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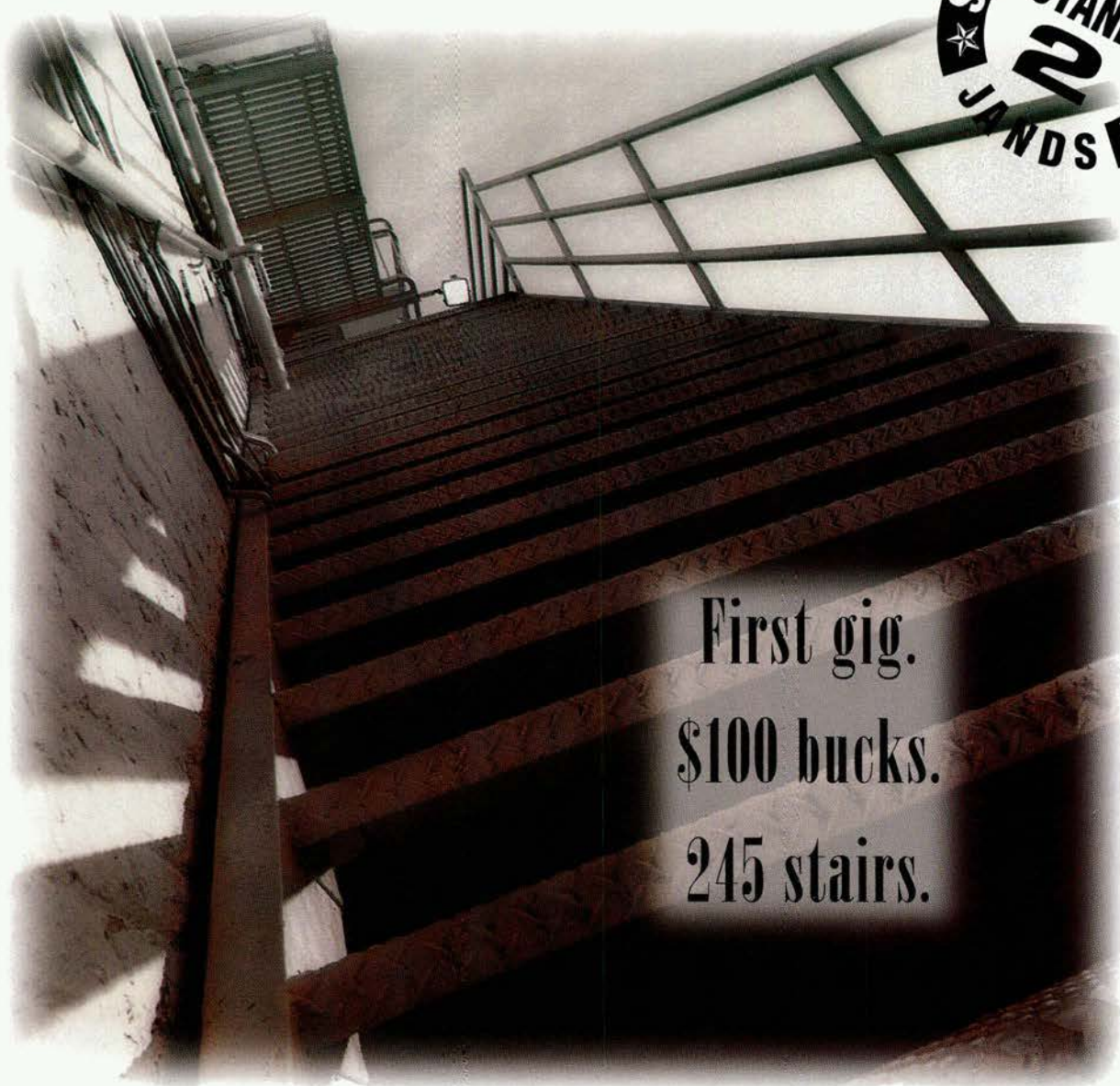
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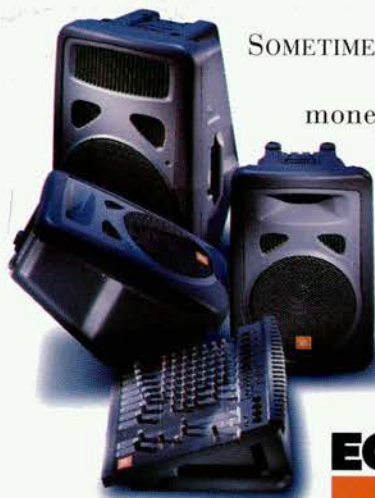
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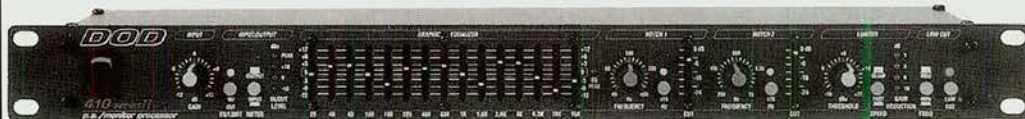
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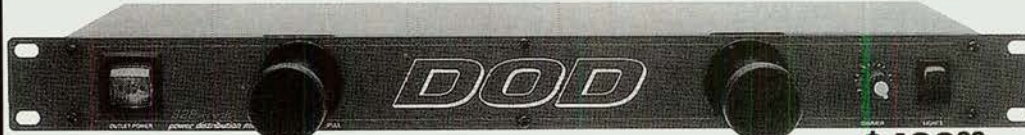
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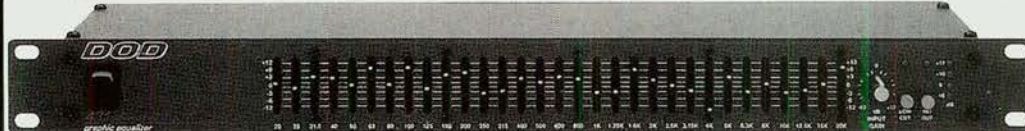
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FLY THEM IN

