Perth). He will be responsible for audio in the Showroom, Superdome & Caberet Lounge. We hope he is not TOO predisposed towards a wager.

✧ Iain Everington is the new Sales Manager at Australian Monitor. I thought I remembered the name - I'd dealt with Iain at Audio Mix Systems in another lifetime. At that time he was the person who established SSL, TAC, BSS and Court in the local marketplace. He's now back from a long run O/S, working with Sony, Studer and IMS in California.

✧ David Baker has departed Yamaha Australia. The new Marketing Services Manager there is Phillip Morris. The really nice Emma Butera continues as marketing services assistant. We read this in Sonics Magazine.



DENON PRO CD

TOKYO- Denon say they have thousands and thousands of Pro CD players in broadcast use, but the new DN-961FA (pictured, left) is a new proposition as it is **draw loading**. What this means is that other pro Denon players require your CD's be loaded into a custom cartridge, which some broadcasters like because it keeps the DJ's grotty fingers off the medium. But if you don't mind the DJ handling the disks, then this is for ya. It does all the pro things & cues properly. Price \$2880 retail. Call AWA in your state for data.



JET Chaser 404 - \$295

A 4 channel audio chaser with inbuilt mic, circuit breaker and 'shadow' effect is the latest from Freedman, who say it stands alone in quality, like all Freedman products. It comes with 2 year guarantee. Call Freedman on (02) 797-9999.

AKG & Shure Microphones

AUSTRIA- The C-1000S is a multipurpose condenser microphone, according to the good folk at AKG. They say it works happily from Phantom power or from a common 9v battery. With the PPC polar pattern converter in place this makes a vocal microphone, without you have a cardioid mic for distant miking choirs, home recording or acoustic instruments. 50 - 20,000Hz. Retail \$480, from AWA in your state.

ILLINOIS, USA- At the other end of the spectrum is the VP-88 Stereo microphone which was first devised for the video production industry, but has crossed over into music recording and live work. For spatial imaging this is possibly unmatched, with three stereo settings from 90° to 150°. Great results were obtained by a reviewer from EQ Magazine who tested the thing on acoustic and electric guitar. Price around \$1999 RRP inc tax.

AKG C-1000S mic >



Industry Association Formed

The long mooted Industry Association has arrived, with the launch of the National Entertainment Technology Association of Australia - N.E.T.A.A. for short. The industry includes theatre, disco, nightclubs, film, TV, schools, concert and touring production, while the technology part encompasses A-V, audio, communications, lighting, stage machinery and suchlike. The aims of the association are to disseminate information, communication and improve the performance of technology within the industry. (Maybe then the notice on the opposite page can be removed from Machines? -Ed)

Seriously though, people are giving up time to get this flying, so lend your support by paying \$50 for membership (\$20 for students) or better still, be a sponsor for \$500. Cheques to P.O. Box 517, Kensington 2033, or call (02) 697-4860 with your credit card handy for instant registration.

New Biz Talk Book

Hey- now YOU can speak like a pro - ! with a new book from the Victorian Rock Foundation, called 'Music Speak' - 'a Music Business Lexicon'. This very useful tome is written by Michele Tayler, who has listed the most commonly used terms, acronyms & jargon, which all make it easier for outsiders to get a handle on the business. It's an A - Z guide, for example: Abmusic, ABT, AC etc through to Z, -which is the abbreviation for 'impedance'. Solicitors certainly should buy this book, so they can appear informed when dealing with contract negotiations. Cost: \$14.95, 78 pages. Available from Allans, Brashs, and larger mucus shops. Call V.R.F. on (03) 696-2022 for details.

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BRISBANE PH (07) 856-4200
FAX (07) 856-4681

Wear These Briefs

* **DBX** will soon have a new version of the remarkable dbx 120 'boom box' subharmonic synthesiser -! Truly a great thing, it makes earthquakes!
* **Canare's** DA 206 is a 110 ohm cable for Digital Audio Signals.
* **Lexicon** have V.2.0 software for the CP-1 Surround Sound Processor happening now.
For more data on all above, call Amber (02) 975-1211

Hang ▼ Here

❖ **Industry Hang Benny's in Sydney have taken the rare step of releasing a newsletter to their loyal and select clientele.** As perveyors of more (?) downmarket establishments this magazine team is impressed. Here's a sample ... "Dom steps out from the bar on Wednesday night to play Dom's Blues", and now there is a 'happy hour' too, from 11pm till 1am - 2 for 1. What this means is that like all truly credible industry hangouts, you need to come late and stay even later. Until breakfast if you like. They have a new Cafe person, and a new look in said Cafe. The place is at 12 Challis ave, Potts Point.

*We've done Auckland and Sydney. Now who can tell us about the industry hang's in other places? Get on the line!

Yamaha's New F.B. Mixers

MC-10M Consoles Boast 10 Sends, 24 or 32 ch

MELBOURNE - Yamaha have the first MC-3210M console already placed and shipped, in service with Jands Production Services. The MC-10M series replaces the 2408 line that has been the front line choice in many regional production systems.

Evolving from that series the main consideration is extra sends, with monitor systems today demanding more and more separate mixes be made available. The configuration of the new Yamaha line is such that 10 main mixes may be output, with a further 2 'auxiliary mixes' available. Four effect return inputs are provided, which in turn can be assigned to any of the 10 main mix outputs.

XLR connectors provide 10 balanced outputs, and PFL/AFL allows monitoring of mixes before departure, with separate headphone and amplifier outputs, each with gain controls. The consoles have talkback, and full four band equalisation with 2 sweeps, one for high mid and one for low mid. These cover 80Hz to 8kHz in range with overlaps.
For more details, contact Yamaha Australia, (03) 699-2388.



So Long Buddy? Well...

So the set and costumes were flogged at Auction after the Receivers, Howarth & Co closed the show. Bidder # 253 -a theatre producer- bought all the key items, the show will certainly reopen in the new year. Theatre is a more volatile medium than almost any other, this is where art and commerce make uneasy partners. This is the only rational explanation for the collapse of a highly successful stage show that has run for two years around the nation. When the receiver was appointed, the box office was still strong and the revenue flow was still more than adequate. The problem lay outside the daily cash requirements of the production. So many stories have surfaced that it is impossible to report any of them!

Stolen, gone....

Poor Novacasterian LX LD Craig Foote has had an Intellabeam LED Controller stolen from a Newcastle venue. The tainted device carries the serial number HX-974, and is utterly useless to the average turkey that steals things. If you can provide information leading to it's recovery, the grateful Craig will pay a reward of \$500. Call (049) 682-808.



Occupational health alert

The following notice must be affixed to anything valued at over \$1,000 in your operation.... ▼

WARNING

These machines are subject to breakdowns during periods of critical need. A special circuit in the machine called a 'Crisis Detector' senses the operator's emotional state in terms of how desperate He or She is to use the machine. The 'Crisis Detector' then creates a malfunction proportional to the desperation of the operator. Threatening the machine with violence only aggravates the situation. Likewise, attempts to use any other machine may cause it to malfunction too - they belong to the same union. Stay cool and say nice things to the machine. Nothing else seems to work.
(With thanks to Channel 7 Sydney)

AUDIO

Studio Course

PRACTICAL STUDIO EDUCATION

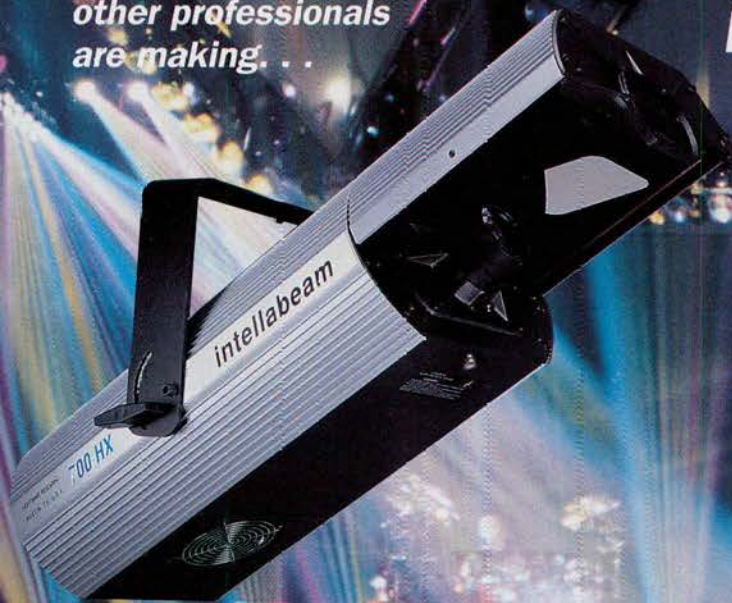


SYDNEY 211 3711
PERTH 325 4533
MELBOURNE 534 4403
BRISBANE 369 8101
ADELAIDE 376 0991

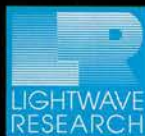
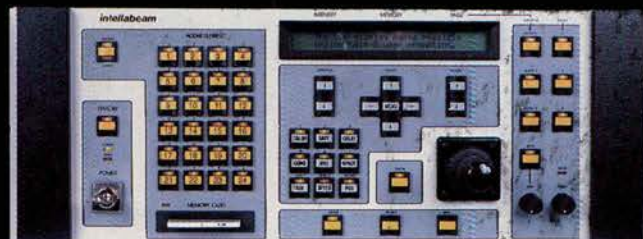
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intellabeam 700 HX

moving light with technology



The Intellabeam 700HX automated luminaire is the professional's choice for any lighting situation. Intellabeam has the intensity, speed, and accuracy to cut through on the big stage. Options in beam size, color, and templates make it ideal for your lighting application. The fixture produces a brilliant white light and the versatile optical system offers 11 pure dichroic colors (plus 8 dual-color combinations) and 12 gobo patterns. Optional modular gobo wheels will accept custom patterns to suit your needs. 100% dimming capability allows for variable light intensities and seamless fade-to-black and cross-fades between fixtures. Soon to be released, the new Intellabeam LCD controller offers you unprecedented regions of control and amazingly user-friendly programming.



High End
SYSTEMS



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82 ARTHUR STREET, FORTITUDE VALLEY,
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TOLL FREE PH: 008 773 187 FAX: (07) 358 4969

Convention Interest Up

AES- Melbourne
Aug 24 - 26, 1993

We are pleased to announce that initial interest in the convention has been substantial, with healthy support from exhibiting companies. During the course of any event like the one planned, we have often been asked what constitutes an Audio Engineer - and who should attend.

Clearly there are many individuals who possess Engineering degrees, who become involved in industries like Architecture, Specialising in Acoustics, Electronics, Audio Visual System design, Broadcast, Telecommunications, Medical Areas, Consumer Electronics etc., all of whom would benefit from attending the Papers, Workshops, Exhibits and Technical Tours planned for the '93 convention.

However, the main thrust of AES in terms of support from Industry and Exhibits is focus on audio production equipment. This encompasses the type of equipment used in recording studios and is used for the production of sound for films, television, education, popular music, etc.

With the introduction of so much computer automated technology in the last two years, the '93 Convention promises to be of great value to all delegates.

AES CONVENTION INFORMATION:

Call the conveners, the
Victorian Rock Foundation,
on (03) 696-2022.

This is the last issue of

Channels

Watch for the new title:

Connections

Published Monthly from
February by Caroline &
Julius Grafton.



SHOP OR CAR - ?

Melbourne PA & Stage Equipment sent this photo to us, which proudly shows a Corolla coupe 1976 model, maintained in pristine external condition, that presumably the boss - Brad - drives. This is a necessary economy when you have a retail/consignment/used equipment facility of this type. No new Porsches here! The place is open Mon - Fri 11am - 6pm, and Saturday 10am - 3pm. On Sundays, Brad polishes the lil' coupe. You can find the car parked outside the shop at 521 - 523 North Rd, Ormond. Call (03) 578-2426 for Toyota Tips.

Korean Sammi Speakers - new line for Freedman

Sammi are a Korean firm with factories in three countries, who have been building loudspeakers for over 20 years, according to Peter Freedman. In an unusual turn, Sammi are opening a manufacturing facility in the UK.

The OEM division at Sammi has supplied (speaker) drivers to many well known companies in the UK and USA. Peter Freedman has been working with Sammi for 2 years developing new products, the first of these comprise an 18" 600w bass driver, three 15" models, and a 12". Titanium domed compression drivers, flares & super tweeters are in the range.

Ironically the export manager at Sammi is an Australian, Rick Boughton.

Soon Freedman expect to release a range of drivers with what they say are 'esoteric' components such as carbon fibre cones, black Capton (Dupont) formers and new 'high tech' Ferro fluids.

A range of Neodymium magnet compression drivers & bass drivers is near also, and Freedman say negotiations are continuing with an Australian Neodymium manufacturer.

For more details, call Freedman (02) 797-9999.

LX Trade Shows

Premier Lighting will host a series of trade shows at the start of the New Year, featuring the new Trackspot, Intellabeams, Parscrollers, Heavy fogger (which they say is the BIGGEST fogger you've EVER seen), and a full range of theatre, rock'n'roll, film, and television lighting equipment. The dates are:

Melbourne	Monday February 22 and Tues. Feb. 23,
Sydney	Monday March 1st and Tues. March 2nd,
Brisbane	Thursday March 4th.

Premier Sydney Move

Premier Lighting's Sydney operation - headed by Darren Fox - has just moved to new premises. Still in cosmopolitan Leichhardt, the address is now:

Factory 10, 111 Moore Street, Leichhardt.
Phone - (02) 550-9233, Fax 564-3734.

Distributed by Amber Technology Pty Ltd ACN 003231187
Tel (02) 975-1211 / Toll Free 008 25-1367.

Shorts

TALKING PICTURES is a Music Industry Video 'Magazine', released every two months, according to the producers. The 1st Edition has interviews with Russell Morris, Peter Wells, Cherie Cebrano, Sam Christie, Michael Brereton, Trevor Courtney & David Williams (of Shock Records), and runs for 2 hours. \$29.95 (inc post) from 008-807-306.

BOSE IN SPACE is a real concept, NASA put Acoustmass-5 speakers in the Endeavour space shuttle for the last mission.

KLARK TEKNIK appointed Mark IV Audio Australia as their new agents, which was expected as Klark was taken over by Mark IV internationally. The PA People have been appointed dealers for NSW and QLD. Call (02) 642-5344 in Syd, and (07) 8576855.

RIP-TIE is a great line of velcro cable ties from the PA People. These are a life saver for anyone with more than one cable, be it mains or signal, short or 100m long. The tie is permanently mounted on your cable (at the male end if it's a mic cable) without having to re-terminate. They come in colours, and different styles. Call (02) 642-5344.

BOOKS available from Immedia: **The Studio Business Book** (\$55) has 336 pages on how to setup, profit from, and operate a studio. **Releasing An Indy Record** (\$40) has contacts for the USA market, 125 pages and 2500 contacts. **Getting Radio Airplay** (\$30) has 135 pages, & is USA oriented, while **EUROPOP** is the European Music Directory (\$95) where you have 1029 pages of contacts. Price incl. post, call (02) 212-6677.

WORLD'S 1ST REPORT



Lighting - the Future

Lighting Tradeshow Dazzles Dallas

LIGHTING DIMENSION INTERNATIONAL
NOVEMBER 20, 21, AND 22, 1992

I've decided **READING** about a tradeshow itself is dead boring, as opposed to actually **BEING THERE**. From your point of view, as a reader, it's better to read about the actual news and products from the tradeshow, as they affect you. So I'll keep the background trivia to a low roar. LDI '91 in Dallas really was exciting. This, dear readers, is THE lighting exposition bar no others. Rimini and PLASA are sound too, but LDI is not- just pure Lighting. Catch it at Orlando, Nov. 13-15, 1993.

So - put the world's serious lighting manufacturers together in one place, add about 5,000 serious attendee's, and watch the sparks (literally!) fly. For three days in Dallas in late November, they did! This report was made possible because Jands fronted a return airticket, while High End Systems paid ground costs. These firms I thank.

While the previous LDI show had heralded the remarkable boom in moving lights, this edition followed a logical trend and focussed on controlling those same devices. A proliferation of consoles were released, and with this came some surprises, in my view. See the Whole Hog story, for example. Strand had the wind taken out of their sails in no uncertain terms too. Read on! **-Julius Grafton.**



PRE-LOVED LIGHTING & AUDIO EQUIPMENT

Lighting:

- 1 48 ch. Instinct c/w Flight Case \$5000
- 2 72 way Avolites Dimmer Racks \$14000
- 1 Camlok Distribution Rack \$1500
- 50 Socapex Multipin cables \$250 ea.
- 25 Socapex 6 way Bar LX \$250 ea.
- 18 Socapex 4 way Bar LX \$200 ea.
- 20 Socapex Headers \$125 ea.
- 60 Par 64 Alloy Cans-Black \$30 ea.
- 48 Par 64 Alloy Cans- White \$20 ea.
- 13 Moto* Lights par 64 moving lights \$13000
- 8 2m Jetstrobe c/w Cont. & Flight Cases \$1000
- 6 Selecon 1kw Zoomspots \$250 ea.
- 4 8 way Molefay units \$400 ea.
- 10 2m Tri-Alloy Truss \$200 ea.

Audio:

- MEYER SOUND SYSTEM incl. 4 UPA-1A, 2 USW Sub-Woofers.
- 4 Martin RS1200 Speaker Cabinets \$2500 ea.
- 1 Rack of 3 Perreaux 6200B Amps \$4500
- 3 Eleco Hand Held/Lapel Radio Mics \$700 ea.
- 2 Yamaha 2020 Compressor Limiters \$500 ea.
- 1 Yamaha REV 5 \$700 ea.
- 1 White 1/3 Octave Equalizer \$600 ea.
- 12 8' x 4' x 2' Timber Rostra \$200 ea.

Staging:

- 12 8' x 4' x 2' Timber Rostra \$200 ea.

Lighting System Package including-

- 60 Alloy Par 64 with lamps, 6 Lekos, 4 Molefay, 48 ch. Instinct, 72 way Dimmer Racks, Power Dist Multipin Cables, Bar LX, Road Cases, Rigging, ZR 20 Smoke Machine etc. Sell for \$24000

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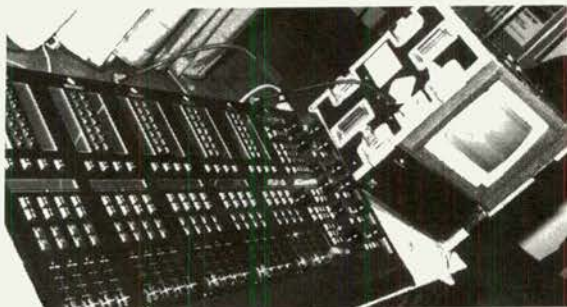
SHOWCORP PRODUCTION SERVICES PTY. LTD

WHOLE HOG IS FLYING

Impressive, but about the hard drive.....

Flying Pig Systems had a winner with their new Whole Hog console at PLASA, the trade show immediately preceding LDI '92. They won product of the year there, which for a small firm was just great. Naturally I went to see the Whole Hog first, and connected with Nils Thoujussen, a partner.

"I'm the total suit" he said, and just as well, because perhaps heady with success he had been quoted in Light & Sound International earlier in the year as saying: "There will be no grey suits at Flying Pig Systems". You guessed it, Nils was wearing a grey suit at LDI!



"We went into Production in September. The pricing has come down some since then". The console sells for about £25,000. I ask about the P.C. that sits to the right of the board. "It's a bog standard PC, it's rugged-ised for touring purposes." **What happens if it crashes?** "We have spares. You cannot run without the hard drive". **Why did you go this route,** I ask? "We felt there'd been a lot of improvement in hard drive technology. As Flash-RAM technology gets cheaper there is a lot of technology we'll consider. The hard drives are portable, the highest tolerances". **Will professional users insist on a 2nd computer from a redundancy factor?** "No, the serious users we've dealt with so far haven't made that request". I decide I've worried Nils, perhaps needlessly.

I ask about the board itself. "Meteorlites and The Spot Company have bought some", Nils says. Then, because it just had to be said: "Celco kicked us off their stand at PLASA. Good value! It was hilarious, we just walked in there, and they threw us off!" (*Other manufacturers say this is Celco policy!-Ed*)

An overview of the board is that it has 6,000 channels, with 12 DMX outputs. Essentially it is setup to run any common lighting fixture via DMX dimmers, and any Moving Light in the same manner. The ergonomics of the board are such that programming is said to be very fast. Moving Lights (including the VL-1) can have up to 48 parameters each, well in excess of current requirements. Things like Golden Scans and Intellabeams are already loaded into the fixture library which has preprogrammed settings. Colour, beam and focus are treated differently to intensity, while fixtures can be multigrouped and treated as one. The chasers allow almost infinite steps, there are 1,500 stacks, 75 pages, 75 fixture groups, and 105 position presets. Playback is said to be a repetition of a continuous script, anything can be played back in any way, the guys say. Scenes and stacks can be modified to achieve effects, new scenes can be programmed while others are running. Impressive! *Details: Flying Pig Systems, 53 Northfield Rd, London. Fax 81 5798469.*



PERFORMER MSR/HMI 1200w Followspot from SELECON



The name says it all!

- * Superior light output. - 1000 lux at 57 metres.
- * Purpose designed.
- * Link Zoom Optics - maximises light output, versatile.
- * Affordable - the choice for medium size venues, theatres, studios and on the road.

Available from your Australia wide Selecon dealer network.

For further information, colour brochure, demonstration

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ETC TAKE HONOURS, BEST PRODUCT & EXHIBIT

Traditional Perceptions Cast Aside, As Memory System Makers Pull Some REAL Surprises

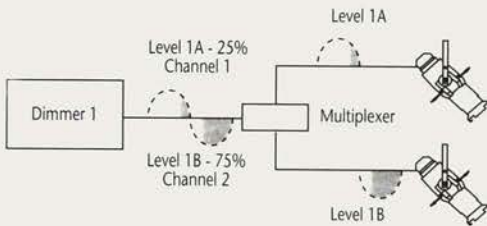
Just one hour into LDI '92 in Dallas and the word went around that ETC had something radical on their stand. In an environment where Vari*Lite, Altman and High End Systems are all expected to make a big impact, it was easy to brush aside the rumours. I'll just visit ETC tomorrow, I thought. The whispers became a roar, and I found myself approaching a stand with four sides, and the side in front of me features three spotlights in a row, turned on.

ETC, it seems, are now in the luminaire business - and how! The small ellipsoidal (profile) spot on display is dwarfed by two others, a Strand Leko and a Colortran - both 1000w units, and all pointed at a white cyc. The eye may be deceived sometimes, but not when the little Source Four is blitzing the others - by some magnitude. The light output is said to be 40% greater - but this has a 575w lamp!

So this is impressive. But not really earth shattering, you say. The earth moved for me then, because ETC's Mike Griffith then explained that with Multiplex



Dimming Technology, Source Four can be multiplexed at the mains. This requires a grasp of physics, because what happens is the lantern is pre dedicated to



this new role by fitting a different lamp, in this case a 70v one. Then it is plugged into a twofer, or

multiplexing splitter, with another of it's kind. So you have one mains lead, with a multiplex twofer, and two lights. The illustration shows the details. The one dimmer channel runs two separate channels, two separate lanterns, down one cable! Now it's important to note you must be using ETC's new Sensor dimmer modules, and this is the second part of the firms big surprise at LDI, for Sensor is just something else again.

Sensor is so called because it returns circuit data to the main module, a user friendly little creature that tells you of failed lamps and suchlike. What's impressive is the thoroughness of the concept, the design, style, ruggedness, ease of use, and adaptability of the system. You can have Sensor modules in architectural racks of almost any size. You can have them in touring racks. They take DMX & ETC Link. It's futuristic!



Mike Griffith holds a Sensor module. Below: Sensor touring rack.



Consoles the flavour in Dallas

Market Intensifies As Manufacturers Evolve Designs

Lighting Consoles today can't just sit on the riser or in the bio box and operate static lanterns. No. DMX-512 put paid to that when fixture manufacturers leapt upon it, and the Moving Light evolved, along with Scrollers and Digital dimming technology. The role of the lighting console today should be to take all comers, and address all DMX accepting devices. To do this, many manufacturers have adapted their products, some more successfully than others.

LDI'92 saw the first real wave of multi-task lighting consoles, with new top end releases, the Whole Hog, Celco's Aviator, and the Computlite Animator all occupying the high ground.

Of these the **Aviator** is the most challenging, with Celco throwing away the rule book and devising a platform that features a scrolling belt concept. As you move the belts (as opposed to normal linear faders) an optical encoder inside calculates in 16 bits. With 1024 dimmer channels, 360 control channels, 1000 cues, 100 x 99 step sequences, and two DMX outputs, you can configure it to be 1024 channels of 8 bit DMX, or 512 channels of 16 bit DMX for the future when this can be decoded. Aviator sells for £19 - 28k in England. Kieth Dale told Channels he hoped to start shipping in February, but the console on hand at LDI was a prototype only, with software to run the displays only.

Available now is the **Computlite Animator**, the only console at LDI'92 that incorporated High End Systems' protocol XY (referred to elsewhere as Protocol 700HX). High End use this pseudo DMX variant which is output from their proprietary controllers to their Trackspots, Intellabeams & Emulators. This gives 4096 steps 'resolution', vs. standard

Alfred Senator with his Computlite MLC-48



DMX 512's 256 steps. The High End fixtures take normal DMX too, like virtually all other moving

lights, but it is accepted they work best with their own protocol. Computlite handles this by providing dedicated outputs, one for Intellabeam, and one each for Golden Scans, Super Scans, Summa, and a straight DMX-512 output for dimmers and scrollers.

The Animator MLC 48 will run 48 fixtures, plus up to 96 normal channels of dimming. There are models for 24 or 72 fixtures, and as you've probably guessed, the console recognises the particular fixtures it provides outputs for, and originates from Israel.

Contact them: 972-3-540-1268, or fax 972-3-540-1276.

Avolites new **Rolacue Sapphire** is claimed to be the 'most powerful universal lighting control desk', but it isn't. A similar approach to Computlite sees it recognising different moving light fixtures, but it doesn't provide separate outputs in the same manner. Sapphire is like a memory-added-manual console with extra features hung on. Despite this, it may well become something of a standard on the international touring circuit, judging by the LD interest.

See Factor, a large New York production house, have designed a console called '**Light Coordinator**', which will control up to 500 channels. It was displayed with a Wybron tracking system that comprised 3 sensors hung in a truss, that 'track' an emitter, which can be on a person. The console instructs moving lights to FOLLOW the emitter!

Moving Lights

As usual, but with a little less intensity, the moving light makers were at each others throats, seeking dominance in the U.S. market where **High End Systems** rule supreme. **Clay Paky**, while most assuredly established stateside, have a small problem in that they only sell 220v devices in a 110v market. **Coemar** don't have this problem, having created an assembly plant in Mexico. New from Coemar is



the Samurai 1200MSR, which opens up the market a bit because it has a separate ballast. Naturally this gives Coemar the edge in power to weight, if that is your criteria. The lamp head weighs 23kg, and is shorter than you'd expect. Clay Paky released the Tiger Scan (below).



Some Of The Rest

SHOWCAD was finally in release mode, this lighting control software has been a year or so coming since first sighted, and is a PC based system which comes with a DMX-512 card that slots into your machine. It'll provide for an Intellibeam output too, when a card becomes available. Coemar DeSist Australia have won the right to distribute this product here in Australia.

MA SCANCOMMANDER is potentially very interesting, another lighting console designed to be more things to more people. This one drives 16 moving lights, each with up to 15 channels, which are more than the largest today use. Aside from all these, the board drives another 96 DMX channels. it's smaller than most, being a 19" rack mount style creation, and said to be only just completed. This one will find an Australian distributor for sure!

Locals Exhibit at LDI '92

JANDS occupied a neat bit of real estate in the lower hall, which featured four Intellibeams hooked up to an Event console, demonstrating new software version 2.0. This is claimed to improve moving light operation, and also has other benefits, akin to an upgraded operating system the guys say. It is in BETA version now, with some qualified users invited to try it. (Contact Michael Tanner at Jands if this is you). It should then be available as an update for existing users in March, price TBA

On hand was a new DMX-512 demultiplexer, the DDX-60. It takes DMX and produces 60 channels of analogue. DDX 60 also acts as a control line repeater. It'll hold a backup cue for emergencies too.

"My most favourable impression of this show is the number of visitors to this stand referred by other exhibitors", said Paul Mulholland. He was assisted at LDI by David Timmins & 2 others from Jands USA office.

LSC ELECTRONICS had a new DMX splitter on hand, a 2 r/u high device accepting 1 DMX input and providing 10 out. "It's fully isolated electrically between the input and output. We just sold 10 to Finland for the Finland Opera' Gary Pritchard told Channels. Also on show was a De-Mux & corresponding Mux unit, which will also store scenes for static displays. The Focal Computer Module (CSM) now comes with a track ball option, typically you can assign the trackball to any channel, master or whatever, for more control.

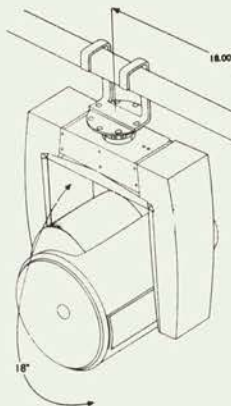


Thomas Stanger, from MA Lighting Technology, with the Scan Commander console.

LDI
DALLAS
1992

VL-5 SHOWN AT LDI

New Vari*Lite Like Automated Par Can



Vari*Lite's new fixture fills their range, giving rise to the idea that with an 'automated par can' type of fixture, you don't need anywhere near as many of them, and you certainly don't need to climb into the truss to do a focus. However, a Par Can this is not, the lightweight wash fixture uses a conventional Phillips 1000w tungsten lamp, but a high tech glass dichroic cold-mirror reflector, designed to pass the heat out the rear. This is to eliminate the need for fan cooling, which is considered verboten in TV and Theatre. ETC have used similar reflector technology in their new Source Four.

Then the VL-5 comes with advanced Dichro-Tune™ colour mixing, that is said to generate more colours than you can think of, and do so in less than 0.7 seconds. Diffusion panels inside the VL-5 allow what the name implies, while beam size is changed by changing front lenses, not unlike Par 64 front glass.

Control is interesting, you can, naturally, drive the fixture from your Artisan console, but via the Smart Repeater also use a DMX-512 signal from your ordinary console. In all cases, you need a dimmer channel to handle the lamp.

The economics are also interesting, in the USA the figure quoted for renting a Par 64 with colour scroller is about \$60 per week. Vari*Lite say the VL-5 can be rented for about double that (USA\$) - compelling considering the reduction of fixtures in the rig the VL-5 creates.

MAKING THE TRIP - \$ & c

Plenty Of Aussies Discovered In Texas For LDI '92

How the Aussie's at LDI got to Dallas is interesting in itself. One smooth character bought a full price business class ticket - circa \$4,000, then wrangled an upgrade on United. He invited me to relax in the First Class Lounge at L.A., so I won't rat on him by identifying. At the other end of the spectrum, another leading Australian lighting identity paid \$225 for a roundtrip on Qantas - his sister is on staff there. Noel Bourne of GUVT got maximum value with an AA Holiday package, \$1900 for tickets and 5 nights accommodation. Most everyone else went economy, myself included.

I went on a frequent flyer award ticket at no cost, but soon discovered the hidden traps. United couldn't fly me to Chicago in time to connect with their Sydney flight due to snow. "Come back tomorrow", the guy said at Dallas airport. "Sorry, we can't do anything for you", he replied after I asked about alternate airlines flights direct to LA to meet the Sydney flight. "We can't even put you up here in Dallas", he said to my disbelief. "Go to American or Delta, they'll fly you to LA in time".

The fare on either was US \$370 - \$530 Australian bucks! I found America West would get me to LA for \$230 via Phoenix. I paid up and made my connection. Be warned.

A word on flying inside the USA- the airlines all have hubs. United have one in Chicago, so to get to Dallas you fly about 2,500k out of your way, about 4 extra hours! Time wise you spend 24 hours, vs. 14 hours non stop to LA. The system sucks, be sure you understand exactly how you are routed before you buy (or get) a ticket to anywhere other than New York or LA.

-Julius Grafton.

letters

Fry Off The Mark

SUPERSTAR taking money from the local live scene? Duncan Fry was probably having a joke in his column last issue. Anyway, some of my friends and I talked about it the other night, and they (Economics students) say the dollars diverted from the economy into a show like Superstar would otherwise be spent on leisure activities like gambling or movies.

Surely the promoters should be absolved from any moral responsibility here, how likely that those Superstar millions would have been spent on viewing developing bands in inner city hotels?

Not likely. We see an

economic benefit to the local industry as a whole, and differ with Duncan.

-Fred Amphel, Perth.

Fresh and ready to go

I've done my H.S.C., now I want to work in Live Sound. I'm fit, active and willing to try anything - what are my options? I'm 18 and have a drivers license.

-Cherise Jackson, Footscray.

**I've mailed you a list of sound companies, Cherise, so call them. Get to know some sound engineers but keep it clear you want to talk shop, not socialise. The business needs more women, so good luck, try hard!*

Martin vs. Trackspot

I write to express my disappointment with Channels for accepting for publication the "Martin" advertisement that appeared within issue #17, page 29.

This advertisement was headed with the wording "NO GLOSS, JUST FACTS" and perhaps a more apt heading should have read "MOSTLY GLOSS, SOME FACTS".

The actual "FACTS" I'll outline herein namely:-

1. Trackspot reproduces more colour combinations than the Pro 218 because Trackspot in addition to the colour wheel palette including Bi-colours employs dichroic filters fitted to two (2) gobo locations thereby allowing a myriad of colour combinations to be reproduced.
2. Trackspot brightness will stay constant throughout the lifetime of the lamp.
3. Trackspot employs a \$24 lamp with an average lamp life of 500hrs ... check out the price of the "Pro 218" replacement lamp whilst sitting down.
4. Trackspot allows the use of a standard or custom gobo in one of the 10 gobo positions.
5. All of the Trackspot motors are microstepping stepping motors and are microstepped.
6. The Trackspot mirror movements are as fast as Intellabeam.... are the Pro 218's?
7. The Pro 218 is also smaller on one axis only ... Trackspot also weighs less.

A statement is also made "ALL THIS FOR THE SAME PRICE" a DMX compatible Trackspot fixture supplied with lamp has a recommended list price of \$2999.

According to (Martin distributor) LAVA's December 1992 pricelist, the Martin Pro 218 is substantially more expensive than the Trackspot.

Let us look at some other Trackspot features:

- * Uses a break resistant mirror;
- * Can be used with IB700HX protocol, analog, stand-alone or DMX512 without the need of "Optional" add on interfaces;
- * Lens options;
- * Externally selectable voltage;
- * Dipswitch selectable pan and tilt invert;
- * Draws only 1.46 amps.

In summary, may I suggest that "Channels", prior to publishing advertisements where comparisons to other products are made, endeavour to substantiate the claims made therein to uphold the credibility of the magazine as a professional publication in the eyes of advertisers, readers of the magazine and ultimately for the benefit of "Channels" itself.

-Noel Bourne, National Product Manager, Special Effect Lighting, - G.U.V.T.

**The advert has some changes this issue. Most buyers compare before buying. -Ed.*

Thanks, It's Ours!

I am writing to thank you for the (unsolicited) publicity picture of our 'A' System, published on Page 7 of your last issue. The enthusiasm for this system has been very gratifying for us, however as your 'warts and all' photo shows, we haven't even had time to re-paint the boxes.

Although we have consistently avoided advertising

hyperbole, we do feel that this system is indeed an example of 'the whole being greater than the sum of the parts'.

-Darryl Hoy, Scion Steam Wireless & Ear Trumpet Coy, Newcastle.

Some people will try anything for PR. The Pillbeam Theatre crew in Rockhampton almost managed to correctly identify all these things - but not quite!



Is Channels Dead? Use this joke!

The rumour mill has been spreading those things again, but so many people have told me that I need to check for myself. Is Channels dead? I've been a loyal reader since I first noticed the magazine with a picture of the Purple One on the cover (in yellow) and thought that any magazine for technical people with such a photo on the cover was either (a) a joke; or- (b) very different. I'm not sure yet which is which. So, to make sure you keep Channels going, here is a Drummer Joke: **Q:** How do you know when a drummer is knocking at your door. **A:** The longer he knocks, the slower he gets!

-Paul 'Rigga' Jackson, Manly, NSW.
The rumour is correct, but we have a new magazine, 'Connections'.

SAVE 33% - Subscribe to

Connections

now! Monthly from February!

You can also win a prize...

call our hotline:

(02) 876-2612 now, or use

the coupon on Page 62.

Duncan Fry's 'self centred delusions' an affront to all

Where do maniacs like Duncan Fry come from? Was he dropped on his head at a very early age (when he was 'young & foolish'), or has he spent too much time in his beloved pubs (now that he's "just foolish")? Fry's comments regarding Superstar in your last issue, and his sad misconceptions that it has damaged the local music industry are so far off the mark that even his self-appraisal as a fool is inadequate - he is a desperately uniformed, bigoted pinhead, as well as a fool.

Superstar's impact on the Australian music industry has been nothing but a spectacular achievement for our industry, and one that we can all be proud of. To suggest that a platinum album, a record box-office, a sell-out tour and a masterpiece of Australian production could be anything but beneficial to the local industry only proves that the 'Tall Poppy' dinosaur still exists.

Mr. Fry would do well to remember that the show's investors (Harry M. and others) deserve every credit - they took the financial risks, organised the impossible ; and in turn created both direct and indirect employment for literally thousands of local industry workers, myself included. From the typesetter printing souvenir programmes to the airline hostess serving drinks to the touring crew, not to mention security staff, ushers, caterers, transport companies, welders, truck drivers, local equipment manufacturers and distributors, hotel staff, etc ... all have benefited from the business generated by Superstar.

As structural designer for Superstar's lighting rig, I can personally attest to the long hours and dedication put in by many behind-the-scenes people during pre-production and rehearsals, and the continuing professionalism and plain hard work of the touring production crew over the past four months. Superstar has proven to everyone that the Australian industry can produce a world standard event ... everyone except Mr. Fry, that is.

His self centred delusions are an affront to all of us involved, in whatever capacity, in helping to make Jesus Christ Superstar the unqualified success that it is, and an insult to our industry in general. If he had bothered to even see the show, he would have realised that in the process of setting new Australian production standards, Superstar has also raised over half-a-million dollars for Homeless (Childrens) Charities.

I don't want people like Duncan Fry to be self appointed spokesmen for the industry that I work in, and it disturbs me even more that he can be given the forum to do so. He should retile his book "Attitude Mixing in Pubs", sit in a dark corner of his favourite hotel and contemplate his next juvenile exploit on record retailers, and really do our industry a favour by leaving it.

-Ian Messner, Engineering Director, Jands Production Services.
**Opinions differ. I for one wrote a lengthy and very positive story about Superstar for Light & Sound Magazine in the U.K. - it was published in their October issue. I thought the show was great! -Ed*

The Editor has a new publication
- CONNECTIONS - ready to hit the streets in February. These pages have been nominated as amongst the most popular in the whole magazine, especially by our international colleagues, who due to cultural differences don't seem to get their readers dander up as often as we do.

What we are saying is - **KEEP SENDING LETTERS**, because it's essential there be a forum to disseminate views in the industry. The Connections office has the same adress & numbers as Channels Fax: (02) **876-5715**, Phone (02) 876-2612, or you can write to: PO Box 439, Epping NSW 2121 Australia.

Are You Desperate?

As a director of one of the many reputable firms who choose to advertise in Channels, I cannot let pass without notice several contentious advertisements which appeared in the last edition (#17).

One may wonder how it is that a magazine which has editorialised the need for our industry to act professionally, responsibly, and with integrity can accept for publication such blatantly contentious advertisements as those prepared by LAVA P/L for their new "Martin" fixtures. Do you need the money that desperately? Not only are the aforementioned advertisements highly offensive to the end-users who choose to purchase tried and tested quality product from overseasspliers such as Coemar and High-End Systems, (and, dare we suggest, Clay Paky), they are also offensive to the product manufacturers, their Australian representatives, and to the myriad of retail outlets who sell these products and so place their reputations on the line with their clients. It is, perhaps, time for Channels to rethink its advertising policy. As **your** valued clients, we must now reconsider carefully our own association with the magazine.

As for the individuals involved, it remains to be seen as to the need on their part to place such contentious advertisements. Obviously, the competition must be getting a little too stiff when companies revert to attacking the products of their competitors, (and, by implication, soem of their own), rather than simply expressing a product's own virtues as a selling point.

At the recent LDI exhibition in the 'states, this opinion was expressed many times to me by both Australian attending and exhibiting, and by some very concerned overseas manufacturers. I was particularly interested to note that some of the manufacturers expressing this opinion were concerned about the standing of those representing them in Australia.

We at Coemar DeSisti Australia are more than happy to have our products fairly compared to any in the world as regards their performance, features, reliability, and pricing, since we know that quality will speak for itself.

Behind the letters page

Gee we've had some great letters over the past two years and three months! What I like best is the un-abashed zeal with which people in the industry are ready to seize upon anything - absolutely anything- in the magazine, and bash it to death! I've gone to great pains to print virtually every word of every letter that is critical, and if I've had to choose letters due to space restrictions, I've always shoved the flowery, 'Gee I like the magazine' ones out.

But I am still disappointed that I didn't get the following letter, which was written in April 1943. It is from Sir A. Clark Kerr, British Ambassador in Moscow, to Lord Pembroke:

My Dear Reggie,

In these dark days man tends to look for little shafts of light that spill from Heaven. My days are probably darker than yours, and I need, by God I do, all the light I can get.

But I am a decent fellow, and do not want to be mean and selfish about what little brightness is shed upon me from time to time. So I propose to share with you a tiny flash that has illuminated my sombre life and tell you that God has given me a new Turkish colleague whose card tells me that he is called Mustapha Kunt.

We all feel like that Reggie, now and then, especially when Spring is upon us, but few of us would care to put it on our cards. It takes a Turk to do that.
-Yours faithfully.

Our customers are our best advertisement. As for those who desperately need to attract customers by any means fair or foul, we can only feel sorry.

-Peter Kemp, Managing Director, Coemar DeSisti Aust.

**The current policy is publish and be damned, except where questionable taste and legality prevent this. The Trade Practices Act has power to act where any advertisement is misleading. We don't want our advertisers in court, nor ourselves.*



International Production Notes

From Debi Moen, Performance Magazine.

Paul McCartney Latest

Paul McCartney's gearing up for his 1993 world tour by performing surprise gigs in intimate venues. He's also rehearsed in New York prior to another MTV "Unplugged" session held on December 11 at the Ed Sullivan Theatre.

Hey AUSTRALIA, you get to see the tour first. McCartney comes to Perth March 5, Melbourne March 9, Adelaide March 13, Sydney March 16 and Brisbane March 20.

Gerry Stickells is again coordinating the tour production, bringing back many of McCartney's 1989-1990 crew and vendors. More to come.

Who's Doing What

Vanco Concert Productions is the

lighting suppliers for Erasure's "Phantasmagorical Entertainment Tour" of North America. Patrick Woodroffe and Vince Foster designed the lighting with Tellson James as Vari*Lite operator. The DMX512 dimming system and Wybron colour changers are controlled by an Avolites QM-Diamond console. Lee Charteris is production manager, and Andrew Mansi is tour manager.

Two Showco Prism sound system enclosures toppled from the stage and struck some audience members during the Black Crowes' Oct. 12 concert at Houston's AstroArena. Production eye witnesses report that some incorrect procedures were followed - and not by any Showco personnel - which resulted in a lighting system chain hoist raising the Prism loudspeakers from the stage with such force that they were pitched into the audience area. Showco President Clay Powers stresses the importance of attention, caution and

preparation during any overhead chain hoist movement. "We go to extreme lengths to ensure the complete safety of the public, performers and all production personnel, both in our equipment designs and operational procedures", he says. "This accident would never have happened if correct procedures had been followed."

Lighting Designer Marilyn Lowey is chilling out after Neil Diamond's world tour by designing an Ice Capades show. "They have graduated to a full moving light system from Morpheus", she says. "It's rather exciting!" The show will tour Japan for 22 weeks.

Lighting Designer Peter Morse recently started lighting design for Julio Iglesias (Michael Keller is lighting director), who performed a number of shows in Las Vegas and is touring in Australia at presstime. Morse also resumes working with Michael Jackson in Tokyo and Michael Bolton's European tour in Spring (Aussie Autumn)

*Debi Moen is International Editor for PERFORMANCE Magazine, a prestigious U.S.A. industry weekly.

CLEAN UP AUSTRALIA-With the World's Favourite DI!



It's time to stop polluting Australian music. It's time to reject hiss, noise, distortion and your old DI and trade up to the professionals choice, the SCV DI Box 2 (as used by ABC, Sydney Opera House, Sony Music, Ch9, Ch 7 etc.)

Here's the pollution buster package:

\$75 Trade-In!

Trade -in your old DI, dead or alive, any brand model, for a \$75 discount on the world's favourite DI, leaving only \$220 to pay.

Hurry-Limited Stock!

Your local SCV dealer, see right, will be happy to explain more about the environmentally friendly SCV range and how you can help reduce noise pollution.

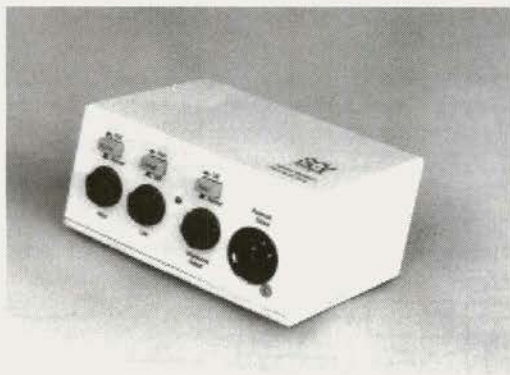
... SCV SOLUTION

For more info. contact:



Phone: (02) **299 3666**
Fax: (02) **299 2240**

LEVEL 4, 140 SUSSEX STREET, SYDNEY NSW 2000.



Or, your local SCV dealer:

- SYDNEY: Sound On Stage: Ph (02) 318 0066
P.A. People: Ph (02) 642 56344
Freedmans: Ph (02) 797 0986.
Turrumurra: (02) 449 8487.
- MELBOURNE: EVA: Ph (03) 417 1835.
Troy Balance: Ph (03) 699 3844.
Audio Oz: Ph (03) 696 5690.
- BRISBANE: Musicians Pro Shop: Ph (07) 854 1577
- PERTH: Kosmic Pro Audio: Ph (09) 242 3844
Sinclair Comms: Ph (09) 271 4993
K. W. McCulloch: Ph (002) 28 6373.
- HOBART Integrated Media Ser.: Ph (089) 41 1128
- DARWIN:

The Buzz

-By The Weazel.

TOTO went home from Japan via Melbourne & Sydney, where the still viable and highly musical band staged single shows. The 2 tonnes of backline they airlifted in was complimented by a Gamble 56 channel mixing console, along with effects racks for FOH and a myriad of miscellanea including a video cueing system - for the song list! The 5 piece band with 3 additional singers were augmented by a 'keyboard control' position stage right behind the PA, where a highly animated 'technician' played along and sung as well. (Errk) J.P.S. provided 8 S-4's & subs for Sydney's sole Selina's show, which was the last of a world tour. The act could have probably sold many more seats than they were scheduled for, and at a greater price than \$24. For a 3 hour performance it rated as a bargain, Weazel thinks the band did the shows to cover the cost of a brief holiday here.

◆ The Sicilian Night in Cairns was a recent conquest for Fernandez Music, who report that when they said they needed to use 'Shotguns' on the choir, the guests hit the deck! The crew were Marlon Brando? on Monitors and pasta, Al Pacino

did stage and Lambrusca skulling, while Pope John Paul was the LD and guest of honour. He supplied his own power source. System was powered by Garlic, and so were the crew. Who sent this?

◆ Jands Production Services say the last weekend in November was a trifle busier than usual. This is what they had on:

- Tori Amos** at the Seymour Centre,
- Aus. Music Awards** in Qld,
- Multiple acts** at Australia's Wonderland,
- Bush Bash** fundraiser at Harold Park,
- The **ANA Hotel** opening (Sydney)
- APRA Awards** at the Regent Hotel (Syd),
- Joe Cocker** on tour in North Qld,
- Jesus Christ Superstar** finale, Brisbane,
- Rocky Horror** (sound) in Adelaide,
- The Beach Boys** - outdoor concert, Syd,
- Hoodoo Guru's** on tour through Victoria,
- Coles/Meyer A.G.M.** in Sydney & Melb,
- and **David Jones A.G.M.** in Sydney -!

Glen Barwick says it is a credit to the Jands Production Services crew, who worked through sleet, fog and rain without dramas.

◆ Showcorp are cheeky. Their production sheet detailing the shows in our guide (below) had the following note at the bottom of each listing: 'No Jands Gear Anywhere!'

◆ Back to the Future with the Hoodo Guru's on tour who have the just fabulous Roland 555 Chorus echo back in vogue, and AKG D12 microphones in the rig!

◆ Paul McCartney's new tour is headed downunder, as predicted in our editorial several months ago, the majority of the production equipment is on it's way into Australia, the Showco Prism system is to come by sea, while a lot will come on a 747 charter for the first show in Perth.

◆ Chameleon Touring Systems have a rig out with Primal Scream, whose L.D. asked for an EVENT console to run the moving lights and scrollers, with another Event to drive normal lights. Chameleon, along with Barratt Lighting, have more lights than anyone in Australia, the Weazel suspects.

◆ C.L.S. are busy as anything, sending us more than we could fit below.

BE IN THE DIARY!

FAX your gig details to us, by the 21st of each month (02) 876-5715 for inclusion in Connections - the new monthly magazine.

LIVE PRODUCTION DIARY

Artist/Tour/Show	Crew	Equipment & Notes
A1 Audio Margaret Ulrich TOUR 1927 TOUR Luka Bloom - CONCERT Amway - Hordern & State Spots Cent. Park Lane Hotel Opening Edgells Birdseye Roadshow Hoopfest - State Sports Centre	SYDNEY Phil Payne BE, Brett Harkness SE, Brian Neil ME. Scott Barry BE Paul Ash-Brown BE, Steve Law SE Chris Kennedy SE Steve Law SE, Chris Kennedy SE Craig Elsley SE Chris Kennedy SE	(02) 905-7433 EHT Processed PA, Soundcraft S.4 FOH and Monitor desks EHT Processed PA, Soundcraft Venue II 32-8, TAC 24-8 mon EHT Processed PA, PM 2000/24, Soundcraft Spirit 24/8 mon 20 TMS-3, EHT processed cabs, Yamaha 16-4-2 EHT Processed PA, Yamaha 16-4-2 EHT Processed PA, Ramsa 4424 24-4-2 console 20 Turbo TMS-3, Yamaha 16-4-2
Audio & Recording Turbo B/Snap TOUR	SYDNEY Bruce Thomas, Garry Hall, Ian Richardson SE's	(02) 316-9935 Meyer MSL 3, DS-2, 650 subs, RA-254 amps, TAC SR-9000
Australian Concert Productions Wolston House Jazz Festival Barry Crocker, Julie Anthony. PARTY Deborah Conway	BRISBANE Olaf DeCeuster SE, Ian Loftus ME, Ray Moss SE Phil Mezizer BE, Olaf De Ceuster SE Ray Moss SE	(07) 854-1512 12 TMS3, 4 TSW124, PM1800/40, MC 2408 FB, 10 EV wedges 6 TSE III, 6 TSE 118, PM 1800/32, MC 2408, 10 EV wedges Small - Turbo TXD-530's - distributed down room at Kelly's
Bandanna Albert Collins TOUR Celebate Rifles TOUR Miss Phillipino Beauty Quest Painters & Dockers SHOWS James Blundell TOUR Rick Price TOUR Tall Tails & True TOUR Wickety Wak (star of) SHOWS NSW	SYDNEY Rocket BE, Mark & Brett Gibson SE, Mark Denton LD Paul Tagg BE, crew as above Mark Gibson SE, Brett Gibson FB, Mark Denton LD SE: 'Gaff' (Pass the?); 'Rocko' LD Mick Chandler BE, Tex Whitney LD, usual crew Rocket BE, usual Bandanna crew the rest Matt - BM. 'Gaff' SE. Mark Denton LD. 'Jeff' BE, and the rest. No BE surnames supplied.	(045) 72-5461 ARX boxes, SR-3000 amps, 24-8 JBL FB, 58 LX, Event 48 As above including Yamaha 32 ch. desk. Cans are chrome. System as above. Crew treated for 'White Out' by doctor. Smaller ARX, 6 send ARX F/B, 40 cans, ESP-36 LX board 8 ARX subs, 6 mid/hi, 6 SR-3000 amps, JBL 24-8 F.B, LX Usual bigger system, they have two. Smaller ARX system with 24ch Spirit, 40 cans, ESP 36 LX Larger system.
Burswood Resort Casino Grace Knight SHOWS	PERTH Brian Hutcheson LD	(09) 363-7777 AVAB Viking desk, 48 Instinct, 320 Bytcraft dimmers, 298 LX
Concert Lighting Systems (CLS) Boom Crash Opera Southern Sons Rocky Horror Show - Adelaide Beach Boys Broadford Bikers Festival TOTO (1 show), Nick CAVE - SHOW	MELBOURNE Troggy- LD Tony Donelly LD Tim-Board Op, Sue Sanders RIGGER Richard Grenfell OPERATOR Mick Davis LD, Troggy, Phil Spilman SE's Mal Frew & Mich Richardson	(03) 529-5019 48 Pars, 5 Mole Fay, 2 strobes, Instinct 60, LSC dimmers 38 Pars, 16 Kelo's, groundrows, Instinct 60, LSC dim, Pinspots 12 PC Spots, 16 colour faders, Selecon zooms, Rays, Pars. 12 Morpheus PC Spots 16C Pars., 14 moles, Instinct, LSC Dimmers 20C Pars, 10 Colour Wizz, 16 Leko's, Instinct 60, AVO racks.