Dealers Grouch As Distributors Try "At Home" Trade Releases

It's a touchy subject that makes a tradeshow proprietor go cold and clammy. But this year it's considered a great promotion by product distributors. The just concluded Australian International Music Show (AIMS) was notable because a few distributors who would normally exhibit their wares stayed at home - and invited their retailer customers to come over to their place, for a 'product release' or 'seminar', or more bluntly - a 'mini trade show'.

The 'at home' product seminar is a useful tool under the right circumstances, but it carries a poison pill because it relies on the goodwill of a distributor's customer, who is often under pressure to give up two trading days and attend what is often a thinly disguised sales pitch. This year some retailers have been put in a serious quandary with as many as five such events scheduled in the past month or so, along with the music show itself.

"I can't find the time for all this" said a prominent east coast dealer who wouldn't be named. "In truth I've alienated two distributors by refusing their offers of air fares and had to send a staffer to another seminar. In addition I can't really refuse a free dealer trip to the USA, and I must attend the music show. But this is all too much".

Retailers tell us they prefer the trade show environment. "When I'm in the aisle at the music show

it's neutral territory. I can see how my suppliers shape up, then have a good look at the others. If I accept an invitation to visit a distributor on their turf for a seminar, then they have got me for all of a whole day or two. I'm captive, and frankly, it's hard to keep interest no matter what", said an audio dealer from Adelaide. "At AIMS or ENTECH I can run my own agenda, visit exhibits on my own schedule, and even flake off to play golf one arvo. Plus I can construct deals with different distributors and everyone has a chance. And, many of my larger customers are there too. It's a much better environment than being stuck with fifty competitors in a function room somewhere".

The bottom line is properly presenting products in front of dealers and end users, and the most effective means of doing this is a well promoted trade show. Dealer conventions are a great marketing tool, provided the timing suits the dealers expected to attend and importantly, provided the distributor has the clout to attract enough of them. "I wouldn't consider a conference", one distributor told me, "because the dealers can gang up and force issues en masse. Although I like to think my business is strong, the possibility of some retailer mouthing off about a warranty, credit or freight issue in front of everyone else leaves me cold. And, like many distributors, I'd rather not encourage open

debate about product or software problems".

Another subset of this is the 'off floor' demo offered by some distributors who either take small space at a trade show, or no space at all. Reasoning they'll save money, they rent a hotel room or space nearby and invite tradeshow visitors to drop around to see their products. Some tradeshow proprietors actively police their shows and have been known to throw out touts bearing invitations to off-floor demo's. **-JG**

HELP/continued

said: "I really hope it sets a precedent that people will stop messing about in the studio for months on end, emerging with the sort of over-processed nonsense presided over by people like me."

By 1600 hours on Wednesday, the first shipments of complete CD's are leaving the Blackburn plant for shipment to the most far-flung outlets in the UK. The deadline is a Saturday release.

At 0900 Thursday deliveries start leaving for nearer outlets in the home counties. 24 hours later, shops across the UK are building window displays. Polygram is the label handling the project.

Saturday 0900, shops across the UK open and are rushed for the CD, retailing at £12.99. Estimates have as much as £7.00 per sale heading for relief agencies, it sold 75,000 copies day one.

***Corrections**

We always fix FUBAR's. Tell us quickly.

*Good name for a magazine, perhaps?