(continued over)

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SHURE

The Sound Of The Professionals

Hire Equipment News

A 1 Audio, who some people prematurely wrote off last year, have added new consoles to their recently expanded fleet of EHT processed speakers and amplifiers. A Ramsa 4224 and a Soundcraft VenueII 32-8-2 console join the fleet, which is now minus a Soundtracs 32. At the top of the collection are the matching pair of Soundcraft Series Four consoles, both 40 ch, a FOH & a Monitor pair.

◆ **Audex Concert Sound** have added a Vienna 40 channel to the fleet. Vienna has VCA masters and many of the bells and whistles of it's larger stablemate, Soundcraft's Europa.

◆ **Premier Lighting** have added Intellabeams (known as 'I-Beams' stateside) and Trackspots, the products of High End Systems from Texas. The report says: 'No longer do you have to salivate like one of Pavlov's dogs at the sight of a choreographed Vari*Lite rig going through it's paces at a Prince concert or the revamp of a '70's quasi-religious, rock musical. With Premier

Lighting's new Trackspot and Intellabeam systems, you can afford to hire a moving light rig for your own shows'. They are roadcased and ready to go, they say.

◆ **CPN-2**, the Melbourne hire company, have added a Coemar Microscan 650 System.

◆ **Megatone** in Sydney have the Martin Pro 218 moving light in hire stock.

◆ **Cameleon Touring** in Sydney have added the new Clay Paky Tiger Scan to hire, this is the gobo rotating, 1200w monster that was just released at LDI '92.

◆ **Tony Miller's Lansdowne Systems** in Hobart have a full-on inventory, which includes S-4 Mk. 11 cabinets, the retrofitted version of Clair Brothers classic concert box. With Vented Cap Cooled JBL drivers installed, this is amongst the current leading cabinet type in the worlds touring market, although there are probably more TMS-3.

Lansdowne offer JBL Modular as well, which is made up of 3 boxes that stack real neat - a single 18" E155 bass cab, mid box with an E120 12", and a 2445/2385 biradial horn. E.V.'s successful Delta Max 1152F cabinets with 2118 sub-bass boxes make up the front line fleet.

In wedge world JBL Concert Wedges with 15" E140 and 2370/2426 1" driver combinations are joined by the E.V. 'Aerosmith' wedges, each with 2 x 12" speakers and a 1" compression driver. JBL R3 boxes make up sidefill/drumfill, these each have 2 x 2225 15" woofers, with a 2" 2445 driver on a 2385 flair. Amps are Australian Monitor for bass, and Carver for everything else.

PM 1800, MC2408, and Soundcraft consoles make up the mixers. The guys have Lights, Stages & Tents. Call (002) 311-505.

◆ **Strange Lane Productions** are out with James Reyne at presstime, and although based in Warragul, do serious roadwork anywhere. The system has ARX subs and mid-highs, with 8 wedges and drumfills. Australian Monitor is the amp type, and they have a Yamaha 32 console. Monitor console is a Yamaha Spirit 24-8. Rob Miles is Strange Lane man, Monitor op. & P.M. The crew with Reyne are Steve Cambridge FOH, Andy Mutton LD, & Mark Bennett, Stage. Call Rob on (056) 234-009. Lights are from **Trican Lighting**, Peter Whelan has an Instinct 48, 62 LX & 4 Moving Lights - Martin Pro-218's. This is a growing trend Call him on: (056) 234-368

LIVE PRODUCTION DIARY

Artist/Tour/Show	Crew	Equipment & Notes
Joes PA Hire The Radiators - SHOWS Club Hoy, Gyan, Dog Trumpet SHOW	SYDNEY Gary Maddox BE, Joe Scaturro SE Bruce BE, Benny LD, Casey & Greg SE's. Surnames?	(02) 564-2521 JBL double 4 way stereo, 6 active FB sends, 40 cans Single Renkus Heinz system, 6 sends, 24 cans
Hectik Electric Toyota Breakfast (Grilled Chook?) Kodak Roadshow	MELBOURNE Ian Fiddes PM, Ian Fiddes SE	(03) 827-9036 Theatrelight 24, LSC racks, 9 1k profiles, 5 fresnels Instinct 48, LSC racks, lots of lights.
Lansdowne Systems Hoodoo Guru's Australian Quality Awards Anniversary Concert (1812 Overture)	HOBART Stevan Borojevic, Shaun Patmore, (SOUND) Mark Hayes, Richard Wythes (LIGHTS) Stevan Borojevic, Mark Chatburn, Tony Miller, Mark Hayes, Doug Edwards - CREW Doug Edwards, Collin Ellis, Russell Lowe	(002) 311-505 PM 1800/40, S4 Mk.II speakers, AM & Carver amps, LX EV Delta Max spkrs, S'Craft 200B & 600, lots of comms EV Delta Max spkrs, Stage with roof, Lights etc.
Fernandez Music Fun in the shade (Aboriginal CONCERT)	CARINES N. QLD Mark Willaims SE	(070) 518-519 PA system supplied, 17 didjiridoo mikes required.
Lots Of Watts 1927 TOUR TCN 9 X'Mas Party Peoples Choice Awards Fishers Ghost Festival	SYDNEY Brian Roff LD, Russell Austen RIGGER/DRIVER Ian Anderson & Philby-SE's, LD's, Losers Greg Kean MOVING LITE OP Greg Kean, Ian & Stuart Anderson CREW	(02) 638-0302 Instinct 60, 32 Par, 12 Ray, 4 profiles, moles, Pallas 4's Event 48 Plus, 8 Golden Scans, 32 Rays, 32 64's, 6 disco FX Event 24, 6 Clay Paky Golden Scans Event 48 PLUS, Instinct 60, Racks, 60 cans, 6 Golden Scans
McLean Audio The Shamen SHOW Tori Amos - Atheneum Theatre SHOW Paul Norton	MELBOURNE Noel Bennett, Marc Dunand, Jamie Ellis CREW Julian Spink, Steve Cambridge CREW Noel Bennett BE, Jamie Ellis SE	(03) 429-5381 PM-1800/40, MC3210 monitor console, 20 cabs-JBL Modular M1516 console, 6 Clair Bros. R4 cab's. M1532 console, MC2408 Mon, JBL modular 3 way, 8 wedges
Oceania Red Hot Chili Peppers Rock Melons Deisel 6th Festival of the Pacific Arts	NEW ZEALAND Greg Peacocke, Mike Smeaton, Simon Venning SE's Paul Jeffrey, Mike Smeaton, Simon Venning SE's Greg Peacocke, Paul Jeffrey SE's Cermir Vega D32's, L36PE, Soundcraft Spirit 16-3	(09) 849-3114 TMS-3's, Oceania D18 subs, S/craft 8000 SLP/DLP wedges TMS-3's, Oceania D18 subs, S/craft 8000 SLP/DLP wedges TMS 3's, D18 subs, PM 3000, Oceania 40-20 mon.console
Showcorp Halloween Concert McDonalds Conference St. George Bank Conference	SYDNEY Colin Baldwin LD, Mal Williams SE Ian Couch PM Kevin O'Connell LD	(02) 878-1799 800 Par64, 12 Intellabeams, Celco 90 Gold, Meyer PA, PM1800 Meyer UPA-1A PA system, PM 1800 console 500 Par 64, 90 1K Fresnels, Theatrelight 48 Desk
DEFINITIONS- BE: Band or Artists engineer, SE: System Engineer, PM: Production Manager, TM: Tour manager, LD: Lighting Director and/or designer, MON: Monitors, FB: Foldback, LX: Lights, CREW: People doing things.		

The Sound Of The Professionals

SHURE®

Summer In Paradise

BEACH BOYS tour with some difficult scheduling. Try Sydney to Perth - overnight - !



Finding a place in the sun while the USA slides under a snow blanket is a desirable move. The Beach Boys managed to have themselves booked through Australia in November - the start of Summer, down under. Summer In Paradise, the tour was flagged, with new promoter Michael Manchee scheduling shows in all major cities.

Production Manager Charles 'Chas' Yost had a planning nightmare with the original plan calling for overnight shows all over the vast continent, this was re-planned when artist management decided what works stateside won't work in Australia.

It's the first time through the Great Southern Land for Yost, "I'm really enjoying it, from a production standpoint it's been totally together. CLS are providing PC spots, Jands are doing the rest, the crews are very professional, very eager to please. It's beyond expectations for us, actually."

"We've been advancing this tour for about 5 years, planning to come out about this time each year. For one reason or another we've postponed it. Through all the advance work we've done we've found out a lot about touring here. But this is beyond our expectations, for the quality of production. Initially the tour was scheduled very poorly, now that we (typically) have a travel day it makes sense".

This interview was conducted during the second-last date, in Sydney. The outdoor concert had a 6pm curfew, leaving just three

hours to pack essentials and hop a special flight to Perth - four hours West across the continent - essentially the same distance as New York to LA. The Perth show was scheduled for the very next day, and only really possible due to picking up 4 extra hours through the time zones.

"As soon as we're off stage here today, we'll jump into it and within 45 minutes have 4 LD containers loaded for Perth. We're taking frontline monitors and some backline we couldn't rent there to our specifications. We have an inflatable front end (prop) of a 1958 Corvette too, it's a very nice gimmick for the stage. It breaks down and goes into a rather large piece of tupperware. We've got about 6 tonnes for Perth, and it'll go onto our flight at 9pm tonight. The set and stage are being built there, and we'll pick up sound and lighting there. We'll also load a sea container to go back to L. A. after the show today".

"This is not unlike doing the Washington Monument on the 4th of July, then flying to Miami Beach for a show the next day. We have the ability of doing as many as three shows in one day, we can do that. The original idea here was to have our own backline and rent a second set, we didn't like that because it's difficult to do even in the States - let alone to come down here and do it. We demanded to tour be re-scheduled. We wanted to put on a quality performance, and we felt the only way we could accomplish that was to do it with the same backline and monitor system every night, and maintain our continuity through-



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- Completely C.L.S. compatible

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Beach Boys - from previous page

out the tour. You can't do that unless you have the same equipment throughout the tour. It's just too hard trying to dail up a new monitor system every day - and go on without a soundcheck. Today there simply wasn't time for a soundcheck."

"The promoter connection was made higher up in the management chain, but we didn't know him. believe me, we wouldn't be doing it if we didn't have confidence in their abilities to provide what is needed. And that's what it all came down to. We're very happy"

The act finished downunder by delivering the tough Perth show on schedule, then immediately caught the 'red eye' back to the East, getting into Sydney at sunup. Maintaining the pace they connected with Northwest flight #92, the non-stop to LA. This is touring done hard and fast- a veteran act that can keep up with teenagers!

PEOPLE ON THE ROAD

The Scene behind the scenes.

Like all international tours, the one one has a cast and crew menu that reads for some time.

From the USA came the **four Beach Boys** themselves, **8 band members** including celebrity something John Stamos, **6 'cheer leaders/dancers'**, **4 management people**, then Chas Yost's crew. These numbered **12 inclusive**, so the total international count came to **34**, and this is before wives, kids and the rest.

Locally the promoter **Michael Manchee** utilised the following:

Jack Rosen - finance, **Tony "what are YOU doing here?" Cochrane** - Tour Director, **Kerrie Jarvis** - Tour & Site Co-ordinator, **Wane 'Swampy' Jarvis** - Production Manager/Promoters Rep, **Robbie Jarvis** - Assistant Tour Manager, and **Greg Nelson** - Security Director.

The Australian Crew was made up of:

Craig Knight, Robert Kelly & Kyle Ludgate - Jands Lighting;
Richard Grenfell - PC Operator, Concert Lighting Systems;

Introducing Australia's **BEST** National Classifieds ... in **Connections Magazine**, the Industry Monthly, appearing from February. Connections classifieds **SELL**, and to prove it, have one **FREE!** Until January 25 - our deadlines are always **TIGHT!** Call (02) **876-3530** to place your ad - 24 hours!

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MELBOURNE P.A. & STAGE EQUIPMENT

521-523 NORTH ROAD, ORMOND 3204 HOURS: 11am-6pm MON. TO FRI, 11am-3pm SAT.

Craig Burrige, Andrew Mitchell & Matt Debien - Jands Sound;
 Brian Lizotte - Catering, and Ken Darby - Electrician.

A tour like this generates a lot of local employment, consider this array of interested parties -

Publicity & Promotion: *Eloise McAnulty-Nolan* from Publicity Australia worked her butt off marshalling a huge flock of flack (buzz word for media types) and co-ordinating publicity.

Advertising: *Rebecca Blake* from Blake Advertising had first-rate posters everywhere, including on busses and trams. A lot of media placements are executed for a tour like this.

Production: Aside from the sound & lighting personnel on the road, much preparation is done prior to the tour - often hundreds of hours. Principals of the production firms - *Eric Robinson* and *Peter Rooney* from Jands, and *Trevor Lloyd* from CLS - take an acute interest and involve themselves and other staff to ensure the tour progresses to schedule.

Flights & Transport: *Rod Matthews, Justin Allan and Phil Duncan* from Showtravel/Showfreight pulled together the logistics of international and domestic flights, and ground transportation. John Kline and his team of professional drivers ran their LNT 9000's around the land, on time and on schedule to deliver the countless tonnes of equipment.

Merchandising: *Patrick Fincham* from Breakespeare Promotions pulled in countless casual staff to flog the endorsed wares he obtained in conjunction with the act's management.

Staging: *Frank Greer* from World stages built outdoor stages in Melbourne & Canberra, *Carl Harrison* from Instant Stadiums did likewise in Sydney.

Promoters Reps: *Louise Carroll* (Brisbane), *Frank Stivala* (Melbourne), *Don Elford* (Canberra), *Gareth Lott* (Adelaide) and *Sherrin Daws* (Perth) all did their bit.

The Rest: Working at various concerts handling various duties for the tour were drivers, runners, countless security people, bus drivers, catering staff, concession staff, hairdressers, wardrobe people, loaders, riggers, venue staff, ticket sales people - & more!



Beach Boys - the fans are getting younger!

On the way to the outdoor show in Sydney, held at Narrabeen Reserve on the Northern beach strip, your writer somehow drove his new car at great velocity into a carload of young family who were fortunately intact and unhurt after the shock wore off. They were headed for the show in a likewise new car, and young Renai Warner (aged 7) of Condell Park was in tears on the curbside as the wreckage was towed away. She thought she would miss the concert!

The torrent of tears from that pretty face stopped when I ripped the colour cover out of my Beach Boys tour book, and gave it to her. They still made the show in plenty of time - mum, dad, and the little 4 year old sister. Troopers all. (They also accepted with great grace the costly destruction perpetuated by the idiot writing this, who should not be allowed near any kind of expensive equipment, cars inclusive. The NSW Police also hold this view).

Isn't the music business eternal? When Renai gets older, chances are she'll take HER kids to see the Beach Boys. I'd put money on it!

A Channels overview of all this -

All the above do their gig irrespective of the tour turning a profit or loss. In this case the promoter is a relative newcomer who has stimulated the economy by funnelling leisure dollars away from gambling, movies and sin into live entertainment. Anyone taking a risk on any kind of entertainment promotion is gifted with magical powers, this tour was no exception because it was sunny for the outdoors shows. Just as well, as there were no apparent rain dates



Chas Yost

John Rossi, 'Boys LD, talks about his gig

The Beach Boys asked me to incorporate the work of Maui marine artist Robert Lyn Nelson into a scenic design. I didn't want to limit myself to just one look for the show, so I had other scenery including giant palm trees, a giant inflated '58 Corvette and 20 tiki torches.

Pan Command (the moving light system from CLS, made by Morpheus) allowed me to light all the scenic elements in their various positions on stage, using the same fixtures. It is very effective. If I'd tried to do the same thing with conventional lights, I would have had to dramatically increase the rig size.

I am very happy with the way I can make everything work - light the scenery, light the band, light the audience, do special effects and fit it in any size venue and into one truck. This is the third year I've used Pan Command, and it's just gotten better and better.

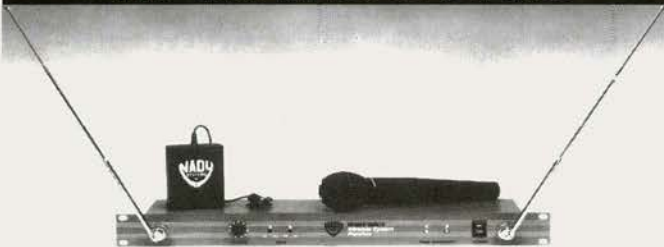
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Chilli Peppers

Big & Small Venues, the band tour with Meyer and bring Gerry Georgettis home for a spell.

It was all Meyer as the Red Hot Chili Peppers blasted across the country in Spring, the sound system was wholly supplied by Sydney's Audio & Recording. "This is one of the largest systems of its kind", said A & R chief Ian Richardson. The other system not unlike this one is owned by the Grateful Dead, who operate a sound company called Ultra Sound.

The tour took in a variety of venues, from barns like Sydney's Hordern Pavilion, where the previously cancelled leg of the tour was re-run, to cavernous arenas like the National Tennis Centre in Melbourne. To truly satisfy the demand a new talent act like this generates, there was the odd club date as well. One of the gig reviews, which are often oblivious to production standards, states: "The sound was appealing as all hell, loud without pain, clear without blandness".

Ian Richardson has been developing his Meyer system for some time, to the point where it is now at an international standard, with enough of everything to handle the demands of a band with a serious rider. All speaker cabinets are Meyer, as reflected by A & R's role as Meyer distributors in Australia. Meyer has been embraced as a leading type downunder, where Troy Balance Corporation also operates an arena standard system.

A & R's system incorporates virtually every mainline Meyer cabinet, with the highlight being the massive MSL-10's. These are an ultra long throw cabinet that weighs in at 350kg. They have flying hardware and fork lift points onboard, and feature an environmental control module inside. This is a consequence of the fact they are designed for use outdoors, where heat, humidity and moisture are a problem. This is handled by humidifiers and fans inside, so 24C is run to each cabinet with the speaker signal.

Taking a total approach, Meyer supply special MSL-10 amplifiers, which run in bridge mode and deliver 2,200 watts each. Thus a rack of three amplifiers is capable of 6000w plus, and drives just one MSL-10. Each MSL-10 is loaded with a narrow throw horn and four 12" horn loaded speakers. A bank of 30 peizo's completes the compliment, and a pair of MSL-10's will couple down to 40Hz. The cabinet has a nominal dispersion of 30°, which is tight indeed.

"I took a walk upstairs earlier", said production manager Gerry Georgettis, "and I was blown out by the sound". Georgettis is, as



Lighting with attitude. Ian MacEwan talks to Catriona Forcer about the gig & the art

Lighting designer Ian MacEwan (Mac) spent his formative years with Chameleon Lighting before getting his first major break as a lighting designer on the recent EMF tour. The group's management were also responsible for the Red Hot Chili Peppers and, impressed with his work for EMF, they offered him the design for the Pepper's current world tour. The tour started in Europe last February with quite a small lighting system comprising nearly 200 lamps and just two crew. The tour then went to the USA where the band became the headlining act on the infamous 'Lollapalooza Tour' - a large touring American Festival. Other acts which featured this year were The Jesus and Mary Chain and The Ministry.

A much larger lighting rig was required to accommodate the sheer scale of the tour which was playing to 20,000 plus arenas. "It became so enormous, it was horrible, and I got it all wrong," admitted Mac. "I had this idea about arena lighting and I tried to change it, but it just didn't work. Consequently, several shows in, I changed the whole system to create lots of light upstage because throughout the tour I was stuck with a stage depth of 26 feet and a trim of 28 feet. As a result, we had the problem of lights coming downward and just bouncing straight back up again, as opposed to coming from upstage and

many readers already know, a 'veteran' Australian sound engineer (best known for his loud years with Cold Chisel) who now lives in the USA. "Miami, actually", he said, explaining that to get his work permit there he had to marry a local. "But don't get me wrong, she is a wonderful lady, it has worked out just fine". Georgettis is working for the Chilli Peppers, and has occasion to sometimes work with Spy Mathews, another ex-pat Aussie, who runs Delicate Productions in California.

With a total of 8 MSL-10 cabinets in stock, A & R chose to use five in Sydney at the Entertainment Centre, flying them as a centre cluster with three 650 sub-bass cabinets. These have 2 x 18" speakers in each.

The main left/right arrays were made up of MSL-3's, and DS-2 cabinets. The DS-2 is a recent innovation I was unaware of, which is 2 horn loaded 15" speakers, running as mid-bass cabinets from 60 - 150Hz. This is in my mind the missing link, as I was always a little uncertain of the disparity between the MSL-3, which is a horn loaded - and efficient - cabinet, which was always used with the 650 sub. How can 2 front mounted 18" woofers keep up with a couple of MSL-3's, I used to wonder? The answer obviously is the DS-2.

8 MSL-3's were flown atop 8 DS-2's each side, so in the air was for all intents and purposes a full range system. This was supplemented by 10 650 subs stacked on the floor at each side, with a couple of small UPA cabinets for infill.

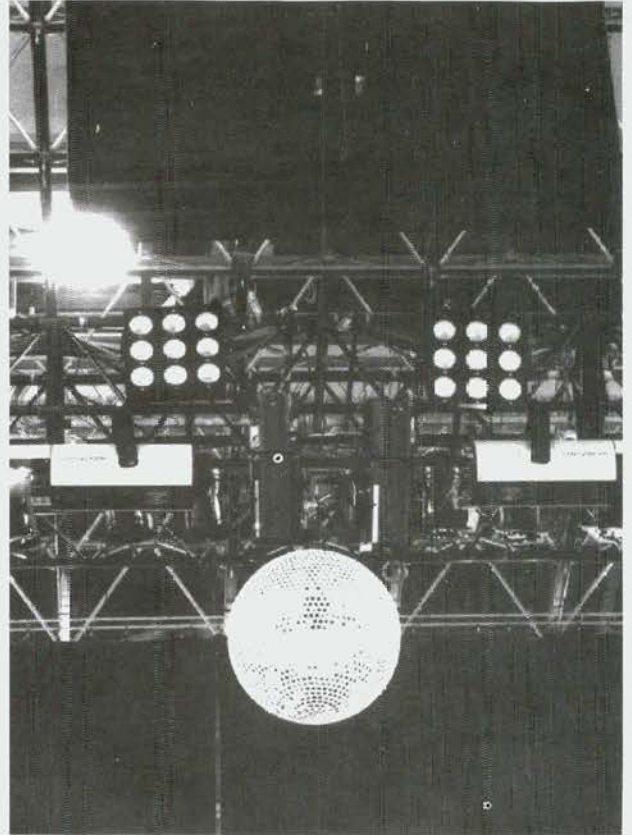
At the amp racks I took my hat off to Richardson, because he has built his own Quad Amplifiers, purposely to run this system. Each amp has four sides of 540 watts each, running at 4 ohms. Audio & Recording's Chief System Engineer Bruce Thomas takes up the story: "In the real world you want an amp that's good and clean up to 400w RMS. After that, the (Meyer) processor is going to shut it down anyway."

The amps have two volume controls, one for each stereo pair, and a 20 turn trim pot on each input at the rear. "Before we take the system out, we wheel the rack up to the Audio Precision (test station) and calibrate every amp



Gerry Georgettis, production manager

Ian Richardson and Bruce Thomas from Audio & Recording Australia.



LIGHTING (continued) pointing forward. I had to change everything around to make it less ambient and more directed as well as get a much nicer shape. At the start I had six L' shapes and I had to change it into eight 'V' shapes.

"Some of the other acts at the festival used my rig. However, of those, only the Ministry were able to stretch it to it's full potential, as they were the only band, apart from the Red Hot Chilli Peppers, that actually performed once night had fallen. Everyone else played in the daylight, so it was hard for them to create much with the lights. The Jesus and Mary Chain had a lot of trouble because they were on at 4pm in brilliant daylight and their performance is not geared towards daytime concerts. In response, they flooded the stage with so much smoke it became a bit of a joke. The dominant feature of the stage was a stream of smoke instead of the band."

The Red Hot Chilli Peppers have no say in the lighting design and they claim not to care. For the entire show they only requested that two cues be included, and not surprisingly, Mac finds them very easy to work with. The design changed again for the Australian tour because the money just wasn't there, and it was unnecessary to have a show that size for the venues concerned.

"The 'Lollapalooza Tour' was designed for 20,000 plus so whilst it's easy to get the show happening for the 5,000 in front of the mixer to the stage, you've got to remember the 15,000 people behind," explained Mac. "That is why the lighting rig for that tour was so big. Here in Sydney at the Entertainment Centre we can get away with a smaller show relatively speaking. It's still quite big, it's very primaries, all very basic. I tend to follow the work that Colin Jones and Peter Barras have done in the past. It's very much a Chameleon type of design - very basic things, very basic colours, very basic moves. Quite simple. It's not like a big art show because they're a rock band."

The show covers a broad spectrum of looks and from very subtle, quite simple effects, to very jazzy looks with all the colours going. The show ranges through large multi-gobo backdrop looks to an intimate feel for the quieter numbers, as well as to some rave elements.

"It's a bit like doing a larger version of EMF", said Mac. "I'm

input equally, so they're identical. It's very important", said Thomas. The amp racks have pull off covers slotted into the front and back, held with velcro making for quick and simple setup. This is my preferred style of rack for certain, because you don't have large lids to stash away somewhere.

At front of house, A & R's TAC SR-9000 console sat ready, with a pair of novel patchbay arrangements that gives 20 sends and returns on each. Thus 40 sends and returns are available to the effects racks, via 2 miltpin cables. The mixing consoles auxiliary sends are run to the patchbay as well. The Chilli Peppers were mixed by Tony Selinger for their Australian leg, while their regular engineer is out with Pearl Jam, another young band with attitude.

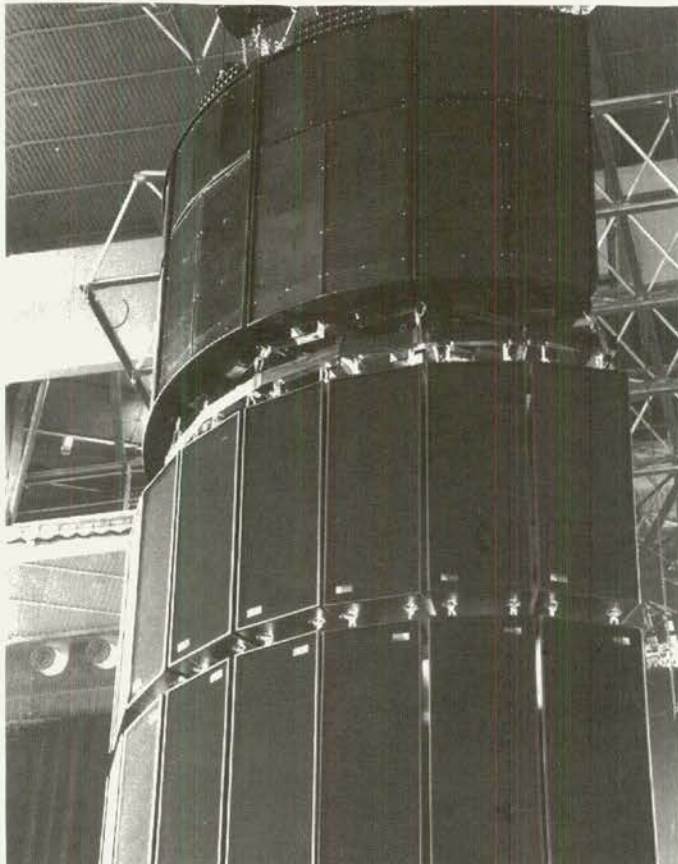
Foldback is via another Richardson product, this time a 32-12 monitor board. It has a 5 band parametric equaliser on each output, and a variable dim button, or 'panic' switch. This is a button above each send master fader that can be hit to retard that particular output by a variable amount. Soundcraft call it "DIM" on their consoles. The 32-12 is to be replaced by a more comprehensive type sometime soon, according to Bruce Thomas.

Onstage there is a smorgasbord of Meyer types, vocal sidefill is achieved with two MSL-3's on each side of stage. Kick, snare and bass fill have a combination of boxes to do the job. There is a pair of 502 boxes, which each have a single 18" woofer, then a DS-2, the low-mid 2 x 15" horn loaded cabinet, atop which are a pair of UPA's. Drumfill is a similar combination.

16 Ultra-Monitors complete the foldback equation, which truly needs to deliver some grunt for this ultra loud, brash young band. In fact, the foldback rider stated: "Drums and Bass Guitar must be at ear splitting levels!"

Many engineers speak of the hazards of working with young acts like this, who are really not all that seasoned. Gerry Georgettis has the last say: "I'm watching my hearing these days. I'm glad I don't do much FOH any more!"

BY JULIUS GRAFTON.



LIGHTING (continued) still doing my show, but applying it to another band." A main feature of the set is a large spinning wheel with a diameter of 20 feet. It's a big double spiral which semi-hypnotises the audience. The prominent backdrop is a copy of the bass players shirt and when he requested it to be used for the backdrop design, Mac admits he thought it was a joke. Despite the initial doubts, it actually works very well. The tour has had no other problems other than Mac having to sack four followspot operators in the USA for being too slow! He states that they were really bad callers although his broad Scottish accent might have something to do with the problem!

The supply company was Arena Technical Services, and Mac was very happy with their service and equipment. He was pleased that they were able to manufacture some special kit for him, including the kabukis, as well as trying hard to get the right sort of mirrorballs required. The lamps include a selection of Pars, ellipsoidals, groundrows, 5k's with barndoors and 8 lites, working alongside 16 Intellabeams.

"I've been using I-Beams for about 18 months, in fact, since I became a professional designer. I like the product, the speed it moves and the controller that goes with it. They're very easy to use, and in some cases, preferable to the golden Scans which have to be programmed from a separate board. Again, I get on well with the people at the company. I would like to learn to use Vari*Lites because there are a lot of instances when I-Beams just don't hack it, like doing set washes. Eventually I'd like to use a combination of both units."

As he has recently married an Australian girl, mac intends to be based in Sydney for a while. After the Chilli Peppers tour he hopes to have a short break, but after that he's for sale! There are a couple of tours currently under negotiation, as well as the possibility of involvement in a large Australian Festival in January called The Big Day Out which visits the five major cities.

"I don't really want to go back to Britan as it's so depressed at the moment. I've got good contacts in the USA so I'd like to be able to spec most of my work outside of Europe now."

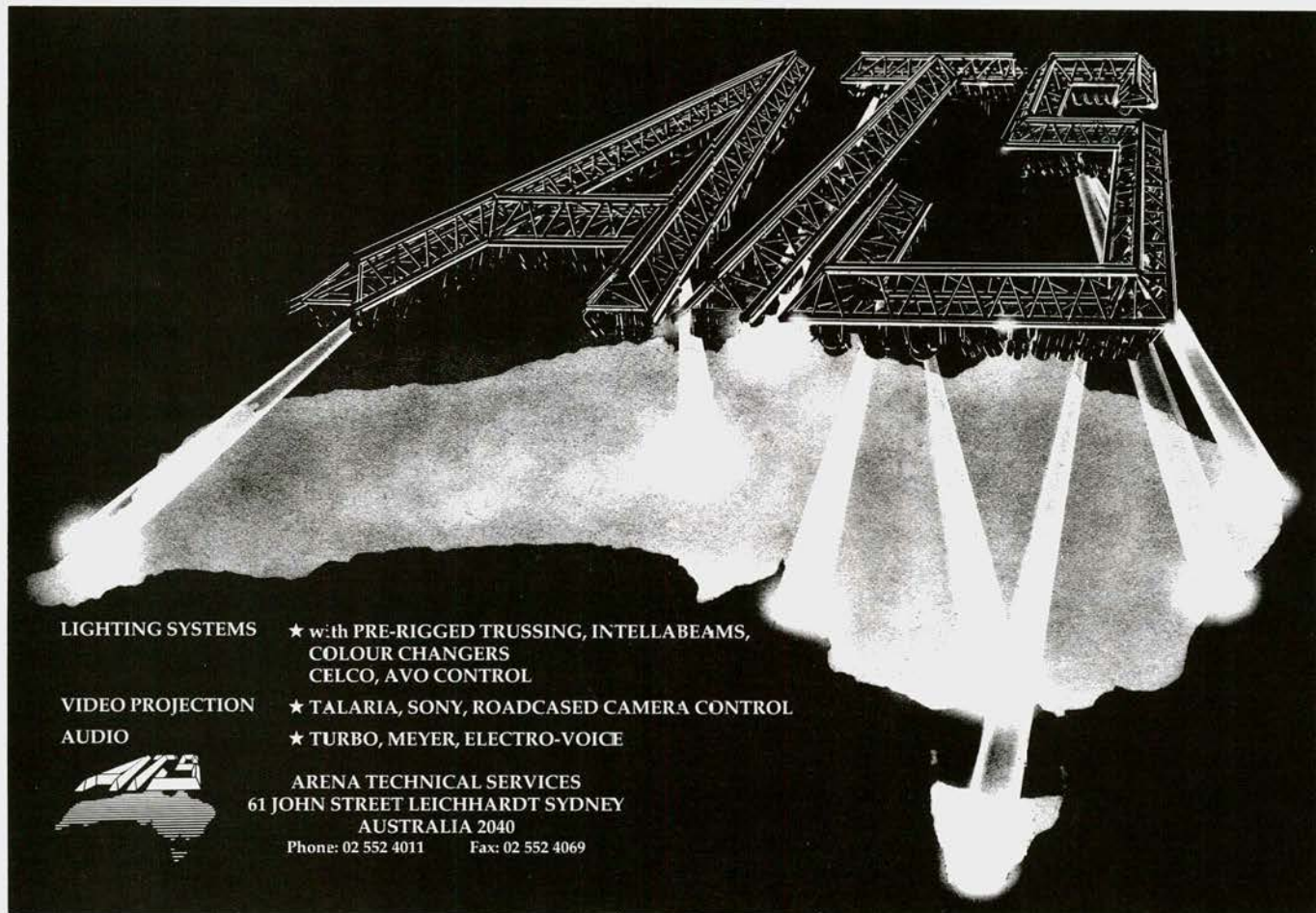
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HUNTERS & COLLECTORS "Cut Live" Tour

Catriona Forcer visits Sydney's State Theatre to witness an elaborate production- & see a saw!

The tour structure with Hunters and Collectors is a little unique and somewhat baffling to outsiders because there does not appear to be any hierarchy in terms of exactly who is in charge. The band work as a democracy of eight people who congregate around an actual round table to thrash out ideas. Rob Miles, FOH Sound and Designer, is classed as one of the band and he believes it is important that all aspects of the tour are intergrated and discussed among those concerned.

"It just comes together and, when it works well, it's fantastic but it can be an ordeal at times," Rob admitted. "It takes a long time but it's a good way to work."

Rob is also an architect and he is obviously very concerned with the visual imagery surrounding the band. Rob finds it important to co-ordinate the visual theme through record covers, stage sets and merchandising, all of which he designs. The image of a circular saw runs through all these designs and the idea was conceived last April by Rob and Alan Stone, Lighting Designer. Whilst Alan was visiting Rob in his Melbourne home, he was shown by an enthusiastic Rob how well a saw blade he had recently purchases fitted into a CD cover(!). What a great concept, exclaimed Alan and from there it evolved into the stage set we see today. The band liked the idea so much they called their album "Cut". Once it was decided to have a saw blade on the set it took five minutes to scribble down the ideas but considerably longer to find people willing to attempt to build it.

Alan Stone (ex pastry cook) has worked as lighting designer for bands such as Ice House, Big Audio Dynamite and the recent Yothu Yindi tour. On his third run with Hunters Collectors, Alan is using ten Intellabeams and he is extremely pleased with their performance. Most of the set lighting is done with Molefay Duets with gel on them although the Intellabeams

are also used to light the set. Because the band is fairly static, Alan tends to use the Intellabeams more like a truss follow-spot.

"There are quite a few songs in the set where I don't use FOH spots at all, just nice tight Intellabeam cues," Alan told me. "I've used Intellabeams on the last three runs but this time I have the new LCD Controller which means that programming time has been cut

down quite dramatically. The fact that you can now save to a RAM card, take the card out and go anywhere in the world with you is a great function. I prefer them over other moving lights because of the speed, they're very quick. I like the Vari*Lite but I find the Intellabeam has a little more output than the VL2b. They are also very user friendly for what I want to do and take up less truck space. All you basically need is power to your lights, 3 pin cables and your controller unit and your away. On the last tour I was able to take them into my system engineers garage and do the bulk of my programming there which normally takes about 40-50 hours.

The only problem I've had with the Intellabeams is with the lamp adjustment screw where there's a tilt, to tilt the lamp up and down

and where the lamp fits through the reflector there's not quite enough clearance. When you're optimising it touches the reflector with the globe itself. We didn't notice this until we started transporting especially on the bad road up the NSW coast which was quite bumpy. The lamp hit against the reflector and the actual globe was breaking out of the ceramic base. That caused another problem on one of the lamps where some of the fine pieces of ceramic got inside the ON/OFF power switch so we didn't have power to the light."

It was at that point that the technical whizz kid on the tour, the bass player and the frustrated crew wanna'be John Archer, was called in. After pulling the lamp apart, he found the problem and fixed it earning himself the title "Intellabeam Tech".

Apart from that incident, the only other problem has been with power where the voltage drops in buildings and nothing to do with the light what so ever.

According to Alan, the LSD ColourMags have been giving a lot of grief on the tour. There are seven being run from the ColourMag Controller as well as two Showcraft MoleMags built by Lee Conlon. Alan had used Showcraft colour changers on a previous three month overseas Ice House tour and they never dropped abeat.

"The LSD ColourMags have only one motor whereas Showcraft have two, so one pulls one way and one pulls the other, actually giving tension to the gel strings," explained Alan. "The gel strings get a bit old with heat, start to buckle up, and, because there is not enough tension to keep them straight, you run into problems."

Alan is running a Jands Instinct 60way board because it's "the devil I know" and it is actually owned by the band so to go with a larger board would have cost money. The band also owns many of the lamps except the Intellabeams and Profiles. Alan describes the Instinct as a reliable board and the only real problem being the lack of LED or LCD readout beneath the scenes. His lighting systems engineer, Glen Williams, cues all the ColourMags and cues the Instinct into the next page at the start of every song so that Alan has time to cue the Intellabeams.

Alan wanted to make sure that the supply company Arena Technical Services was mentioned.

"I'm more than happy with ATS production," he said. "I was quite surprised at just how competent the crew are and how good the production is. At first I was reluctant to use them, as I would have preferred to have gone to Jands, but I'll definitely use them again."

The box truss, 12m*8m, had to be cut down to 10m to fit into the State Theatre. For the club shows the stage set is omitted and the rig is stripped back to eight bars on the front truss and a U-shape rig with Intellabeams evenly spread on it.

The industrially inspired stage set is 7.2m high with the saw blade standing 5.3m high. The saw blade is deceptively simple to construct and was built by Des Beech. The outer rim of the blades is wooden whilst the centre is a reflective fabric (similar to police vests) which is velcroed into place. The centre nut is a fabricated piece of timber that bolts through the back in two places. The saw blade is rotated by "handraulics" (hand cranked) and Simon, the operator, has consequently already lost 9lbs in weight on the tour!

For most of the show the saw blade is obscured by painted drapes and it is not until the song "Grindstone" that it appears. The song starts with Mark Seymour playing guitar in the doorway stage right. He plays a riff once, kicks the door open with his feet, the smoke machine starts up and an 8-lite comes on behind him. Whilst the audience attention is obviously on his silhouette, the tab track is revealed, the Intellabeams swing down from the roof and there is the saw blade.

By the window stage left is another doorway barely visible from FOH and in front of it is a 16ft*4ft catwalk with a hand safety rail around to fit in with the industrial theme. During a couple of numbers, band members are sneaked up there in darkness to



Mark Seymour (musician) and Andrew Chapman (Stage Manager)

perform solos. The window itself has a 2K Fresnel coming through it in orange and with a cyc around it lit in blue it simulates sunshine quite well. With some added smoke it is used for a background to trumpet solos. The platform underneath has a skrim around it so when the cyc is lit, all the scaffolding and junk in it is visible adding to the industrial look of the set.

Midstage there is a grill with monitors underneath it and some 1200 watt QI's, although Molefays were tried they did not give a hard enough edge.

Another interesting piece of the set is the old Marshall Fridge which is employed during the hard edged, black funk style song called "The Slab". There is a part of the song where it stops with a scream and at that point Mark Seymour opens the fridge which contains an 8-lite. It's pushed out on stage and focussed on the centre mic. Then, amidst plenty of smoke, Mark Seymour stands in front of it and walks forward playing the guitar in silhouette. More rear silhouette is achieved with floorlights shining through cut outs in the stairs centre stage.

The whole show is asymmetrical in its design which is a great help in theatres like the State where it is difficult to find centre anywhere.

"I prefer to design asymmetrically," Alan told me. "I find it more adaptable although there's not a lot of people doing it. I find you can use a lot less lamps more effectively. The good thing with the State Theatre is that the paint splattered walls to the side of stage and all the ropes and pulleys fit in great with the industrial look!"

Rod Matheson, monitors, describes his system as really basic with nothing complicated.

"I've just kept a standard club system," he said. "I've just intergrated a bit of the FOH speaker bins and amplifiers to run them for side-fill and thats about all, just added a couple of extra sends. The band is so used to working in pubs and clubs where the sound is all engulfing and as soon as you get in a theatre, because you don't hear as much of the room sound, you've got to recreate some of that pub vibe on stage. That's probably the hardest thing - working a comparison between pub and sit down theatre shows. You've got to still keep it clean but try make it solid so they actually feel like they're thumping around in a pub with a bit of vibe. For me it's good working in such a controlled enviroment. You don't get interferred with by the FOH sound as much which doesn't cloud the sound on stage so your monitors stay more pure.

I have Yamaha amplifiers, a Yamaha 2408 console, Yamaha Q1027 graphics and SPX90's. I'm squeezing a few extra sends out of the board by doubling up on a couple of sends, pairing up the centre mix with another set set of wedges. We're keepin within the normal system but everything has doubled in size except the monitors and the FOH desk, so we compromise a little bit.

It is an all Hunters and Collectors system except for the FOH speaker boxes and amplifiers which have come from Troy Balance. The extraordinary John Archer, built and designed the audio system. Rod describes it as a



Chuck Xypolitos "Chuck Alphabet", PA System Engineer extraordinaire



Rob Miles, FOH Sound, Designer, & member of band.

really good system that does all the pubs and clubs but, because they are doing bigger stages, a flying system is needed and his system is not designed to fly. So John's system is utilized for monitors and a flying system hired. Rod was keen to stress that the most important part of the evening was whether you had the right wine or not.

FOH sound engineer Rob Miles is using a Meyer System which he has had to fly in some difficult rooms but so far has worked out well with coverage and for sightlines. The Meyer System was chosen over the S4 or Turbo because the theatres being played at had very tight sightlines and the width of the MSL is an advantage although can't figure out why they weigh so much. Also Rod was very pleased with the sound produced with the Meyer.

"I've got my normal desk and effects which is all pre-programmed and saved to memory after every tour so I can get it up quickly," Rod explained. "Again it's highly intergrated in with the band, fairly specialized. We've got a sampler that we use, which in most cases stays down at the stage (in this case drums not keyboards) that is all in my patch change as well. So when all of my effects units change for every song, the sampler is in part of that chain and the drum machine and loops that we use. That's all intergrated and it makes sense to have it FOH so the drummer doesn't have to worry about it during the show. It works well, triggered by gates and things."

For the second show at the State Theatre the lower part of the PA was lowered to get better penetration into the middle level and to get the bottom horns of those boxes to work slightly better downstairs as well.

Certainly a visually stunning show but there is just one big question that remains. Just who did own that tube of Clearasil found at the FOH desks? ■

Thanks to John Peape and Frontier for initiating this coverage.

Catriona Forcer writes for *Light & Sound International*, the London based publication. She has moved to Sydney, where will contribute to *Connections*, the forthcoming magazine.



Alan Stone (L.D.) with the Marshall Refridgerator. Open the door, and here's your Molefay's, sir! What this all means is criptic to the person writing these captions!

Hunters & Collectors - The Crew List

Rob Miles, **FOH Sound and Designer**
 Chuck Xypolitos (Chuck Alphabet), **Troy FOH Sound**
 Rod Matheson, **Monitors**
 Mick Lagler, **Hunters PA Rigger**
 Alan Stone, **LD/Design**
 Chris Murphy (Revs), **ATS Lighting Rigger**
 Glen Williams, **ATS Lighting Systems Engineer**
 John Archer, **Intellabeam Tech(!)**
 Mark Hill (Mumbles), **Guitar Tech/Stage**
 Andrew Chapman (Chappo), **Stage Manager**
 Simon Gregg, **Set Master**
 Brad Duncan, **Transport/Blade Runner**



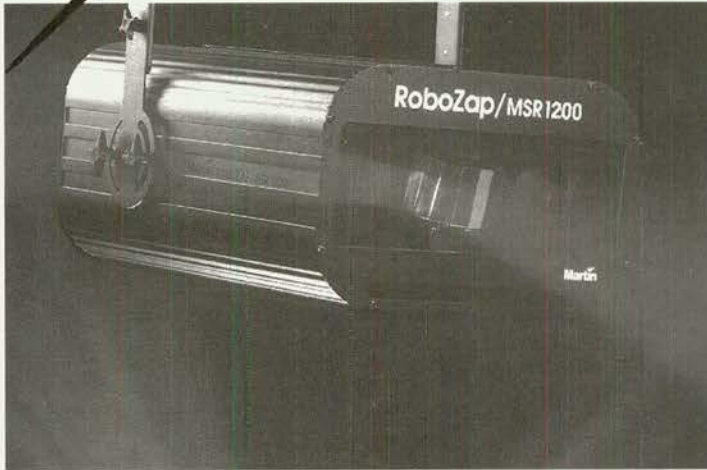
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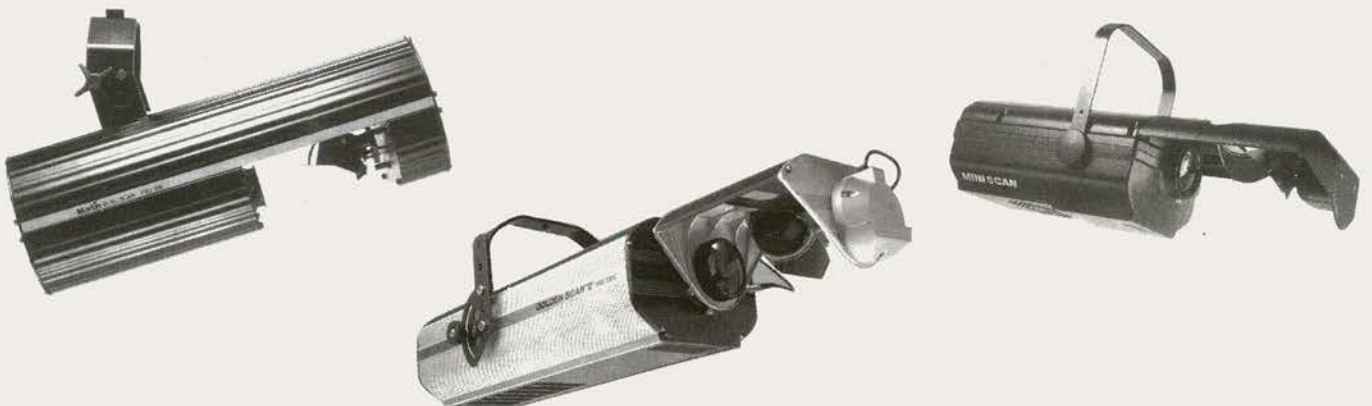
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ADAT B.R.C. launch packs them in

Electric Factory ship in ADAT expert from LA, barrstorm with new B.R.C. control & prove it all works! The battle lines are drawn

Mark Frederick is sweating, his wife Kelly is twitching. It wasn't supposed to be like this, he mused, as 120 industry types seized on the comment - "No-one in Australia uses 30 frames per second, you may as well go home!" How cheeky.

The bluntness of Australians on their own turf is disconcerting for first time visitors from Los Angeles, especially when they have flown for 15 hours non-stop with the express purpose of hosting an ADAT clinic for enthusiastic punters.

Alais officially launched the ADAT, a digital 8 track recorder that uses super VHS tape, at the NAMM show early this year. Shipping delays were grist for the rumour mill, which has not abated despite the fact the ADAT machines are rolling off the production line near LA Central, being shipped around the world, hot sellers, all.

Frederick's presence was wrapped around the release of the BRC, which stands for Big Remote Control, the device that links multiple ADAT's into a modular, digital multitrack recording system. Up to 16 ADAT's can run together, giving 128 digital recording tracks. More than anyone can think of a use for.

The ADAT Clinics were held in Melbourne and Sydney during November, with RSVP attendance bringing a smile to the face of local distributor Electric Factory's Sales Chief, Alex Bolt. In Sydney on a raining Wednesday night, 120 is a goodly number, and close to a full house at the Sebel's function centre. Electric Factory's ADAT specialist, Michael Allen started proceedings with an overview of the system, throwing the Mark Frederick for the hands on demo.

With three ADAT's in a rack, Frederick started by playing a 24 track recording fresh from some laid back Californian home studio, you know that real mellow West Coast Hash Pipe Packin' sound, circa Eagles, Kenny Loggins, ... yawn, gag ... Nevertheless, mellow sound, and a perfect vehicle for this demonstration. Through the JBL 420E's it sounded just fine. You could see each track's LED display, and didn't even need to ask

what was on what track, it was almost obvious.

OK, so this doesn't prove nuthin, the crowd practice their best bored expressions, that Aussie cynicism radiating out like gamma rays. JBL's Mike Reeves experienced exactly the same sensation just weeks before on his Array Series seminar tour. The local's just love listening to an American, especially if they think they can trip him up with tough questions!

What really wiped the collective smirks was the next thing Frederick did. Why waste time with waffle when you can cut to the chase? "We've been hearing all the rumours," he started, "that we've had a lot of trouble synchronising ADAT's." With a look that read 'cop this', he ran the track which was split across the three machines. Sure as eggs, he increased the pitch one semitone, then took it DOWN three semitones. Sure as eggs, the three ADAT's, running 24 tracks, all worked together. You could HEAR the pitch change as it occurred, in real time.

To finish off and wipe the floor, Frederick did a digital copy and paste to produce a vocal harmony that was offset 20 seconds, which just happened to be right for the track. The vocal, on track 1, machine 1, was copied to track 23 - on machine 3 - with a 20 second delay, when run - there it was, clear as day, harmonising away!

So, down to questions and the locals didn't let the side down, nosiree! The Frame Rate question was misunderstood by Frederick, whose buns were saved by Michael Allen, a distinctive looking guy with obvious, serious ADAT knowledge. You can set other Frame Rates, so if you are into SMPTE ADAT is still for you. Allen is, lucky soul, the main man at the end of the ADAT USERS HOTLINE, a facility the Electric Factory have invented to ease the path for new users. All they need to do, is call Allen or his deputy on the 018 line, anytime, anyday anyplace. It's almost worth buying one just to test the hotline! "Hey Mike, whaddya doing now?" How do I parametrically equalise a piccolo? Just jokes!" ■

"We've been hearing you have trouble synchronising ADAT's."

ADAT:-

WHAT THE CRITICS SAY

Three international reviews are spread before your writer, the prestigious one is from MIX Magazine, truly the holy grail of the recording business. The other two also shed light, these reviewers were out to truly dismantle the ADAT bandwagon. Did they take the wheels off? Read on ...

MIX: Upsides: "The implication of ADAT and similar systems under development by other companies - could spell a major recording revolution. Modular recording systems may bring new ways of looking at the entire recording process. An overdub may be done at home to a scratch track, rather than at a facility with an expensive digital multitrack, a big-ticket console, and a nice recording room."

Downsides: "The manual has good primer level explanations of ADAT operations, but omits a meaningful explanation of how ADAT works. A list explaining some of the Error Codes would also be helpful."

ELECTRONIC MUSICIAN MAGAZINE: Upsides: "ADAT works great, sound amazing, and is priced right. We're buying in."

Downsides: "A project studio posting 40 hours per week could conceivably need the ADAT's transport repaired or replaced within 6 months. Fortunately, the machines design should allow a qualified technician to swap drives quickly and easily."

KEYBOARD MAGAZINE: Upsides: "We're standing firm. The ADAT is an astounding piece of work: exceptional audio quality, great price, superior ease of use, and the ability to expand to meet almost anyone's needs. We're sold."

Downsides: "In the digital world, 0dB is the maximum level allowed. Beyond that - even a smidge - and you're in distortionville".

It should be stressed, I had to look long and hard to find the Downsides here, all three reviewers were very impressed. Check the reviews yourself, badger your dealer for copies, the importer should have them.

ADAT ELEMENTAL

❑ The machine has 8 unbalanced inputs and 8 outputs in the -10dBV realm.

❑ A 56 pin EDAC multipin connector allows balanced +4dBu inputs and outputs. Alesis' forthcoming X-2 mixing console will have ELCO connections.

❑ If you are unlucky enough to possess a stereo mixer without subgroups, ADAT has a cunning track assignment feature whereby input 1 feeds tracks 1,3,5 & 7, while input 2 feeds tracks 2,4,6 & 8. So you record your first stereo sends to your assigned tracks, (say 1 and 2) then switch the machine to record on tracks 3 & 4. All without re-patching!

❑ You SYNC to another ADAT or the BRC via a 9 pin SYNC connection. This controls the electronics.

❑ The Digital interface between machines is via a fibre optic cable that comes with each ADAT. You go Digital OUT of machine one, to Digital IN of machine two and all subsequent ADAT's. The last machine is daisy chained back to the first. Viola!

❑ A LRC (Little Remote Control) comes with each ADAT. There are no input gain controls, but pro machines usually don't have these anyway.

❑ You can record for 40 minutes, the tape speed is 3 times that of a VCR.

❑ You can use any old SVHS tape, but at your peril, Marmaduke. Testers have done it, you can do it, why take the risk? Alesis recommend Ampex 489 Digital Mastering SVHS tape.

❑ Yup, you gotta format the tape, and it's done in real time. Frederick says he does his when he goes to bed at night. Allen says if you have two machines you can format on one and record on another. You can certainly partially format your tape if rushed. This is not an issue.

❑ When you fire up the machine it looks around at what's going on. If it is wired to another machine it sets itself up accordingly. If the tape isn't formatted, it tells you. This is a friendly box.

❑ If you whack a formatted tape that is completely rewound into the machine it will look at the leader tape and decide it isn't formatted! What would you do if you were an ADAT? Be aware, and save confusion!

❑ OK, so in VHS rotating head technology the tape is wrapped 180° around the head when engaged. When disengaged, however, fastforward and rewind speeds are very fast. There is a time factor when engaging a VHS tape. Understand this.

❑ Forgoing the above, the ADAT tape is normally 'Engaged' when in record, playback and 'cue review'. Hitting the 'stop' button doesn't disengage the tape straight away, it waits 4 minutes to do so. Hitting stop twice will disengage the tape.

❑ Options are developing. The AI-1 will sit in the Optical Fibre digital interface loop and provide AES/EBU and S/PDIF Digital Interface and Sample rate conversion.

ALESIS - THE BIG PICTURE



Imported, and a good sport. Mark Frederick from Alesis faced the locals.

Alesis won't ship the BRC until Christmas, and the market really wants to see it before the ADAT becomes commonplace. The clinic tour has proven that it works and dispelled the rumours. Now the game gets very, very serious.

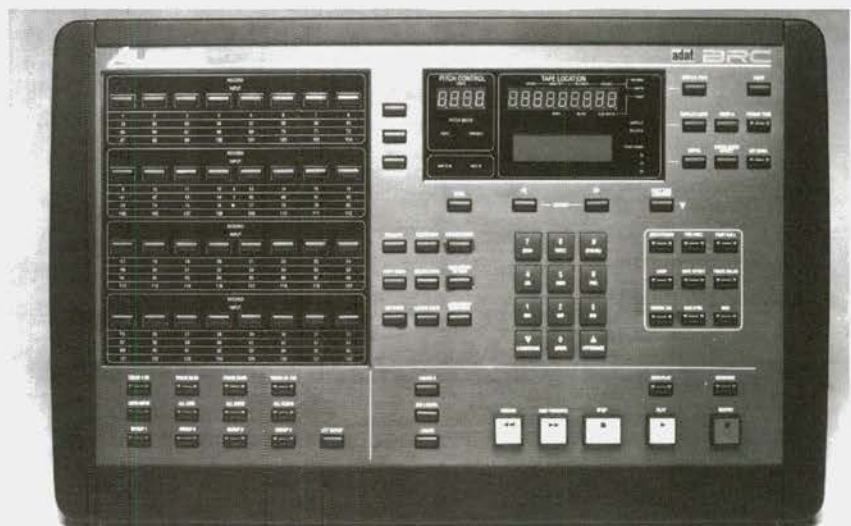
Three things have happened as we go to press, and these three things are the key to getting the ADAT into more facilities than any other machine type. This is the route to fame and glory, because the transportability of any format is critical. To accelerate the process, ADAT technology has been licensed to Fostex, who expect to announce an ADAT compatible machine early in the new year. Then there is the Adat Worldwide Users Group, a concept where your warranty registration card will allow you to kink up with other ADAT users around the village, who presumably will be able to call you, collect, from Maryland say, and draw'Yo, Bro, 'ah got 'de licks, 'arl send 'de tape, you cin put yar moutharp on, and then 'arl pay ya!' Or some such variation. More impor-

antly, you will be able to plan a trip to the rest of the world, content in the knowledge your ADAT tape can be played somewhere else.

Finally, a 3rd party developers program is underway and yielding already. JL Cooper have devised the DataSync™, which generates MIDI Time Code directly from ADAT's sync output for slaving MIDI sequencers directly to ADAT's without recording time code. JL Cooper say they have already started on another ADAT related product.

What they've done at Alesis is nothing short of amazing. This is another one of those high technology, blue sky, 7 years young American outfits that CAN DO what we can't even think of. High End Systems are the same, except they make leading edge lighting products. Same clear eyed, kushy tailed, youthful 'evangelistic verve.

Kieth Barr is the guy that designed the ADAT, in fact he is the owner and chief engineer at the firm. Russell Palmer is the President, he has the marketing flair. When I meet him I will ask him why the ADAT carries the Alesis name. He will bristle, and ask me what I mean, and I will say with eyes wide open and with full sincerity that the company that pioneered cheap electronics is, perhaps, burdened by that very perception.



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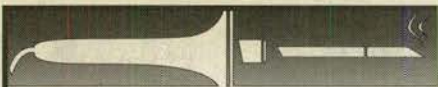
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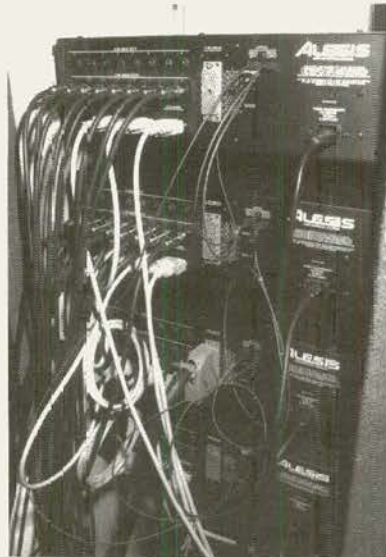
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FAX (02) 868-1377



Michael Allen, Electric Factory's ADAT specialist.



I will go on to explain that looking at an ADAT in a music shop, my eyes will inevitably wander to an Alesis 1622 mixer. Now this is a product built for a purpose. It is cheap and fairly basic. Likewise the MEQ-230 dual 30 band equaliser. I will suggest he ought to have created a new brand, like Peavey have done with Audio Media Research. He will say tish tish, eat carpet, you dumb Aussie. We can't make enough ADAT's, so you must be wrong. But still....

Details: Contact the Electric Factory, who handle Alesis in Australia and New Zealand. In Aus, it's (03) 480-5988, and across the pond call (9) 443-5916. Be sure to tell them you read this in Channels.

Tascam have ADAT's measure, & announce new machine - DA-88

MONTEBELLO, CA - Tascam, the worlds largest manufacturer of recording equipment, and the originators of affordable multitrack, have announced the DA-88 Eight Track digital multitrack recording system. This is different to ADAT, keep reading

The DA-88 is an eight track digital recorder that utilises a rugged compact 8mm cassette transport that records on Hi-8 tape. It has the capability of recording up to 113 minutes on a standard 90 minute tape. This is due to the device running at a lower tape speed, which Tascam state will lower head and tape wear.

Obviously Adat is in the firing line here, Tascam say "Other Digital recorders using video cassette tape employ a separate linear control track which necessitates a higher tape speed due to the increased likelihood of mistracking which can cause reproduction errors and distortion. Hi8 is a recent innovation, and Hi-8 cassettes use metal tape - a formulation that allows high density recording that Digital sound requires".

The missive that Channels obtained continues: "Another advantage of Tascam's 8mm format is ATF (Automatic Track Finding). With ATF, the tracking control signal is recorded via the helical heads, so the relationship between the tracking and program signals is always perfectly maintained for consistently perfect tracking - and therefore reliable, error free operation."

Putting aside the war of words that such a prominent format battle is guaranteed to generate, the DA-88 is every bit as modular as ADAT, in that you can start with an 8 track device, then add more 'till you get to 128 tracks. Tascam say you can just plug the machines together with the appropriate cables. *(continues)*

RHINOCEROS RECORDING CLOSES

Rhinoceros Recording Studios, considered one of the countries premier recording facilities, has closed. The studio, with luxury decor, elaborate acoustic design and spec list including Mitsubishi X-850 32 Track Digital Recorders, Mitsubishi X-86 Digital Mastering Recorders, Studer A800 and A80 24 Track Recorders, various Studer and MCI 2 Track Recorders, SSL 4072G and 4048E Consoles and a large assortment of outboard and monitoring equipment, has, it appears, faced its final session.

Various rumors as to the sudden, supposedly temporary closure of Rhino are running thick and fast but I was unable to confirm any of these with Rhino's management. I was promised an Official Press Release but then Studio Manager Robyn Cole said that The Board (no, I was not allowed to know their

names) had declined to provide same, apart from saying that the business ceased trading as at 26/10/92.

An article in Broadcast Engineering News November 1992 issue, written by Karl Seglins (who did manage to talk with Rhinoceros' Managing Director, Mr. Fronzek,) attributes Studio Management as having stated studio rates have dropped 30 to 40% in the last three years. The report in B.E.N. goes on to say that Rhino's highly geared financial structure, escalating operating costs, the Prices Surveillance Authority investigation into CD prices and the forced relocation of Studio 1 from the second floor, proved to be a financial time bomb. But according to the report, Fronzek said: "We are positive of a recovery. We have a few official offers on the table which we are carefully considering."

"The package we are offering is an attractive business opportunity in the long term. The difficulty is in finding the right investor with ready finance to make this sort of commitment", he continued. "The small size of our industry makes it all that more difficult to attract the right investor." End Quote.

Typically, much speculation surrounds a situation like this, including suggestions that record company politics forced projects away from the facility in recent years. Other scuttlebutt had it that the studio was operating for a fee as little as \$600 a day, and even that the premise's landlord was ASIO!

Good luck to all concerned and to Robyn Cole, Rhino's former Studio Manager.

-Caroline Grafton.

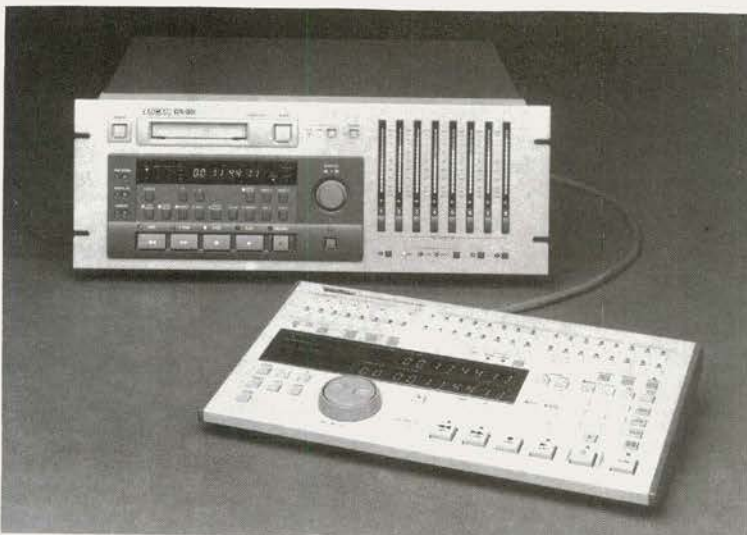
DA-88 (from previous page)

On the front of the rack mount machine are large transport buttons for FF/REW, Stop, Play and quick standard single button In/Out record functions. A large shuttle knob makes for easy tape location, allowing you to jiggle the tape forward or back at a range of speeds from a quarter normal, to 9 x normal.

Sampling rates are 48kHz (pro standard) and 44.1kHz, which is the CD standard. This is a 16 bit machine, with 20 - 20kHz response said to be dead flat, and a dynamic range that is said to exceed 93dB. Naturally there is absolutely nil wow and flutter, because this is Digital, baby.

When you punch in and out you can Digitally crossfade too, variable from 10 to 90 milliseconds. Tascam say the DA-88 is seamless when punching, and there is a footswitch jack if you like to punch with your feet.

An array of optional devices will be available, the Chase Synchronizer board will let you use the DA-88 with other recorders, be they Digital or Analog. This gizmo, called the SY-88 will plug into a slot on the back of the DA-



DA-88 8 track Digital Recorder, with MRC-88 controller. This machine utilizes Hi-8 video tape.

88 and incorporates a timecode generator, which gives your DA-88 system SMPTE/EBU timecode based synchronization capability. It also includes an RS-422 port (supported Sony P2 protocol) which allows control from a video editor, and MIDI ports for MIDI Machine Control compatibility and MIDI time code output.

This means the DA-88 will be - maybe - more of an option for the video post produc-

tion community, who appear to be just a little shy of ADAT - this is the 'wait and see' part of the potential market for these machines. But who am I to speculate?

Then there is the RC-848 Multi-unit Remote Controller, which is the place to control up to 6 DA-88's, which will result in 48 tracks of Digital. Aside from standard Punch in/Out and transport operations, the RC-848 has sophisticated Locate functions. A 10 key pad can set locate times and pre-or post-roll times when locating, punch In/Out or Repeat Play between specified times (looping).

Single machine remote, meter bridges, and various digital interfaces will also join the line when it is released at the NAMM show in Los Angeles during January. This NAMM promises to be a seminal point in this format battle, with Fostex poised to debut an ADAT compatible S-VHS format machine. These are exciting times!

Tascam contact (03) 646-1733.

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BLIND LEMON PIE REPORT

Does Art cross Science? What about the Rose Coloured Glasses Effect? Can a Ghetto Blaster have a bowell movement?

Last month this page explored the working and practical use of Yamaha's recordable compact disc system. This month we'll follow on briefly with new upgrades for Yamaha's CDR system, take a general look at some of the criteria for final mixing and mastering as well as a new range of devices designed to assist with these processes.

As of now, Yamaha Australia claim that you are able to automate the YPDR.601 (Channels issue #17) recording process. The Melbourne suppliers are currently agents for a package comprising the Yamaha YPDR.601 recordable compact disc system, with remote controller, and a modified Yamaha DTR-2 DAT machine, complete with cables, to allow the DAT to operate some of the functions on the YPDR.601. By using skip, start and end ID information programmed onto DAT tape the YPDR.601 will access play/rec, record mute and stop functions. One would assume that if your DAT machine is to become an active part of transport control as such, the programming of ID information would need to be accurate to say the least. Given the pitfalls we have encountered with trying to very accurately programme start and skip times manually, and the fact that renumbering shifts ID's on tapes, purchasers of this package would do well to have a few spare discs to practice with at the start. As we said last month, mistakes on these discs are permanent!

Yamaha have also released a software upgrade for the YPDR which enables 63 one minute tracks to be written to a disc in the PRE TOC mode.

While pondering a somewhat general view of final mastering techniques, and trying hard not to sound like over intelligent lab rats, we arrived at this question - "How far is too far or not!".

Ultimately everyone would like their final mixes or masters to perform as well as possible in the market place, for this reason the sound of your music is no longer the sole factor affecting the success of a particular recording. Now we know and you know that everyone also has a different style, technique, call it what you will, but under most circumstances some laws of physics will deem that certain dynamic and tonal modifications are well advised.

To begin any final mastering of a project, we believe attention should be paid to the sonic needs of the final medium on which your music is to appear. For example, if you are manufacturing a master that is to be used for dubbing to cassettes, it would be no use using "the pedal the metal uncompressed mix" that sounds great real loud in the studio, because it would probably cause the average ghetto blaster to have a tonal bowel movement. Similarly you should realise that the incredibly sweet treble you hear in your

studio monitors may not exist in the same way after high speed dubbing of the final master. Continual copying of tapes can also cause solo instruments to sound as if they are dropping back into the mix and leave vocals lacking clarity.

This is where art crosses science and perhaps where many arguments begin. It can be well argued that enhancing or pre-correcting tapes before the copying process will greatly reduce quality loss over consecutive generations. This is evident as far back as the inception of Dolby filters and is still evident to this day with even DAT players having "emphasis" biasing logic. However there has never been agreement on how much and what type of processors should be employed, as nearly every application has it's own unique sonic boundaries.

As is seen in the battle between equipment manufacturers, signal to noise ratio is a well recognised quality factor in professional audio also. It would be a safe observation that background noise is the most commonly undesirable flaw in any professional recording. This undesirable noise floor is usually the product of a combination of any number of things such as tape noise, combined output noise, sound modules, effects processors etc. etc. By way of correcting this kind of noise engineers can employ a variety of single ended noise reduction filters. These units cleverly filter out high frequency and sometimes mains interference, only letting these components of the sound pass at precisely required moments.

To further heighten a mix, final master or even a single instrument recording, compression and noise reduction maybe aided by the use of psycho-acoustic enhancers. Some would refer to this as the "rose coloured glasses" effect we listen to most popular music through, though more often than not we wouldn't know. By boosting harmonic content, sometimes selectable, and by changing phase relation between certain frequencies, enhancement designers hope to achieve a wider than wide stereo sound, bigger than big bottom end, e.g. see Superman. One point that immediately comes to light is that this process is, to some extent, denaturalising the sound, as nothing is able to put back things that were never present. Whilst this is a non-natural process it can definitely aid the playback crispness of a recording.

So, in essence the three basic facets of audio control when mastering are: Dynamic control, i.e. compressors and gates (to control the distance between softest and loudest points); Noise elimination or reduction, i.e. gates and single ended filter systems (to control undesirable noise content); Tonal enhancement, i.e. equalisers and frequency enhancers (to fine tune the desired tone). If you have paid attention to these facets and administered them sensibly, your recording should now be in a ready state for easy, disappointment free compiling and editing. Digital technology allows the exact length trimming, level control, tempo modification and fading of programme to be employed when compiling the final cutting master. Systems such as Akai's DD1000 reviewed in our user report (Channels issue #14) are typical of this technology and go along way toward making final mastering both more manageable and commercially compatible.

Prompting us to write this article regarding mastering were three products supplied for appraisal by Mr T Pilt of Audio and Recording Australia Pty Limited. The Behringer Multiflex EX2200 Sound Enhancer, The Denoiser SNR202 Noise Reduction System and the Compressor MDX2000 Interactive Dynamix Processor. These units conveniently represent the three facets of audio control to which we have been referring. Using these three products we can draw out a basic scenario for improving the quality of your final mix. Suffice to say the dynamic control of your programme material would be well catered for the Behringer MDX-2000, with it's smooth



response, low noise and features such as auto or manual attack and release, peak limiter, fast or slow gate and side chain listen/defeat. The use of such a processor along with sensible and practised adjustment will enable soft and loud points to be properly positioned in the dynamic range of the final recording format.

Having compressed the mix into a viable, dynamic range, it may be argued, even proven, that some of the apparent life is missing from the

(continues over)

Blind Lemon Pie Report

programme material. For this reason you may bring into use a sound enhancer such as the Behringer EX2000. A "run of the mill" enhancer would feature, for example, a drive and mix control to enable adjustment of how much processing is achieved and then how much of that processed signal is added to the original signal or sound. In the case of the Multiflex EX2200, more specific control can be attained by use of a tuning frequency and an independent low band process stage. Discreet application of this processor may lead the listener to believe that some of the life taken out at the compression stage is still present.

As much as this is one method of using an enhancer, units such as the Multiflex EX2200 are equally suited to lifting single or grouped instruments to a level of greater prominence in a mix.

After applying all these electronic processes to

your programme material, some noise, small as it may be, is bound to have been added to existing noise from the initial recording process. Ideally noise reduction would be independently used on as many individual tracks and effects as possible during recording. This would allow each noise filter to operate exactly as each sound requires without causing tracking interaction between differing sound sources.

Up until now this interaction of differing sources has caused audible breathing effects when using single ended noise reduction systems across complete mixes. Behringer's SNR-202 Denoiser seems to have conquered this problem, achieving a smooth result, yet tracking quickly by use of an innovative dual filter circuit. The manufacturer claims an on board analogue computer combines level and frequency information to operate the filter without inducing nasty side effects.

So.....even if you've had one ear blown out on stage by a maniac lighting guy with a coke can

full of gun powder (Editor 1/Distributor 0) you'd still be able to appreciate that these and the several other devices in the German manufactured Behringer range are set to take on established Japanese and American manufacturers for features and quality. Whilst we don't know the exact cost of these units, we do know that the importer has appointed Turramurra Music as their Sydney agent, and that anticipated retail prices are all just either side of the \$1000 mark.

To look at that question again "how far is too far or not?"...well you could upgrade your CDR system with a DTR-2, or not, you could take your final mixing or mastering to a higher level, or not, but you should try out the new Behringer range of equipment. Anyway it would seem how far is when it sounds good, too far is when it doesn't sound good.

Dave Macken & Bruce Wait are the Blind Lemon Pie duo, they make music together! Call them on (02) 457-8304.

NATIONAL STUDIO GUIDE - WHO AND WHERE

ARTIST	PRODUCER	ENGINEER/S	NOTES & DETAILS
New South Wales			
All Music Manufacturing	Contact Diane Fernando	(02) 557-1169	Indie Mastering Studio
Euphoria	Pee Wee Ferris	Geoff Sturre	Re-mix
Errol Renaud	Renaud	Paul Bryant	CD Master
Zillion & Zig Zag Men	Paul Christie	Paul Bryant	CD Master
Lemon Avenue	Val & Nevin	Paul Bryant	Master
Sounds of Addiction	Johnathon Ward	Paul Bryant	CD Master
Edrenalin	Nick Vale/Jason Redlich	P. Bryant/Geoff Sturre	CD Master
Honeyman	Vale/Redlich	Bryant/Sturre	CD Master/Re-mix
Teen Queens	Nick Vale	Bryant/Sturre	CD Master
Art Rage Recording	Contact Peter Williamson & Ian Chambers	(02) 564-2509	24 Track
No Added MSG	Ronnie (Ex-Kalabash)	Ian Chambers	Album Tracks
Havoc in the Ballroom	Paul Howarth	Ian Chambers	Demos
Guys With Long Hair	Adam Kereszy	Ian Chambers	Demos
Bush Traks Recording Studios	Contact Ruth Miller	(066) 89-1290	24 Track
Ron Carpenter	Carpenter/Hight	Dave Hight	Demos
Patrick Glinatsis	Patrick Glinatsis	Dave Hight	Album
Alstonville Primary School Concert Band	Hight	Hight	Album (70 Pc. Band)
Brian Hight	Dave Hight	Dave Hight	Demos
Great Divide	G. Dutton/H. Vann	Dave Hight	Album
Charing Cross Studios	Contact Gordon Hervey	(02) 387-8362	16,24 Track
Sweet Lip	Sweet Lip	Gordon Hervey	Tracking EP
Rhonda Randall	Andrew Mison	Andrew Mison	Demos
MAX	Electric hippies	Martin White	Tracking
PEG	Tim Whitten	Tim Whitten	EP
Vince Stone	Electric Hippies	Martin White	Album O'dubs
Damien Gerard Studios	Contact Elia Bell	(02) 660-8776	16/30 Track
Clumpft	Clumpft	Mike Wood	Album
Jokers Wild	Tim Powles/Chris Morrow	Mike Wood	EP
Nick Barker	Nick Barker	Mike Wood	Demos
Choirboys	Don Walker/Choirboys	Russell Pilling	Demos
Screaming Tribesmen	The Tribe	Mike Wood	Demos
Enrec Studios	Contact Ed Matzenik	(049) 36-1376	32 Track
John Williamson	Toyota/J. Laws	Ed Matzenik	Full Length Song/Jingle
Reg Lindsay	Lindsay	Ed Matzenik	Demos for Album
Hullabaloo Music	Contact Glenn Heaton	(02) 684-2039	24 Track
Disney Company	Heaton/McGarvey	Glenn Heaton	Knox City Retail
Disney Company	Heaton/McGarvey	Glenn Heaton	1993 Conference
Heaton/McGarvey	Heaton	Glenn Heaton	ABC TV Theme
Psychadelic Raspberries	Heaton	Glenn Heaton	EP
Strum Jungle	Heaton/McGarvey	Glenn Heaton	Single
Bedouin	Bedouin	Glenn Heaton	Album Cuts
James Long/Mark Nivet	Long	Glenn Heaton	Olympic Games Bid
Richard Singh	Singh	Blair Murphy	Demos
Sincolm Bones	Glenn Heaton	Blair Murphy	Demos

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TASCAM DA-88

DIGITAL MULTITRACK

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- 1** TASCAM is the world's largest manufacturer of recording equipment with a proven record of quality multitrack gear.
- 2** The DA-88 utilizes rugged, compact 8mm cassette transport that records on Hi-8 tape capable of recording 113 minutes on a standard 90 minute tape - enough for an entire CD, feature film or video project.
- 3** The DA-88 records at both 44.1kHz or 48kHz with a variable pitch of +/-6% at each sampling rate.
- 4** A high degree of recording familiarity and simplicity of use minimises learning curve requirements.
- 5** All input, auto and insert buttons are similar to, and just as easy to use as the functions of TASCAM's analog multitrack recorders.
- 6** 3 Digit LED time display shows absolute time in hrs, min, sec and frames. The display will also show memo times, pitch change, SMPTE T/C and SMPTE offset.
- 7** Up to 16 DA-88 units may be locked together by connecting a simple 15 pin D-sub connector between each unit giving you a total of 128 audio tracks. Copying tracks from one machine to another is a very simple task. Optional digital I/O ports support both external AES/EBU and SP/DIF II digital interfaces.

8 The optional SY-88 sync board easily plugs into the rear of the DA-88 and provides SMPTE sync as a master or slave. Time Code is located on a sub channel so does not require the loss of a tape track. Only one sync board is required even in a multiple locked DA-88 system.

9 The RC-848 Remote will control up to 6 units (48 tracks). The 10 button key pack can set locate times and pre or post roll times when locating, punch IN/OUT or repeat and play between specified times (looping).

10 TASCAM has the experience to know that a recording system whether analog or digital, must sound great! TASCAM assures that the DA-88 not only has great specs and operates flawlessly, but most of all has a great sound.

Want to know more? Call us or drop in and have a chat... We could save you lots of time and money!!

Don't buy a Digital Multitrack until you check out the TASCAM DA-88.

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EXTRA-CK

By Caroline Grafton

Well, this is the final issue of CHANNELS for ever, and in the New Year we will change publisher to become a totally independant magazine called CONNECTIONS. Thanks to BASF's Sponsorship of The Studio Guide and all the studios who have contributed in 1992 and I'll look forward to working with you all and BASF in 1993.

I hope you all have a great and safe Christmas and a happy and busy New Year. See you all in 1993. My kindest regards Caroline Grafton.

Why do I always manage to get shmucky over the festive season????

Anyway, on with EXTRA-CK.

All Music Manufacturing, Processing & Production Plant located in St.Peters, Sydney are an Independant Mastering Studio, catering for Digital Editing, CD Mastering and Disc Cutting for Vinyl. Contact Geoff Sturre on (02)557-1169.

Studio 19 in Townsville have had a great response from the North Queensland Academic World to the album recorded a short while ago with the Bwgcorman (pronounced Boogelman) Community School. This was an educational album of Aboriginal and Islander songs written and performed by 8-10 year olds, it must have been a very interesting session, culturally and imagine trying to control all those kids. The mind boggles, I barely manage my two little darlings. Contact Allen Castleton (077)74-5439.

Pathway Recordings is a 24 Track facility nestled in the Mittagong/Bowral highlands, approx. one hour and 45 minutes from Sydney. Apart from the equipment spec being of high

quality, engineers that have used the facility include Greg Henderson and David Hemming. The house engineer is Frank Kerestedjian. Credits include Gang Gajang, Nathan Cavaleri, Debbie Byrne and Dave Steel. Pleasant accomodation is available on site and public transport is very accessible. Contact Frank on (02)555-8070 or (048)72-1336.

Bush Traks in Nimbin NSW co-owner Dave Hight has managed to pull off the Dolphin Awards "Best North Coast Engineer" for the second year in a row at a star-studded presentation night at Lismore Workers Club on 24/11/92. Many of the winning artists were recorded at Bush Traks including Best Female Vocalist-Monica Lawson (for a song recorded with band "Slip of the Tounge"), Best Country Song-"To Many" (written by Chris Cook,performed and recorded by the Bourkenback Boys), Best Instrumental Song-Soundtrack for "All Down The Line"

(Continued over)

NATIONAL STUDIO GUIDE - WHO AND WHERE

ARTIST	PRODUCER	ENGINEER/S	NOTES & DETAILS
Main Street Studios	Contact Rob Specogna	(042) 83-4515	16 Track
Wasted Youth	Wasted Youth	Rob Specogna	Mini Album
Vince Brophy	Brophy	Rob Specogna	Childrens Album
John Broomhall	Broomhall	Rob Specogna	Demo
Ukikuna	Ukikuna/Specogna	Rob Specogna	CD Album
Warrabush	Warrabush	Rob Specogna	Album
Greenways Promo	Way To Go Prods.	Rob Specogna	Jingle
Paradise Studios	Contact Bill Field	(02) 357-1599	48 Track
Helen Turner	Helen Turner	Michelle Barry	Album
Atma-Sphere	David Jones	Mark Roberts	Album
Teen Queens	Martin Armiger	Michael Stavro	Album Tracks
Pathway Recording Studio	Contact Frank Kerestedjian	(048) 72-1336	
Dave Steel	Graham Bidstrup	Ted Howard	Album
Gang Gajang	The Gang	Frank Kerestedjian	Album
Nathan Cavaleri	Graham Bidstrup	Kerestedjian/Greg Henderson	Album
Debbie Byrne	Graham Bidstrup	Kerestedjian/Henderson	Album
Radio Zero	David Hemming	Kerestedjian/Hemming	Demos
R & R Recordings	Contact Robert Zimola	(02) 624-4484	16 Track
David Cazalet	John Charter	Robert Zimola	Album
Crazy Creatures	Crazy Creatures	Paul Crooks	N/A
Wildfire Productions	Gay Dennis	Robert Zimola	Corp.Instructional
Rich Music Studios	Contact Elise Huntley	(02) 264-7734	24,32 Track
Graeme Connors	Andrew Richardson	Keith Walker	Mix-Album Tracks
DIG	DIG	Jim Bonnefond	Mixing
Gotham City Horns	Gary Kee	Peter Lees	Rec-Mix Single
Skunkhour	N/A	Adrian Bolland	Mixing
Skyhigh Recording Studios	Contact Rob Taylor	(049) 50-1574	8,16,24 Track
DefFX	Sean Lowry	Rob Taylor	Pre-Production
Swoop	Swoop	Rob Taylor	EP & Re-Mixes
Project X	Lowry/Roberta Nygen/Taylor	Rob Taylor	Techno EP
Bugbears	Rob Taylor	Rob Taylor	EP (Indie)
Circus Life	David Henderson	David Henderson	Fe-Mix
Burning Winter	Rob Taylor	Rob Taylor	EP (Debut for Phantom)
Vault of Heaven	Jackie Lawson/Paul Dear/Taylor	Rob Taylor	Dance EP
Wirra Willa Studios	Contact Will Rout	(02) 605-12038,	16,22Track
Malcolm Baxter	Malcolm Baxter/Peter Yarley	Will Rout/Sharon I.Markut	2 Albums
Rod Dye	Rod Dye	Will Rout/Sharon I.Markut	2 Song Demo
Suresh Choudhary	Choudhary	Will Rout/Peter Varley	Dance Single
Connie Cuder Rout	C.C.Rout	C.C.Rout/Will Rout	2 Song Demo
Voodoo Child	Voodoo Child	Noel Braiding	Mini Album
As One	As One	Will Rout/Noel Braiding	2 Song Demo
Queensland			
Grevillea Recording Studio	Contact Malcolm Jacobsen	(07) 262-8422	24 Track
Parke Avenue	Parke Avenue	Malcolm Jacobsen	Album
Jeff Usher	Usher/Bruce Jacobsen	Bruce Jacobsen	Album
Jodie Holland	Nick Coetzee	Malcolm Jacobsen/Murray Laylor	Single

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EXTRA-CK

By Caroline Grafton

(a surf movie by Dennis Nattrass) and several more. Congratulations Dave. Contact Ruth Miller (066)89-1290.

Charing Cross Studios in Sydney have had some recent tube-powered equipment additions including Pultec EQP 1A, CBS Lab's and a Fairchild Compressors, Amcron 1/3rd Octave Analyser, AKG C24 Mic (1962), 4* AKG C12B Mics (1965). And since installing the Neve Desk and Studer 24 Track tape machine a few months back have completed projects with artists including Yothu Yindi, Wrecking Crew, Monroe's Fur, Tall Tales and True and many more. Contact Gordon Hervey on (02)387-8362.

Under New Management's producers are hard at work as usual. Mark Moffatt is still recording Ana Christensen at the Vault Studio in Sydney, the mixing, scheduled for late December/early January at Gotham Studios in Melbourne, will be done by David Hemming. Mark is also about to start production with Anne Kirkpatrick at The Vault. Garth Porter has completed producing The Rocky Horror Cast Album project at Platinum in Melbourne and has commenced production with Tania Cassidy with Ted Howard engineering. David Pice with Tom Colley engineer-

ing has started production on a couple of tracks for Succotash. Brent Clark is still locked away at Megaphon engineering for The Oils and Greg Henderson has completed demos for the Candy Harlots at Damien Gerards and 301 in Sydney. Brent is also engineering for The Lost Angels at Damien Gerards. For Producer enquiries contact Susan Whittred on (02)953-0332.

Correction re Planet Studios Perth (Issue 17.) Planet Studios was not bought by a Japanese artist "so impressed he bought the studio" (that was ment as a pun - remember the Remington advert?) Graham Owens- the former Managing Director of Planet Sound Studios writes:

"It was in fact taken over by a Japanese company called Office A to Z operating out of Tokyo and is now managed by a Mr. Kaida. None of the previous Planet staff were retained by the new owners. John Villani, who was previously working freelance, was employed by the Japanese after negotiating seperately.

The previous studio engineers, James Hewgill, Martin Wiebel and myself are now available freelance and may be contacted through Tempus Pty Ltd on (09) 382-2083."

I stand corrected! That's all till February!

Be In EXTRA-CK! CALL Caroline- (02) 876-2612, or FAX (02) 876-5715.

BITS & SPLICES Etc

Melbourne School of Audio Engineering have installed a Sony MXP-3000 automated mixing console, which is but one of many updates there. Other additions include 2 new 8 track studios based around TASCAM M2516 desks and TSR-8 recorders. Tony Corr says: "The most important aspect is the quality of the equipment. In Melbourne, students get at least 4 hours individual studio time per week". Call SAE on (03) 535-4403.

YAMAHA have sold 3 DMC-1000 Digital Mixing Consoles, linked to 3 DSP hard disk recorders to Audio Brien, run by non other than Terry O'Brien at North Sydney. Another recent DMC 1000 convert is Greg Devine, who now trades as TIGER, formerly Devine Studio's. Same combo, DMC 1000 & DSP.



NATIONAL STUDIO GUIDE - WHO AND WHERE

ARTIST	PRODUCER	ENGINEER/S	NOTES & DETAILS
John Paul College Performance Choir The Billys B.A.E. St.Margarets School Senior Choir	Noeline Munns/Jenny Moons Brad Wagner Craig Sue/Malcolm Jacobsen N/A	Rodney Jacobsen-Rec./Malcolm Jacobsen-Mix Malcolm Jacobsen Malcolm Jacobsen Malcolm Jacobsen	Location Album Single Single Album
Studio 19	Contact Allen Castleton	(077) 74-5439	16 Track
Greg Williams Dan Everingham Kerrie Beeston	Williams/Castleton Everingham/Castleton Kerrie Beeston	Allen Castleton Allen Castleton Allen Castleton	Mix & Master CD Alb.Trks. Album Tracks Album Tracks
Victoria			
DEX Studios	Contact Dieter Bajzek	(03) 329-2877	16,24 Track
Colin Bockman Donald Cant Various-Aus Music	Colin Bockman N/A Tony Campbell	John Ruberto Chris Corr/John Ruberto John Ruberto	B'ness Promo CD Mastering-Album CD Mastering-"Fresh Tracks"
Gotham Audio	Contact Kerri Minchin	(03) 696-2111	48 Track
Kizmet	N/A	Doug Brady/Spiro	Album Mix
Metropolis Audio	Contact Kerri Minchin	(03) 696-2111	48 Track
Seven Stories Bad Loves PLasma The Maelstrom Norman Gunston Don Walker & Tex Perkins The Seekers Victorian Boys Choir The Howie Bros.	Richard Pleasance Bad Loves/Doug Roberts Matthew Maelstrom Paul Smythe Don Walker Ern Rose Stev Centuri Graham Howie	Doug Roberts/Greg O'Shea Matthew Thomas Thomas Matthew Thomas Matthew Thomas/Doug Brady Tony Cohen Doug Brady Scott Heming Nigel Derricks	N/A N/APlasma N/A N/A N/A N/A N/A N/A N/A
Platinum Australia P/L	Contact Gary Moorhead	(03)827-7483	48 Track
Margot Smith Joe Creighton Hiroko Sohma Bass Culture	Eddie Raynor Gus Till Tadao Yamaguchi N/A	Chris Corr Simon Polinski Seiji Kameda Tony Espie	Album Album Mix Album Mix EP
Sing Sing Recording Studios	Contact Mark Wood	(03) 428-4622	24,48 Track
Keith Glass Jetty Catalinas	K.Glass Jetty Tony Espi	Mark Woods David Davis Tony Espi	Album Album EP

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BASF

DAMIEN GERARD'S PUSH RECORDING

As soon as you enter Damien Gerard Studios, in Sydney, you feel right at home and welcome. The proud couple Elia Bel and Marshall Cullen (Owner Managers) greet you with a non-pretentiousness that I found refreshing in an industry that can more often than not be regarded as jaded. Mandy the happy and bright administration assistant



offers me a cuppa and I settle into a training session with Marshall and Elia.

Yes you got it. The lady who coordinates the pages of Channels Studio section decided she had to learn a bit more about Studio Audio after dabbling in Live Audio and Lighting for some time. Anyway, Marshall decided to accept the mission so here I am. I was not totally unfamiliar with DG's as it used to be Rehearsal Studios and a Band Storage Facility so any old Sydney roadcrew, like myself, has dropped off or picked up stage gear at sometime from these premises.

The transition from Rehearsal to Recording/ Rehearsal Studio has been a long winded project

which started approximately seven years ago with Marshall and a past partner taking the first steps with the first generation A Studio. Three years ago Marshall and Elia (Singer/Songwriter) joined forces and have just kept forging ahead. Always wary of over-committment financially they have sensibly developed at a steady pace.

Together, as space becomes available in the next building, they knock out and acoustically dampen walls, build Guitar Isolation Boxes, Vocal Booths, construct "hard" sounding Drum Corners and extend corridors through the labyrinth of the newly upgraded A Studio-16Track, B Studio-16Track, (A and B Studios can be linked if more tracks are required) Writing/Rehearsal/Pre-production rooms, and kitchen and bathroom facilities. The storage room I used to know is now an efficient office even though it could get a bit crowded. Glamorous this

studio is not but with the people coming and going, smiling and relaxed, you can tell, this is a Studio that runs on feel and commitment to the performer, not sparkle and overdigitisation. Musician input is encouraged with a guiding hand and he/she is made to feel comfortable in an environment some musicians often find daunting.

So popular is the DG's feel that bands like The Church, Hoodoo Gurus, Maybe Dolls and Died Pretty use the Writing and Pre-production rooms and Album's have been recorded by such acts as Ana Christensen, Pete Wells, Roddy Ray'Da, Candy Harletts and Noiseworks.

Marshall and Elia's view is that to many studios have up-graded themselves out of a lot of muso's financial and musical reach, often not allowing the act any input into the session.

DC's outboard and inboard gear is quality equipment, the rooms are more than adequate in size, the engineers Russell Pilling, Michael Wood and Tim Powles are extremely competent (having worked alongside producers such as Mark Moffatt) and helpful, and the price is right as DC's don't have to pass on any unnecessary overheads or overexpansionism to the client.

Studio A equipment includes Tascam 48/24 Split Console, Fostex G16 Multitrack and Sony DAT.

Studio B equipment includes Soundcraft Series 2400 32/24 Split Console, Fostex E16 Multitrack and Sony DAT.

Auxillary Tape Machines available for either studio include Ampex ATR 102 2*Track 15 or 30 IPS, Yamaha K960 and Teac RW640 Dual Pro Cassette Decks.

Virtually any Outboard Equipment your heart desires is available for either studio.

For more information contact Marshall, Elia or Mandy on Phone (02) 660-8776, Fax (02) 692-9915 or write to 64-80 Wattle Street, Ultimo, N.S.W. 2007.

-Caroline Grafton.

**NEXT DEADLINE
JANUARY 21st**

NATIONAL STUDIO GUIDE - WHO AND WHERE

ARTIST	PRODUCER	ENGINEER/S	NOTES & DETAILS
Harry Laundry	Stuart Day	Stuart Day	EP
Tania Lee	Tania Lee Band	Trever Reading	EP
Studio 52	Contact Paul Higgins	(03) 417-7707	24/16 Track
Numb Skulls	N/A	Trever Carter	Demos
MesN'Round	N/A	Trever Carter	Track For NuMusic Series6
Beltane	N/A	Trever Carter	Track For NuMusic Series6
Black Rain	N/A	Trever Carter	Demos
Legal Aliens	Carter	Trever Carter	Album
Studio RB-X	Contact Ross Burton	(03) 429-6199	16,24,32 Track
Janine Nicholls	Mike Brady	Mark McDougall	Demos
Derek Jay	Derek Jay	Mark McDougall	Album
Dagreb	David Sajfar	Mark McDougall	Album
Frank Anderson	Frank Anderson	Mark McDougall	Album
Bloodstone	Zoran Gvozdenac	Bruce Curnor	Album Tracks
Aaron Monks	David Willis	Mark McDougall	Single
Western Australia			
Lost The Plot	Contact Warren Mead	(098)41-8192	16 Track
Kevin Gomm	Warren Mead/Kevin Gomm	Warren Mead	Album

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BASF

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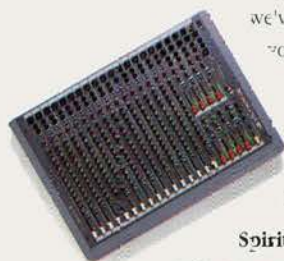
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Inside High End Systems

Two words, they whisper, you must never say inside this factory complex. How can words - little words - be so upsetting inside this bastion of high technology in Texas? I later use the two words - 'Waggly Mirror', and resolve next time to listen to what people tell me. Because I've just upset The Man.

Texas is home to Vari*Lite and Showco, which are two related firms in Dallas. Drive four hours South through desert and you reach Austin, a college town of one half million or so laid back people. It's a bit of a hippie town, nestled on the banks of the Colorado River.

Intellabeam maker High End Systems is in a high tech part of town, Austin touts itself as second only to Silicon Valley as a technology pioneering centre. High End and its research arm Lightwave Research have a surprisingly full tilt operation, with 250 people working for three partners who own the business.

"All the business", stated Richard Belliveau, refuting suggestions Japanese money was in the firm. Belliveau is the guy that drives the entity, relentless and at breathtaking speed. President, Bob Schacherl is the partner who looks after sales, while Lowell Fowler is designated Chief Executive Officer. These guys do not have time for formal meetings, and seem to overlap to some degree in what they do. It's an explosive mixture to an outsiders eye, with Belliveau uncompromising and not just in the fast lane, this guy is on a rocket.

"It's three artists running a business," says Bob Schacherl, "we've got a comptroller here who speaks the same language as the banks. We get reports, everything's fine". The introduction of a CPA qualified comptroller - Steve Reesing, along with the only woman in upper management, Becky Stange completes a tight single layer of upper management. The firm is said to be in good shape, with Reesing having restructured and refinanced for growth.

Growth is an understatement here. This place is on a race against time to deliver against orders. Design a new product - build a new factory. In fact, Intellabeam and Trackspot have their own places, as do Atmospherics - the buzz word for fog. I refused to believe anyone could make money building fog machines, until I saw the F100 line, where they even have a foundry to encase the heat exchangers. Three vast, enormous, tall chemical tanks sit square in the middle of the factory, reaching the roof. These each have a code word for their contents, which are mixed and decanted as Atmospherics Fog Fluid. You only use their juice in the F100.

The Coldflow low fog module has been in build for a short while here, it is essentially a box that you shoot fog through, where a manifold that has liquid carbon dioxide run through it super cools your fog. It works real well, you get a dry ice, low fog without complications. The only hassle is lugging a carbon dioxide tank about, but us oldies did this to feed genie foggers and pneumatic hoists in the old days anyway.

R. D. Cannon runs this factory, here is a career fog machine man. I've never met one before. The guy lives and breaths fog. I don't even smoke, so I wonder about this. He shows me a top secret smoke curtain project that ZZ Top have requested. I express grave reserva-

tions that it will work. Later on when I say this, Richard Belliveau is resolute, I am an nothing but an infidel. He gets R.D. on the line: "Tell me what we have here", he directs, so R.D. starts a long explanation of what it is and how it will work. "Can we come see it at 12 midday tomorrow?", he commands, and R.D. confirms yes we can, and yes, it will work. This is real now, real time, real serious shit. I ponder poor R.D. slaving the entire night perfecting ZZ Top's toy, then fail to turn up for the demo the next day. I suspect Belliveau may have forgotten about it too!

If a theme of chaos at High End enters this story, then it must be put in context, because these are the days immediately before the LDI tradeshow upstate at Dallas. LDI is truly High End's showcase, and the preparations are frenetic. In this environment the firm has welcomed me and I have had a lot of time invested by people who don't really have time to give freely. Distributors from around the world filter through the operation hourly.

Belliveau is simply amazing. This is the eccentric genius at work, the designer, conceptualiser, trouble shooter, re-organiser, man with a brain full of lighting effects. "No one understands the Emulator", he be-moans over char grille one night overlooking the river downtown. "I've got to show the industry how to use it". Later he describes a lighting look, and goose bumps spread over his muscular arms. He has a direct line to every LD of substance in the world. He calls them, visits them, and talks lighting. He'll start the day with a workout, watch his diet like a hawk, walk and fire rapid stream Email directives into his mini tape machine, and be trailed by his male assistant, Bobby. At home he shares with his new girlfriend Tracy.

"She's 20 years old", he tells me. "Have you seen my dog? I've got a wire cage upstairs at home, he gets through a dog door and does his business there."

For all the success this firm is enjoying, the partners don't live ostentatiously. The only real trappings of success are the cars. Belliveau is the collector, the Corvette King. At Atmospherics a line of automotive restoration projects with humungus chrome plated engines await that scarce commodity -time. "Man, this Corvette is the best sports car in the world, it handles better than a Ferrari", says Belliveau. It is 10pm, and he punches the throttle, the 5 litre V8 kicks as back in our seats. "I can change the settings to metric", and the cockpit readouts flip to from MPH to KPH. I get the idea as we pass 150kph. "It's getting hot in here", he says a few minutes later, playing with the climate control, "Oh, I'm in metric!", the readout showing he's zoomed up the temperature in Celsius looking for Fahrenheit.

Inside Lightwave Research a few afternoons before LDI, and Belliveau is inspecting a bunch of glass gobo patterns for Intellabeam, these are extremely fine, high resolution photo engraved

"He has a direct line to every L.D. in the World. He calls them and talks lighting."

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images. He studies the available images, choosing 12 for the demo Intellabeams. Each 1" square piece is lined up to the round aperture on the gobo wheel, then carefully silicon'ed into place. "Will they break", I ask, "If they do, I'll know why" he replies cryptically. "I can make custom images of the members of a band, for example". Horrible thought, I hope he makes anyone pay handsomely for these!

Perhaps the most impressive part of the works is the Dichroics manufacturing facility. These glass filters are made on site, and spectro-analyzed to prove their incredible transmission accuracy.

Richard Belliveau tells me about some of the custom R & D the firm has done, including a whole raft of work for the Ford Motor Company, whose design guru's got an Intellabeam system with a palette of dichroics so they could look at the cars under different lighting conditions. The job was installed with robotic controls to move the entire fixtures about, and a glass dome overhead. My comment that they could have done the same job with a bunch of Leko's draws an understanding sideways glance!

There is a lot to talk about here, including the resolute and ironclad devotion the staff in Austin have for their work. They have a comradeship here that is quite genuine, and a gentle Texan manner that means they are polite to your face, but if they don't like you they probably whisper things once you leave. They even drive real polite on the freeway now, courtesy and Texan values abound. Compared to California and New York, this is quite different. Australian cynicism has no place here. I like it.

Julius Grafton was a guest of High End Systems while in Dallas & Austin.



Richard Belliveau, High End's driving force

Something High End do that I found real interesting is produce a magazine called Show Technology. Bruce Jordahl is the editor, the three partners have a lot of input before publication. The marketing department at High End is probably typical of a corporation of it's size, with a staff photographer, Amy Davidson, and two others - DeAnn Jezisek and newcomer Michelle Davison. Austin is a little bit of a shock for Michelle, who is a Californian. A mix of Macs and IBM machines make production reasonably simple, the girls do not have to do technical writing as the firm has a technical writer on staff. This, as anyone who's worked this gig will tell you, is a relief.

Show Technology is the nearest thing to Channels I've found anywhere in the world, but has a different charter in that it is purely a High End Systems promotional tool. Those readers who think Channels is a promotional tool for Jands should have a look at Show Technology. This is not to denigrate the efforts of Bruce Jordahl, who does a damn good job while under the proprietorial microscope. There are some neat application type articles, and interviews with the worlds leading LD's.

Noel Bourne at GUVT is High End's Australian Distributor, call him and I'm sure he will arrange a copy for you. -JG



Michelle Davison is on her knee's cleaning up broken glass (above). The glass was an Intellabeam mirror, which they made the mistake of telling me was 'Break Resistant'. I misheard this as 'Break Proof' and took a swipe at it with a hammer. The look should not be mistaken, it means: "When I get off my knee's, I am going to kill you and smash you camera with the hammer". They are tough mirrors though.



Automation for Installations

A quick look at computer control in sound systems, by Peter Blackmore, CTS.

History

Computer control of sound system operation has been happening for many years. This emerged in studios in a big way with mix memory/recall which greatly improved the repeatability of mix-down sessions. The ability of a computer based mixer to repeat gain changes accurately proved its' worth.

In large installation such as stadiums, designers are faced with the conundrum - do I locate all the power amplifiers in one location where they can be easily controlled and suffer the problems of long cable runs, or do I put the power amplifiers near to the speakers and have trouble controlling the amps?

Early systems used custom made "kludge boxes" to provide limited zone control.

Then the amplifier manufacturers started to address the problem and provide solutions of their own. Let's have a look at some of the protocols in use and then look at the approach taken by some manufacturers.

Protocols

There is quite a combination of protocols in use. RS232, RS422, RS485 and a whole host of custom specials. Some were not specifically developed for the installation market, but are working anyway!

Manufacturers please note, there has been no attempt to describe all of the features in each system. In a short article, this is impossible.

MIDI

The first of these is MIDI. Developed for the musician, this protocol command has been used to 'control' sound systems. For example, I have designed corporate systems in the past which used MIDI to recall snapshot audio mixes as part of a client operated remote control system. So when a 'video play' button was pushed, the mics were faded and the video channels were brought up. Using the Yamaha DMP7, it was also possible to alter trim, EQ, pan, compression etc.

In the next installation this was taken a step further with MIDI recall of equalization for room combining. So when the head waiter hit the combine buttons, he was actually setting the preprogrammed Eq curve for that room combination.

However, the speed, or lack of it, means that MIDI is a little under-powered for these applications. Half second pauses needed to be programmed in to enable the system to function correctly.

PA422

This was developed as a professional audio industry only protocol. The idea being the manufacturers sign up and are allocated specific hex numbers. At this stage I believe that there are more than 50 manufacturers on the system.

Each item that the manufacturer makes is identified by a specific code. Therefore, when the computer controlling the system issues an in-

struction, the device being instructed can answer back. The first thing that it says is 'This is Altec Equalizer Model # whatever, and I have recalled curve # 87.'

The MCG installation uses PA422 in a configuration developed by Neilson Electronics to enable the operators to easily monitor performance.

IQ System

Crown introduced the IQ system initially to run on Mac computers. Now they also run on IBM compatibles. This system enables total control over the amplifiers in the system, including gain, mute, temperature etc.

At the Anaheim stadium, the operator's interface with the system is via an AMX touchpanel. This sort of technology allows non-technical staff to turn on and alter zone levels quite easily. (*Creston is another Touch Panel system that can do this - Ed*)

Nexsys

Crest use the Nexsys system, which uses RS485 with a MIDI interface. Thus the operator can control all manner of items including lighting.

The basic amplifier control modules are worked by drawing a plan of the stage, positioning amp racks, and then loading the racks.

From that point, the operator can call up each rack, eg, Monitors - Stage Left, and check out operation.

It is possible to set the system to set off over temperature alarms and to specify at what temp it triggers and for how long. It will also dial up a modem and alert the contractor's computer. For example, you have installed a night club system in the western suburbs. The computer has been programmed to watch the sub woofer power amps. If they exceed temperature ratings for more than 30 minutes for three nights in a row, you know to go out there and 'correct' the DJ's habits - if you know what I mean.

Lone Wolf

QSC have backed a system known as Lone Wolf. When I saw the early version demonstrated in Anaheim last year, it was very impressive. It was developed by a musician cum hacker and offers a number of features. It is a fast protocol and should therefore allow very large system configuration.

Summary

Computer controlled sound systems are rapidly becoming the norm in the professional field. There are also a number of systems for the domestic market coming on line. It's an interesting area and we'll keep updating you.

RANDOM COMPONENTS

Integrated Media have won the Northern Territory Engineering Excellence Award for the new NT Supreme Court Reporting System. The system is the largest remote court monitoring system in Australia, and was characterised by the need to design not only for technical capability, but for ease of use by non-technical operators. There are over 40 JVC colour cameras and monitors, and seventy Crown microphones for 8 courts. *Call Rod Louey-Gung (089) 41-1128, and express your wish never to see the installation 'from the inside', so to speak!*

That Plucky Perreux Person **Les Goding** says he is still the distributor for same, and his firm, AMPOWER also do their own amplifiers. PA amps from 150 - 700 watts per ch, plus 100v line amps and mixer amps are available from \$695 to \$2,500 retail. Call (03) 435-1745.

Entertainment Installations parent company Rekami P/L has just whacked eight TRACKSPOTS into the Asylum Dance Club at Woy Woy Leagues Club. They say they were going to use the ARX 43-Beam Lights or the new Cam-Lights that Sonics reckon are great, but decided Trackspot was easier to spell! *Their number (they need new jokes) 043-24 3873*

Still on lights, moving ones to be exact, and **Club Troppo** (Gosford) have 16 Microscan 400MSR's with controller, along with 2 TAS Syncro's. These were installed by **T.C.P.**, who also have installed at **Bridgepoint** - 16 Microscan 650's, **Maroubra Junction** (6 Microscans) and the **Polish Club**, (12 Microscan 400MSR's). This marks a good month for Coemar DeSisti Australia, the local arm of Coemar and DeSisti. *Call them on (03) 467-8666, and T.C.P. on (02) 681-5880.*

and finally, back to Darwin where **Integrated Media** has completed an installation that won - of all things - an Australian Tourism Award for Heritage Tourism -! At the Strehlow Research Centre in Alice Springs (a suburb of Darwin, for all our overseas readers) is an A-V show with over 10Kw of lighting - onto a rammed earth wall - a multi image slide show, video projection, and sound effects. The control room is part of an Aboriginal sacred site, how this is achieved is worth he visit alone to find out! *I.M. are on (089) 41-1128.*

SEND YOUR NEWS & INSTALLATION NOTES TO FAX (02) 876-5715, or call 876-2612

Serious A-V, installation & Contracting content is planned for **Connections** - the new monthly magazine from February. Suggestions and proposals are welcomed, call the editor, (02) 876-2612. Deadline for Press Releases & Submissions: **January 14th.**

Tools



Inkel's PA 4000 is a 120w amplifier with inputs for six things, which can be XLR, jack or RCA - you choose when ordering. In typical guise you'd get five jack inputs for mic/line inputs, and a pair of RCA for phono in to Channel 6. You can wire in a telephone line to interface this unit with your phone system, presumably so you can run the background music out of thing, or maybe so the boss can phone it up while she is on holidays, to address the staff through it -?

Outward bound, and your speaker outputs are zoned so you can select to where the aforementioned pep-talk from above may be sent. 5 speaker zones may be selected, or all together. A chime and a siren are provided, with auxiliary outputs for the chime. 4Ω, 8Ω and 70/100v lines are OK, and the device has link out/in, and preamp out, amp in connections. Price \$789 from Magna Systems. Call Peter Hotson: (02) 417-1111.

Reader's Suggestion # 1

This is a routine in "GW-BASIC" for any Sound Contractors who have an IBM (or Comptable) who may want a 'scientific' approach to calculations for overhead distribution systems. The routine was written and de-bugged by Helmut Schiretz of the A.C.T. Thank you Helmut! READERS: Send Suggestions now!

```

10 COLOR 12,1
20 CLS
30 PRINT "routine to determine number of Loudspeakers required"
40 PRINT "to obtain centre to centre overlap in an overhead"
50 PRINT "distribution system for a given room size (in metres) and"
60 PRINT "a known angle of coverage for the loudspeaker,"
70 PRINT "and to obtain a uniform acoustic coverage of +/-2dB. ":PRINT
80 PRINT: " N = # of speakers required"
90 PRINT " H = Ceiling to floor Height (metres)"
100 PRINT " L = Length of the room (metres)"
110 PRINT: " A = Angle of coverage of the Loudspeaker":PRINT
120 INPUT "Height (H) ";R: PRINT
125 INPUT "Length (L) ";S: PRINT
130 INPUT "Breadth (B) ";T: PRINT
132 INPUT "Angle of Coverage of driver (A) ";A:PRINT
134 H = R / .3048
136 L = S / .3048
138 B = T / .3048
140 N=(3*(L*B))/(6.28*((H - 4) * TAN((A / 2)*(3.141 / 180))) ^ 2 )
150 PRINT " Number of speakers required=";N:PRINT
160 INPUT " Do Another ? Enter Y ";ANS$
170 IF ANS$ = "Y" THEN 20
175 IF ANS$ = "y" THEN 20
180 PRINT CHR$ (4) "Run Hello"
    
```

EDITORS NOTE: Don't use this until you test it, we didn't have time to do so.

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A-V INSTALLATIONS & CONTRACTING

Contractor Profile, by Peter Blackmore, CTS Inside Rutledge Engineering

Inside a very old neglected looking factory in Collingwood is the base of Rutledge Engineering and its manufacturing arm, Soundcorp. The architect designed interior belies the image offered outside which has been left in its original state to divert attention.

Rutledge Engineering is a Melbourne based contracting company established in 1978 by Michael Rutledge. Managing Director, Michael had been involved in the professional audio industry since 1968. With a total of 20 on staff, 18 of which are involved in the contracting side, the firm has been responsible for an impressive list of major installations and must be regarded as one of the major contracting businesses in the country.

The scope of installations takes in broadcast audio for both radio and television, recording studios and the fast growing corporate sector.

PRODUCTS

There is an active Sales division headed up by Sean Kerrigan. This division handles most of the major product lines available in Australia.

SOUNDCORP

Soundcorp manufactures items necessary to contracting, such as a Eurocard processing system which has a modular card based list of processing devices including distribution amplifiers, equalisers, mic to line amplifiers, balancing amplifiers etc.

One of the most popular products is the

Soundcorp patchfield, which is a 96 way ban-tam unit. It comes in two parts, the first of which is the patchfield itself. Instead of the conventional terminations at the rear, there are PC board mounted connectors for ribbon cable. The printed circuit board enables options such as normalising to be easily set up prior to installation. The other part of the system is a mounting block holding the Krone connectors. Cable connections to the



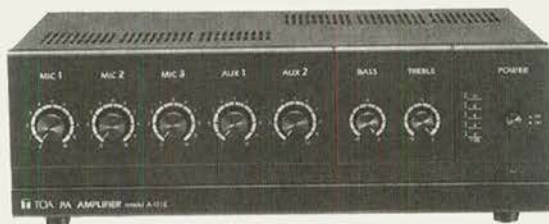
Sandy Rutledge (Director) & Richard Bakunowicz (Project Engineer)

patchfield are carried out using these insulation displacement connectors.

Installation time using this methodology is far quicker and more reliable than the traditional soldering and loom technique. The success of the system can be measured by the number installed in radio, television and recording studios. A number have also found their way into corporate installations.

RADIO, TELEVISION & RECORDING STUDIOS

Tools



What is there to say about the TOA-121E, except it's a favourite of many, and an honest little worker. It's a cost effective amplifier with basic input facilities, where paging, announcements and suchlike are required. The amp delivers some 120w, and can run 4Ω loads or 100v and 70v lines. It has inputs for a balanced mic, 2 unbalanced and 2 auxiliary things like cassette players and tuners. You can mains power it, or run it from a 24v battery. You can, if you like, wire up the Mic 1 input to mute the background (auxiliary) inputs when needed. Like all good commercial application PA amp/mixers should do. You'll pay \$740 retail for the 121E, from AWA offices around the place. Call AWA HQ on (02) 888 9000 for details!

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SALES, HIRE INSTALLATION

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M.D. Michael Rutledge in the cockpit

The range here is quite diverse. For example, they installed the Expo 88 Australian Pavilion in Brisbane and then the Australian Pavilion for expo '92 in Seville, Spain.

There have also been sound recording systems installed in a number of County Courts in Melbourne and Courts throughout Victoria.

An interesting recent installation was the Telecom Network Management Centre. This involved video projection and writing custom Unix based X Windows programming for the client's existing control system. Another task for Telecom was a Theatre installation which called for a video projector lift with an initial 6 metre drop and an additional service position drop. This was achieved using a custom (sell these sort of devices don't come off the shelf) manufactured telescoping shaft. The projector at is Barcographics 1100 which is quite a heavy unit.

Recently Rutledge Engineering carried out the installation at the new BHP Headquar-



Kym Dulson (L) & Tricia Maddock

ters. This project had a contract value of \$1,800,000 and included all the usual corporate systems and a full videoconference centre.

Other major installations include:

Victorian Concert Hall, Coles Meyer headquarters, Shell Company of Australia, Melbourne Hilton Hotel, Australian Chamber of Manufacturers, Radisson President Hotel, State Superannuation Board, Potter Warburg, Amcor, Fletchers, Phillips Fox and Masel.

The major project currently underway is

the refit of six lecture theatres at Melbourne University, which has a project value of approximately \$500,000.

There are three people in the organisation heavily involved in design engineering, being Michael Rutledge, Bill (The Doctor) Tauske and Ian Mulhauser. In the words of Michael: "If you were looking to single out one major strength in the organisation then that would be the design engineering area."

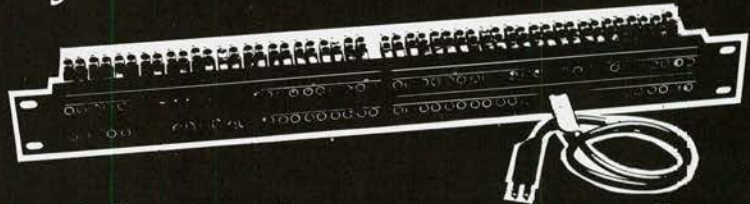
Getting Work

One way to get the drop on large contracts is to subscribe to Major Building Projects - a bi-monthly report of large scale commercial projects throughout Australia. Sorts of projects featured through the publication include Hotels & Resorts, Offices, Shopping Centres, Educational and Legal buildings, Theatres, Airport terminals, Casinos, and Hospitals. Major refurbishments and fitouts are included.

Projects are listed in three broad stages - **Underway**; where construction has started, - **On the drawing board**; where construction is nearby, and - **Waiting**; where these are early days still. Each project is described, with the owner/developer, architect, construction manager/builder, interior designer and others responsible listed for your harassment potential. You don't get this for nothing, you cough up \$290 for a year. **Satisfy yourself first**, don't just trust us. Call *Burwood Publishing (03) 819-9463*.

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NEW TOA Wireless Microphones

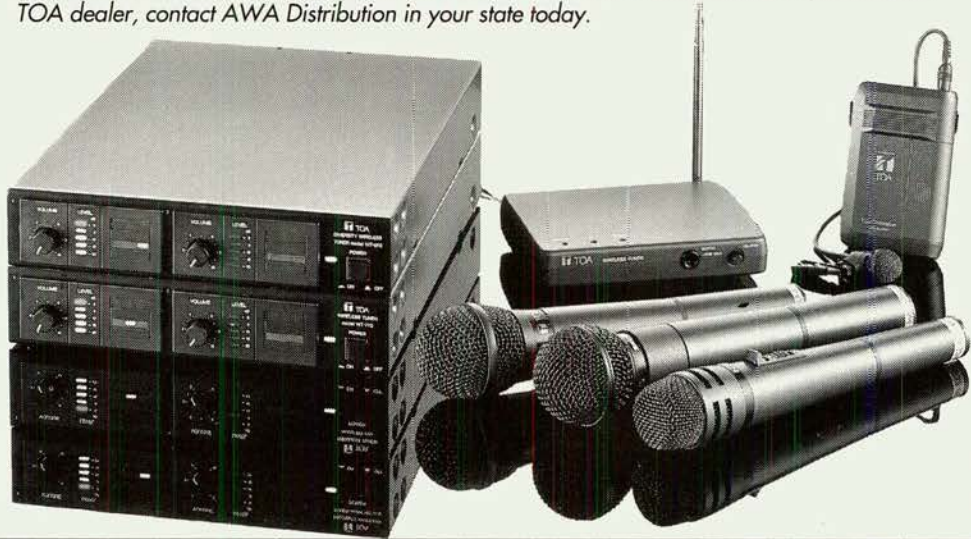
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BLINDS DOWN ... FX CHANNEL 1 ... CURTAINS STOP ... VIDEO INPUT UP ... PRESET 1 ... VIDEO CHANNEL 1 ... VIDEO CHANNEL 3 ...
DOCUMENT VIEWER ON ... SLIDE FORWARD ... SLIDE REVERSE ... SLIDE PROJECTOR ON ... FILM START ... FILM STOP ... AUDIO UP
... MICROPHONE VOLUME UP ... TELECONFERENCING OFF ... VIDEO CONFERENCE ON ... ISDN DIAL-UP ... DIAL PHONE NUMBER ...
MIDI INTERFACE ... AUDIO SOURCE SELECT ... MATRIX VIDEO SWITCH SELECT ... BRIGHTNESS UP ... CONTRAST DOWN ... FAST
FORWARD ... SKIP BACKWARDS ... PICTURE-IN-PICTURE ... PICTURE SEND ... MUTE SOUND ... SEND DOCUMENT ... SEND DOCUMENT
... SEND GRAPHICS ... STORE GRAPHICS ... PRESET 4 ... RESET ... START AV PRESENTATION ... SCREEN 2 DOWN ... DIM FLUORESCENT
AUDIO ... MICROWAVE LINK ON ... VIDEO LIFT DOWN ... CONVERGE VIDEO PROJECTOR ... MUTE OUTGOING AUDIO ... MUTE INCOMING
AUDIO ... RECORD AUDIO ... ADJUST VOLUME ... DISPLAY MESSAGES ... DISPLAY CLOCK ... START TIMER ... ADJUST FREQUENCY
RESPONSE ... BLINDS STOP ... TUNE SOUND SYSTEM ... CALL ASSISTANT ... TELEPRGMPTING ... ZOOM CAMERA ... FOCUS SLIDE
PROJECTORS ... PAN LEFT ... PAN RIGHT ... CHANGE SCREEN RATIO ... DIM SPOTLIGHTS ... RS 232 CONTROL ... RS 422 CONTROL ...
SMPT E CONTROL ... MIDI CONTROL ... READ CONTACT CLOSURE ... TURN TV ON ... TURN TV OFF ... CHANGE CD ... REWIND TAPE
... MAKE COFFEE ... DISPLAY MENU ... TOGGLE OUTPUT ... DISPLAY STATUS ... WAIT SIGNAL ... FLASH WARNING ... BARGRAPH
DISPLAY ... INTERFACE TO HAND HELD CONTROL ... SEQUENCE EVENTS ... START MOTORS ... STOP ON LIMIT SWITCH ... WAIT THEN
START VCR ... DIM LIGHTS-CLOSE BLINDS-LOWER SCREEN-LOWER PROJECTOR-SWITCH VIDEO INPUT-RAMP SOUND UP-START VCR-
AND THEN REVERSE ... CONTROL SEVERAL CAMERAS ... TRACKING TOUCH SCREENS ... PROVIDE END USER WITH AV INTERFACE
THAT CAN BE UPDATED ... TTL LOGIC CONTROL ... CMOS LOGIC CONTROL ... FEEDBACK INPUTS ... ANALOGUE INPUTS ... DISSOLVE
... DUAL FORWARD ... FADE TO BLACK ... OPEN DOORS ... BARCO INTERFACE ... SERIAL INTERFACE ... RS 422 LOOP THROUGH ...
16 FUNCTION DTMF (TOUCH TONE) ... TELEPHONE INTERFACE ... TV 'ON' SENSOR ... TEMPERATURE SENSING ... AC CONTROL ...
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... MONITOR CONTROL ... CRESTRON ... CRESTRON ... CRESTRON ... CRESTRON ... CRESTRON ... CRESTRON ... CRESTRON ... CRESTRON
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Contracting Support

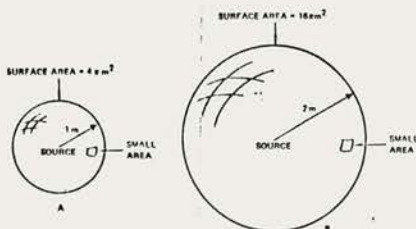
The Decibel (Continued)

Typical levels of familiar sounds, as shown below, help us to estimate dB(A) ratings when a sound level meter is not available. For example, normal conversational level in quiet surroundings is about 60dB(A). Most people find higher levels than 100dB(A) uncomfortable, depending on the length of exposure. Levels much above 120dB(A) are definitely dangerous to hearing and are perceived as painful by all except dedicated rock music fans.

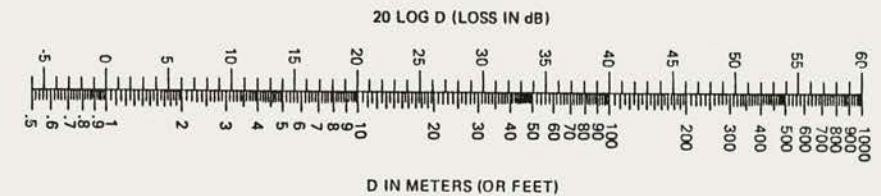


INVERSE SQUARE RELATIONSHIPS

WHEN we move away from a **point source** of sound out of doors, or in a **free field**, we observe that SPL falls of almost exactly 6dB for each doubling of distance away from the source. The reason for this is shown in the Figure below:



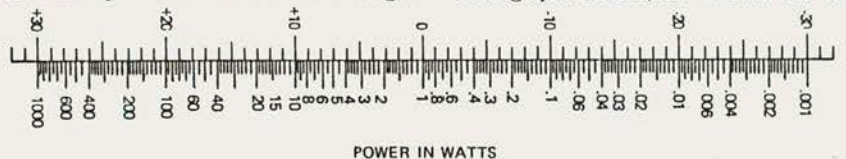
At 'A', there is a sphere of radius one meter, surrounding a point source of sound. P_1 represents the SPL at the surface of the sphere. At 'B', we observe a sphere of twice the radius, 2 meters. The area of the larger sphere is **four times** that of the smaller one, and this means that the acoustical power passing through a small area on the larger sphere will be **one-**



fourth that passing through the same area on the smaller sphere. The 4-to-1 power ratio represents a level difference of 6dB, and the corresponding sound pressure ratio will be 2-to-1.

A convenient nomograph for determining inverse square losses is given in the Figure directly above. Inverse square calculations depend on a theoretical point source in a free field. In the real world, we can closely approach an ideal free field, but we still must take into account the factors of finite source size and non-uniform radiation patterns.

Consider a horn-type loudspeaker having a rated sensitivity of 100dB, 1 watt at 1 meter. One meter from where? Do we measure from the mouth of the horn, the throat of the horn, the driver diaphragm, or some indeterminate point in between? Even if the measurement position is specified, the information may be useless. Sound from a finite point does not behave according to



inverse square law at distances close to that source. Measurements made in the 'near field' cannot be used to estimate performance at greater distances. This being so, one may well wonder who loudspeakers are rated at a distance of only 1 meter.

The method of rating and the accepted methods of measuring the devices are two different things. The manufacturer is expected to make a number of measurements at various distances under free field conditions. From these he can establish that the measuring microphone is far enough away from the device to be in its far field, and he can also calculate the imaginary point from which sound waves diverge, according to inverse square law. This point is called the 'acoustic centre' of the device. After accurate field measurements have been made, the results are converted to an equivalent one meter rating. The rated sensitivity at one meter is that SPL which would be measured if the inverse square relationship were actually maintained that close to the device.

Let us work a few exercises using the nomograph above.

1. A JBL model 2360 horn with a 2445 driver produces an output of 113dB, 1 watt at 1 metre. What SPL will be produced by 1 watt at 30 meters? We can solve this by inspection of the nomograph. Simply read the difference in dB between 1 metre and 30 metres, 29.5dB. Now, subtracting this from 113dB: $113 - 29.5 = 83.5\text{dB}$.

2. The power rating of the JBL model 2445 driver is 100 watts. What maximum SPL will be produced at a distance of 120 meters in a free field when this driver is mounted on a JBL model 2366 horn?

There are three steps in solving this problem. First, determine the inverse square loss from the nomograph above; which is about 42dB. Next, determine the level difference between one watt and 100 watts. From the nomograph BELOW, we observe this to be

20dB. Finally, note that the horn-driver sensitivity is 118dB, 1 watt at one metre. Adding the values, $118 - 42 + 20 = 96\text{ dB SPL}$. Calculations such as these are very commonplace in sound reinforcement work, and qualified sound contractors should be able to make them handily.

(Continues in Connections Magazine, Feb '93)

EDITORS NOTE - This series is extracted from a JBL publication, 'Sound System Design Reference manual. It is, however, generic, and of broad use. At one stage I thought no-one read or paid attention to this segment, as it is by nature highly technical. That is, until a typo found it's way into Part 3 (issue #16). Several readers queried, several more faxed corrections. That's good enough for me, the series ought continue. There are some extremely good technical papers (and 'white papers') produced by various manufacturers, and I am keen to consider them for future publication in my new magazine, Connections. Send them over!

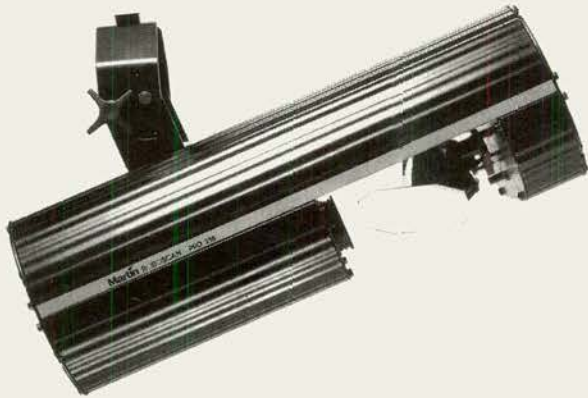
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GLOSSARY

Biz talk **A B C**

S

Scrim: Thin netting (gauze) used to provide translucent cycs or create scenic diffusion.

Sensitivity: voltage required to deliver.

Set: A group of risers arranged to give a decorative effect. That's one theory!

Sightlines: Important! Theoretical lines determining what the audience can see. Often disregarded in error by touring bands crew who are fatigued or don't give a stuff.

Signal to noise: Ratio of signal vs. background system noise.

Spanset: An endless loop of nylon strands used for rigging purposes. As the spanset is a soft sling, it can be used for a variety of rigging applications. Spansets are colour coded for weight loading.

Special: A spotlight performing a special function.

Strike: To remove a piece of set or equipment from the performing area.

Subwoofer: Low frequency speaker below 150Hz.

DRUMMER JOKES

These are from Glen Barwick:

Did you hear about the accident? 4 musicians and a drummer were killed.

The drummer kicks the door open, stomps into the gig, throws his sticks down and says: "That's IT! I'm SICK of sitting back here, banging and crashing away while you guys get all the girls. I've had it!" with that, he leaves and goes home. He dresses up in ripped jeans, gets his best sunglasses and his white booties on, crucifix earrings, studded belt, brushed silver cod piece and puts on a long, curly wig. He barges into the shop, and says to the guy behind the counter: "I'll have a Marshall Stack that goes to 11, a Telecaster, Stratocaster, Les Paul, and the best tour cases you've got, a 90' guitar lead, a crate of pink plectrums, slab of strings and seventeen assorted pedals!" The guy behind the counter looks at him, and says; "You're a drummer, aren't you?" "HOW DID YOU KNOW"? the drummer replied, and OF COURSE the shopkeeper says:

"Because this is a BUTCHERS shop!"

A psychiatrist came up with a theory that DOGS take after their masters in relation to their occupations. To demonstrate the theory, he got three dogs together for an experiment.

First he puts an **ACCOUNTANTS** dog into a room filled with Dog Biscuits. The scholastic, downtrodden but wise and frustrated looking dog piled three exact piles of biscuits together.

Then he puts an **ARCHITECTS** dog into the room, and to his amazement the damn fine creature builds a scale model of a skyscraper from the biscuits!

So now is the time to prove the theory. Into the room is flung the **DRUMMERS** dog, a mangy, flea bitten mongeral. It promptly ate the biscuits, fucked the other two dogs, had a piss and went to sleep!

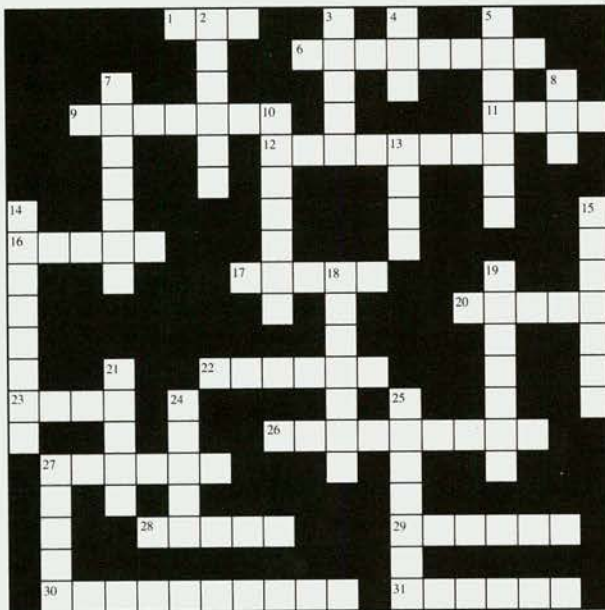
-Submitted by anon. (Please call the Editor)

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Punter Word ✓



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Prize Courtesy Shure Brothers of Illinois

Answers (Issue 17)

ACROSS: 2 Dont. 3 Piggies. 6 Raccoon. 7 Gun. 9 Nowhere. 11 Honey. 12 Sun. 15 Submarine. 19 You. 20 Baby. 22 Martha. 23 Eight. 25 Sadie. 26 Blues. 27 Hole.

DOWN: 1 Kite. 2 Diamonds. 3 Prudence. 4 Sing. 5 Onion. 8 Yesterday. 10 End. 11 Home. 13 Naturally. 14 Di. 16 Anna. 17 Rita. 18 Bungalow. 20 Better. 21 Boys. 24 Till.

WINNER LAST ISSUE: Ms Leah Benson, of Bowraville NSW won a Shure Beta Green 2.0

Send your completed Punter Word to 'Shure Prize', PO Box 171, St. Peters 2044 NSW. All correct entries will go in the draw for a wonderful Shure Sports Travel Bag - !

Entries must be received by Januray 21st, 1993

Remember to place you name & address on the entry!

Down

2. Brittish classic sportscar.
3. A dog of a car.
4. Moraro ... 327.
5. Kingswoods poor brother.
7. Nash's 1958 compact.
8. Maker of the RO 80
10. 1973 Scottish world champion
13. Brabhams first world championship 195..
14. Mercedes surname
15. Manufacturer of the 4CV
18. Hey
19. Manufacturer of the DS19
21. Manufacturer of the Phoenix.
24. Toyotas first Australian model
25. Manufacturer of the TR3
27. Australia's last F1 champion.

Across

1. Bavarian Motor Works
6. Daimlers first name.
9. MG=Morris
11. Most famous British driver never to win world championship.
12. Olsmobiles 1966 front wheel drive.
16. Most famous American flop.
17. Pastry cook who won Bathurst.
20. Chrysler purchased this French manufac-

turer.

22. Falcons first upmarket model.
23. First name of Ferrari founder.
26. Made the Belair and the Impala.
27. Made the XKE.
28. F1 driver who founded an airline bearing his name.
29. James Bond drove an Aston ...
30. Manufactured the Lark & the Hawk.
31. Australias own, first built in 1948

Jack Moeller explains how to stay within the law, and hopefully not ash someone!*

USING PYROTECHNICS CAN GET YOU BURNT -!

With the festive season rapidly approaching many production people will be asked to provide "a little extra sparkle" with their services. The old flashpot and other assorted Pyro F/X will be in heavy demand. In fact it is estimated by industry sources that there will be in excess of 10,000 Pyrotechnic explosions across Australia on New Years Eve alone. It is therefore timely to have a look at the rules and regulations, the responsibilities and a dash of common sense on the subject of Pyrotechnics.

The first thing to be very clear about is that all Pyrotechnic (Fireworks) get very hot!

Sounds a bit like a silly statment but it is aimed at those who refer to products called "Cold Fire" which is basically a marketing name used to convince others that Pyro is not hot, and therefore not dangerous, which is really silly! Fire has always been hot, and will always be hot.

The pretty silver sparks flying through the air from a "jet" or "mini gerb" are tiny pieces of burning titanium, and the gold sparks from a "flashpot" or "shower of sparks" are burning pieces of steel. Granted, most of these devices are designed so that these small particles of metal burn out pretty quickly, but at time of ignition, they are bloody hot! (Several Thousand Degrees C)

Regulations differ from state to state, so I have concentrated on Victoria and New South Wales.

Regulations on the sale and use of fireworks in Victoria are governed by the Dangerous Goods Branch of the Occupational Health and Safety Division, Department of Labour. In New South Wales it is Chemicals Management, Work Cover. Fireworks are divided into 3 categories.

1. Chinese Fire Crackers: Which includes the Penny Bungers and Tom Thumbs and all those novelty crackers we used to play with as kids on Guy Fawkes Night. These days, to obtain and use these things legally, you will need to lodge an application and fee, for a permit and then prove that you are in fact "Chinese" and also prove that you require the product(s) for religious or cultural reasons.

2. Display Fireworks: Cover most of the products available for outdoor use. After lodgement of your application and fee for a permit to conduct a fireworks display, it will be assessed on two main criteria. (1) The qualifications and experience of the operator and crew. (2) Your plans in absolute detail on how you intend to execute your display, including-

- * Measurements and distances of everything
- * Types and quality of products used
- * Firing devices employed
- * Security and ground control
- * Safety precautions in place

Once approved, you will probably be required to lodge further applications to other relevant authorities eg. Fire Dept., Aviation Authority, Harbours and Marine to name a few.

3. The 3rd classification is Theatrical Effects.

Theatrical Pyrotechnics are rated for indoor use and must be fired electronically. They include, Smoke Cartridges, Fountains, Maroons, Flash Pots, Confetti and Streamer Cartridges, Mini Gerbs etc.

Once again the regulations on purchase and use vary from state to state. In Victoria no license is required, however the

industry is self regulated in that the product will not be sold to anyone under the age of 18, that product is sold exclusively for theatrical or stage use, and that the purchaser is technically competent to use the products safely. In NSW the situation is basically the same except that the purchaser must obtain a "General Permit" from the supplier.

The rules on using Theatrical Pyro, are pretty much common sense.

* Don't smoke while handling! People have lost bits of themselves this way!

* Handling Pyro whilst intoxicated is a serious offence.

* Makin your own Pyrotechnics without a licence is illegal.

* Do not leave Pyro unattended once set.

* The power supply to the Pyro Controller must be isolated/locked whilst it is unattended. The key or battery should be kept in the possession of the operator at all times.

* The operator is primarily responsible for safety, he/she must have a clear view of the Pyrotechnics and be prepared to abort a cue if there is any doubt about the safety of persons or property. Firing from the lighting desk at the back of a crowded room means that you won't be able to see that some Punter has his/her face in your Pyro.

* Suitable fire fighting equipment must be in a state of readiness. If smoke detectors have been isolated, some venues and their insurance companies will insist on a member of the Fire Brigade being present. This does not transfer the onus of safety from the operator.

* Most Pyro product is supplied with information on minimum safety distances which should be adhered to. However, it is no substitute for knowing your product. Take the time to fire some product in a safe place. A crowded room is no place to find out that the effect you just created was a little bigger than you had anticipated.

* Warnings must be given to performers and stage hands of the location and cue of Pyrotechnics, the effect created and the safety procedures. It is sometimes a good idea to demonstrate an effect. When you do, count it in loudly so everyone knows that it is happening. This will give the audio engineer time to pull his fader down so you don't blow up the PA with the shockwave, and time for the lighting guy to get a grip on his ladder so he doesn't fall off with shock! (I've seen both these occurrences)

* Now that you've re-read your insurance policy and decided that you still want to provide that "little extra sparkle" have fun and be careful.

Footnote: Courses on fireworks are unfortunately very few and far between in this country, however, some TAFE Colleges run a Shot Firing and Explosives course, primarily aimed at construction engineers, open cut and underground mining and quarrying. A graduate of this course is then able to sit the exams necessary to obtain an explosives licence, known in Victoria as "The Red Ticket", while this is not mandatory for fireworks it does read very well on your application for a fireworks display permit.

***Jack Moeller trades as Corporate Pyrotechnics and Conference Production (Australia), Phone (03) 696-2524.**

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Soundcr... spirit released
New Year... in Sydney
Frank C... profiled
Bangs &... hes

Issue 4

Jands Event
Bonza Boxes closes
Trucking Blues
PA People & Bose in the park

Issue 5

Buddy - the show
Smithy - almost a legend
Wendy Matthews - review
MC Hammer - review
Intro. to stage lighting

Issue 6

X-Pence factor - INXS review
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Issue 9

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ADAT is coming- world scoop
Letters - the first full page
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Amplifiers - is mosfet the answer?

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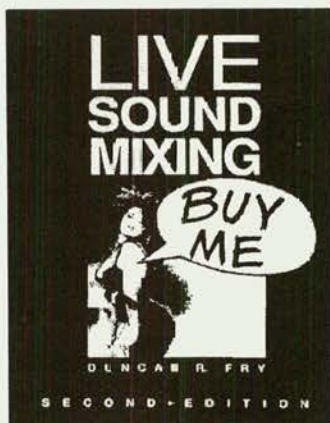
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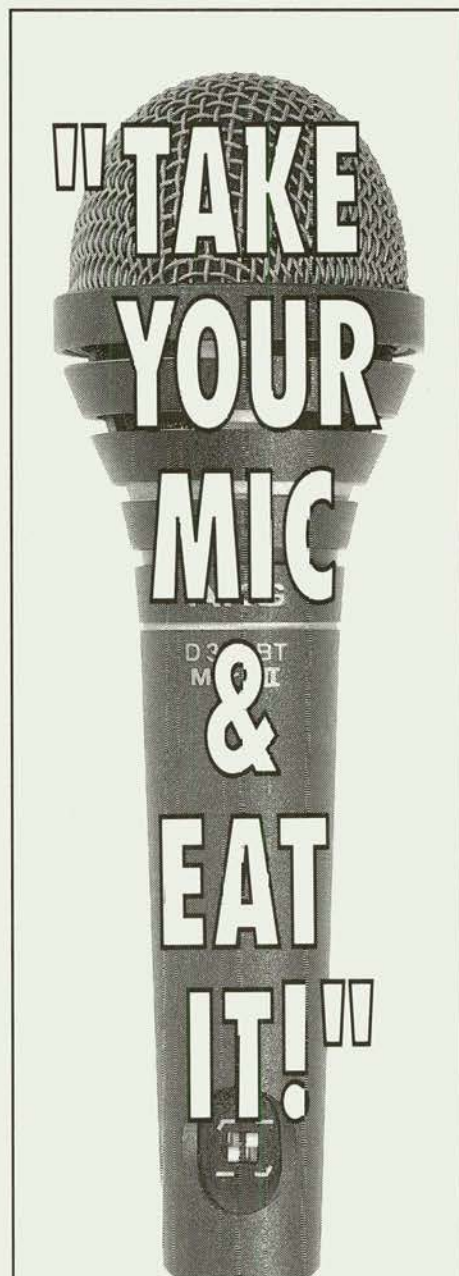
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Alex 'Boss' Bolt; and Michael Allen (Electric Factory) with his ADAT Hotline bat phone (plus calls waiting, Mark Frederick of ADAT isn't sure



Fred Thomas (freelance rec. eng/producer, John Bee (Studio 301) & Roger Mason (the musician) - all at the ADAT launch, Sydney Sebel Townhouse.



John Ertler (left), Jim Taig (Studio FX head honcho) (he bought ADAT's) and Paul Gray (ex WaWaNee) 'I've got an album coming out soon'.



Tony Davies of Chameleon in the U.S.A. with the smiling Duck. Davies is standing on it's webbed toe!



Sebastian Thoraas (singer) with Peter Blyton (Producer) and Kelly Frederick of L.A. - singer & visitor at ADAT launch.



Kevin Findlater, MD of The NZ Rock Shops (4 in all), with our Bruce Waite, half of Bird Lemon Pie, our studio reviewers.



Rod Matheson, Alan Stone, Mick Lagler & Rob Miles. seaica: John Archer & Simon Gregg. Backstage before Hunters Sydney State Theatre gig.



So what do we make of this? There must be several dozen good captions out there. Laura Brown certainly has it coming to her ???



Rc Groove Tunnel, Andrew Zeylemaker & Sid Schuckle of guitar factory, Parramatta. Probably all drummers by the look of it. Typical muso's.



Stuart Lawler (Boxcar), Laura Brown, Pat Bowden (Music junction- Brisbane) and Puthuen Martinus (Electric Factory). Another view of Laura (left)

Dr. Light

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Whoops! BAD Timing!

Strand U.S. launched a new version of their Leko ellipsoid just prior to the opening of LDI '92. Dealers from everywhere in the USA, plus a few strand U.K. blowins were on hand to see how it is done.

They were wearing the obligatory baseball cap and sloppy joe 'T' shirt (over the business shirt & tie) -this is a fashion statement- and all high five-ing, "Yo-ing" and "What it is"-ing everywhere. But I am told their bon homme was severely dented when they caught sight of their new wonder Leko -over on ETC's stand! What's THIS?

ETC had a side-by-side demo against their new Source Four-which at 575w, blitzed the new Strand 1k.

AMAZING NEW SPOT

In this age of moving lights, dichroic colour filters and scrollers, it is gratifying to see that advances are still being made in good old fashioned plain vanilla spotlights.

A case in point is the ETC Source Four, launched at LDI '92. Source Four ellipsoids use a 575w quartz lamp, which is especially designed for the unit. At 575w, the output is actually greater than competitive 1000w Lekos from Strand, Colourtran and Altman.

In fact, Source Four delivers up to 40% more lumens! Features include a high efficiency dichroic reflector, 300° shutter plane rotation, interchangeable lens tubes for 10°, 19°, 25°, 36° and 50° field angles, and precision optically coated lenses.

Who's Doing What:

■ Pillbeam Theatre up at Rockhampton have gone Digital with Jands Roadpak Digital Dimmers and Startec's Universal Protocol Converter. The dimmers will extend the capabilities of the theatres aging Q-Engineering dimmers, while the protocol converter will be used to interface the theatre Gemini Consoles D-54 output to the USITT DMZ-512 input of the Roadpak dimmers.

■ Chameleon Touring Systems (Sydney) has recently purchased two EVENT 60 PLUS consoles to add to their ever increasing inventory of specialist products. The Events, fitted with the M-Card option, were recently used for back-to-back industrials in Sydney and Melbourne, controlling Clay Paky golden Scans, scrollers, and lanterns. They also have added 2 Event 24's and 8 Tiger Scan's, the new Clay Paky 1200w waggly. Primal Scream's LD specified Event for moving lights, and a 2nd Event for normal lights.

■ On the subject of Chameleon, Tony Davis and Roger Barratt (of Barratt Lighting) were at LDI in November, having long negotiations with vendors of large scale arc-lighting. Watch for a new line of T.V. luminaires from this duo, the 'father and son' lighting dynasty. -Editor

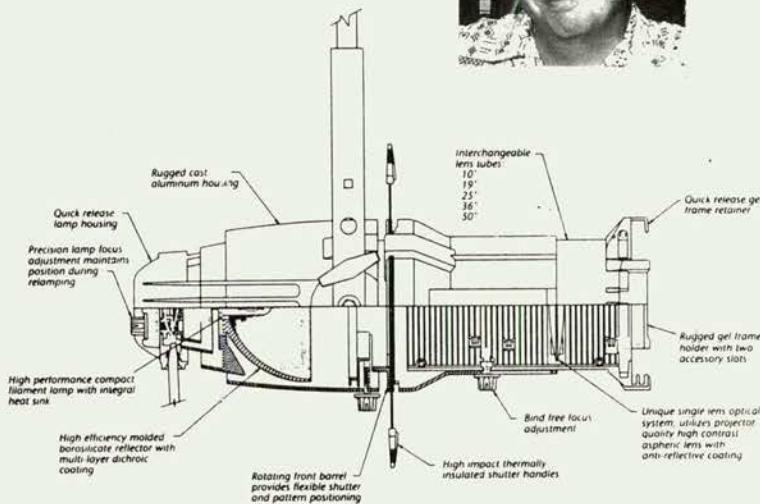
■ Will Chameleon take over ATS? ■ Lycian 1266 400HTI standard throw followspots have been added to Bytecraft's inventory for 'Aspects Of Love', opening soon at Sydneys Theatre Royal.

■ Parramatta Riverside Theatre has been supplied with one of the fantastic Lycian 1236 Club Spot followspots by Startech, Sydney. ■ Sydney's new ANA Hotel has an Event 24, courtesy of TCP.

■ Les Jones Designs has completed their largest job to date at Club Marconi, in Sydney's Wetherill Park. The installation in the club's new auditorium verifies Jones' comments in the last issue of Channels, that only quality components should be used for work like this. The job thus has JBL Soundpower, Jands SR-3000 amps, Rane Signal Processing, TeAtro Luminaires, Shure Microphones, Jands Roadpak dimmers and Ezicom talkback, Clay Paky Golden Scans, and the list goes on. According to that Jones Boy, the job was straight forward, except for the 'surprise' soft opening 10 days after getting the go-ahead! "We were ready on the day!"

■ Laser Light & Sound (Bris) has placed an Event 48 PLUS, Roadpak dimmers and DDX-60 De-Mux with a school there. It replaces a JL-36. Call Craig Upton if you'd like to do likewise!

Write to Mike
Tanner P.O. Box 439,
Epping 2121
NSW Australia
Fax (02) 876-5715



ETC won the prestigious "Product Of The Year" award for Source Four, and "Stand Of The Year" for their magnificent display.

Every Editor (& columnists) nightmare happened in this space last issue. The nice line drawing of an ETC Microvision vanished, never to be found! Apologies to Dr. Light and readers all. -Ed.

Mike Tanner is a long serving Jands person who has intimate LX knowledge

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Great Mistakes

You want ME to warm up YOUR BEDS? No way guys!

The tour started with the eternally long flight to Australia, the band were looking forward to visiting a new country, especially one they had heard so much about! Flying time from Seattle is better than 20 hours, if you count the time on the ground in San Francisco, waiting for the Sydney connection. Rhino Bucket were here for a support run to the Angels, which as anyone knows, is damn hard work.

At the airport was young local Nicole Jarvis, who was assigned to look after the band during their time here. The first show was a warm-up in Melbourne, and the next day - Monday - a travel day to Jindabyne to join the tour.. It was a jet lagged winters day for the Seattle thrashers. Nichole tells the story in her own words-

"We left at about 3pm, for a 7 hour journey in the Tarago. The map said the way through Tumut looked best, we got through Tumut to a place called Talbinga - where we couldn't get petrol! The Police station was open, and they said the only place to get petrol this late was back at Gundagai - 80k's back!"

"We got there on Petrol fumes. After we stocked up with supplies, we took off again. There are four Rhino Buckets, plus the merchandiser Anne Gibson was with us. Back along the road, and at midnight it started to snow. The pas-

sengers are, by now, concerned about their exact location on earth, and the map is given a workout. The Tarago is down to 15kph, the snow is getting heavy!"

"The further up the mountain we got, the heavier the snow. Then the Tarago decided to take over, and the driver became a passenger as it deposited itself in a ditch, just missing a speed sign. Four Rhino's and one Anne are out in the blizzard, pushing the thing. I decided to give a Rhino a turn at driving on the wrong side of the road for a while, his first time. Then we came to the downhill part, which was just a slide - but after hours of this, we got to this place where there was a snow plow station - and nothing else."

"The guys there were sitting around the fire, and by chance were getting ready to plow the road. While we waited inside, they got the plow going, but the Tarago was stuck in the Ice. The Plow guys didn't have a chain, so we all push it back out onto the road, slipping and sliding everywhere, covered in snow!"

"The band were getting restless by now. The plow went ahead, but after a while pulled over and waded us on. He told us we should be right, and it was still a hundred 'k's to Jindabyne. Finally we got there just on dawn, and went to the Hotel where we were playing to find the keys to the apartment."

"I'd rung ahead and spoke with the Sound guy early in the night, and he'd told me it wasn't snowing in Jindabyne - but it was really windy, and there was an out of control

bush fire! He also told me our apartments were possibly on fire! He agreed to leave the keys out, and now they weren't there!"

"Nothing worse could happen, we thought. The township was surrounded by fires, the wind was so heavy, it was freezing, the trees were burning. This can't be true! We had an address, no keys, no phone - nothing! We stopped a lady walking her dog, and she directed us to number 66, up the hill. There wasn't anything except a dirt track, so we went up there - and got bogged! The dawn light was weak and feeble."

"By this time the situation was desperate. We went back to the Hotel to find the crew. We started knocking on every door, waking up everyone - but still couldn't find the crew! Finally we got one, and we were all yelling at him by this stage, desperate to find the keys! They'd got in late, and drawn a note in the mud outside - 'Room 36' - but of course it was cold, & dark so we didn't see it!"

"By that stage we are all at each others throats. We got to our apartment and it was freezing, utterly cold. We're sitting there, huddled around this heater that doesn't really work. It's 8 in the morning, and no-one is game to get into a cold bed."

"The band pull rank, and order me - the tour manager - to warm up their beds! No way guys! I couldn't believe they could laugh about it all afterwards!"

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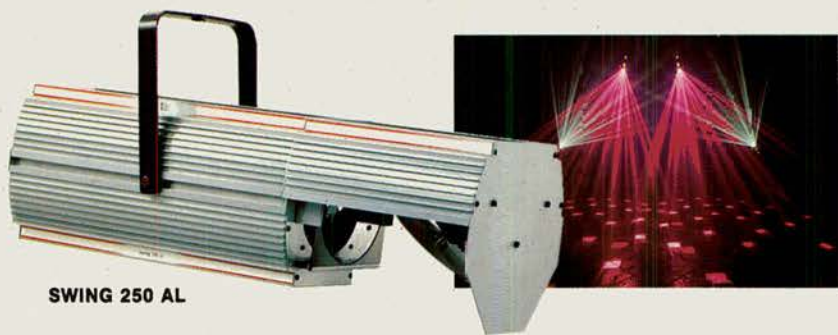
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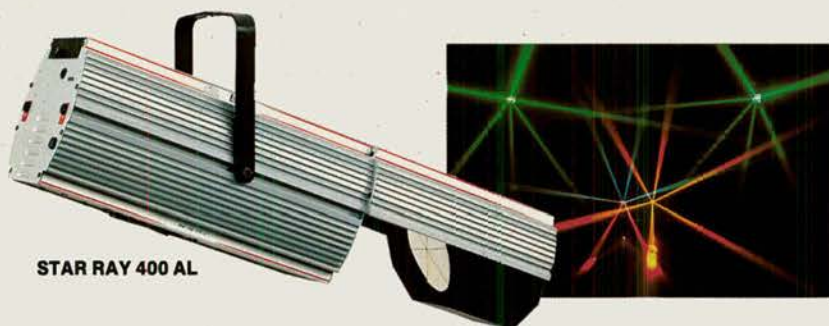
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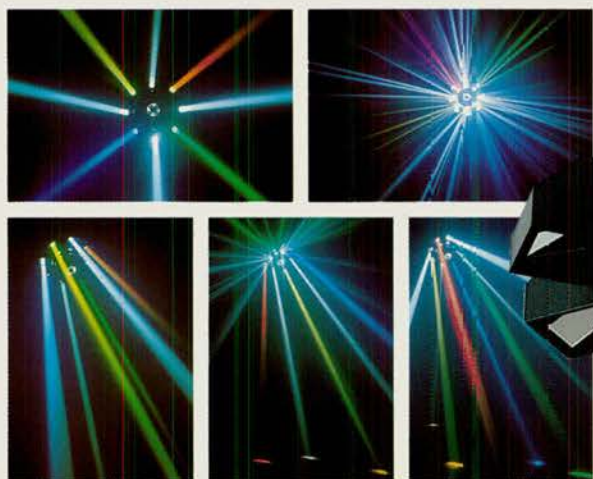
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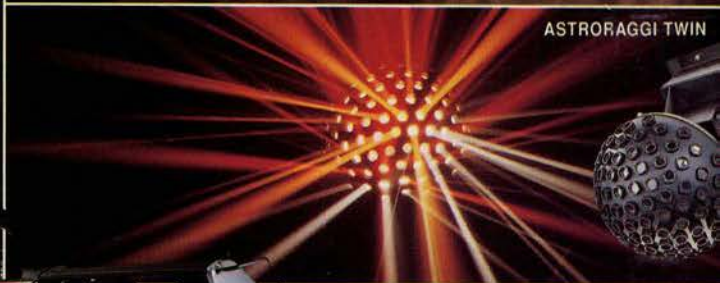
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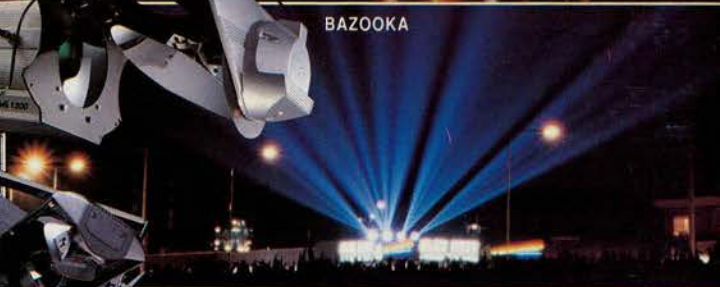
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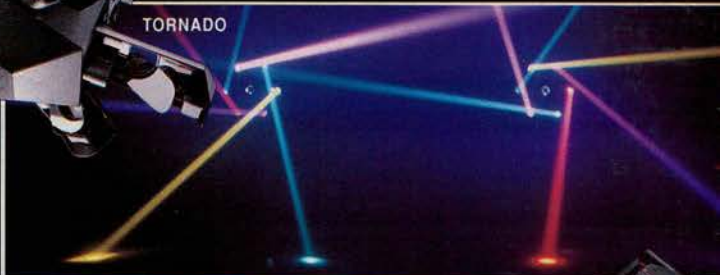
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