TEATRO. In the September issue Buyers Guide (Fresnels, page 92) we managed to list four Teatro fresnels as manufactured by Strand! The Comma 1, Punto F, Spazio F and Tratto-2 F are all actually Teatro products, and should join the models noted as Teatro and available from Lightmoves, phone (02) 560-0000.

PROLITE. Then somehow we missed ProLite altogether, this Queensland firm are Australia's only luminaire manufacturer, and certainly do make Fresnel spots.

We are very embarrassed at this omission. Contact Prolite Manufacturing on (076) 327-327-312.

COLOUR SET. Our Beauty and the Beast story indicates this show uses 120 colour scrollers made by Lee. Well, Lee owns Showcraft who make Colour Set, they are an Aussie manufacturer, and 120 scrollers in a major production is a BIG sale. Sorry!

BEHRINGER. The Eurodesk price was WRONG last issue as it does NOT include a meter bridge. Sorry to distributor AVD.

SILVERCHAIR. The gods of the rock industry have informed us that the name spelling for this band, is silverchair. Lowercase 's', lowercase 'c'.

STRAND. The '20 Years' column erred re. the Sydney Opera House. See letters page.

EDUCATION. Naturally we missed some courses in our coverage last issue, significantly the WAPAA one, which is detailed in the lighting section this issue. see also P.15; & Letters, this issue.

•KEEP COMPLAINING, IT'S OK!

Contacts '95

The story so far: In JULY we published our first Yearbook, called Connections CONTACTS. It listed near 3,000 technical facilities across Australia. Naturally we missed some, this being always on the cards when you fresh research something rather than copy it!

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AIMS '95 a winner

◆ Australian Musical Instrument Trade
Shows Off To 10,000+ Punters

By Julius Grafton

With musical equipment retailers reporting reasonably strong sales growth, the outlook for AIMS '95, the Australian International Music Show, was bright. With over 80 exhibitors signed up across one and-a-half halls at Sydney Exhibition Centre, all that remained was the anxious wait for The Public.

This years AIMS was subject to some dark muttering, which is an unfortunate Australian characteristic and it seems a feature of the lead up to any tradeshow, our own ENTECH included.

The snipes said that the public wouldn't come, that retailers would stay at home, and that the show cost too much.

Opening at 4pm on Friday September 30, AIMS got off to a steady start with the public paying \$10 to get in. Connections Publishing had a stand from which we sold our growing range of books, so we were well positioned to talk to the visitors.

By Saturday midday the halls were full, our stand was under siege and we had sold more than \$1,100 worth of books. The visitors were unanimous, the show was worth \$10.

NOISE: Exhibitors represented most available brands and as usual there were literally thousands of guitars on show. What was different this year was that NOISE was under tight control, compared to the aural disaster of 1993.

For 1995, AIMS took control of the Sydney Convention Centre auditorium, where various live demonstrations were run through a Peavey PA, provided by major exhibitor Australis. After paying to enter the tradeshow floor, public could then wander down to the auditorium to catch a band or star presenter in a proper performance environment. And it rocked!

In this way the organiser, Rob Walker - executive officer of the Australian Music Association, who promote AIMS, learnt a lesson from 1993, when a stage was in-

corporated in the trade show hall, resulting in noise pollution hassles like you would not imagine. In addition, Walker and his team ran a tight and professional show with thousands of tiny details attended to behind the scenes.

Sunday was similarly busy, with a large mob of scruffy types queued all around the Washburn stand to have Pantera Guitarist Dimebag (*a loud and ugly individual*) sign autographs. This idiotic promotion restricted access to the Washburn display for quite some time, and in my view would do little to assist in selling this product. Sorry about that, Washburn.

Anyway, by 6pm Sunday the public days were over and we had sold better than \$4000 worth of books, subscriptions and T-Shirts.

STUDIO GEAR MISSING: Members of the public buying our books complained on the lack of recording technology on hand. Naturally we sell recording books, so it was a topic of conversation. By some quirk the project studio equipment sector failed to represent itself terribly well, but of course there was this kind of product on hand - just less of it than you would normally expect.

TRADE: The purpose of AIMS, which has become more of a public show than ever before, is to allow music retailers to see public reaction to new products. In theory, a retailer can stand back and observe and then order products with some idea of how they may fare in the market. Retailers I met with at AIMS confirmed this.

Monday October 2 was a holiday in some states, and served well as the first 'trade' day at AIMS. The next day however was one day too many for AIMS, and should be lopped off the schedule next time.

AMA: The Australian Music Association has cemented AIMS as the premiere biannual show for the music trade. It's back in 1997.

•Page 15: More, including AMRA convention report.

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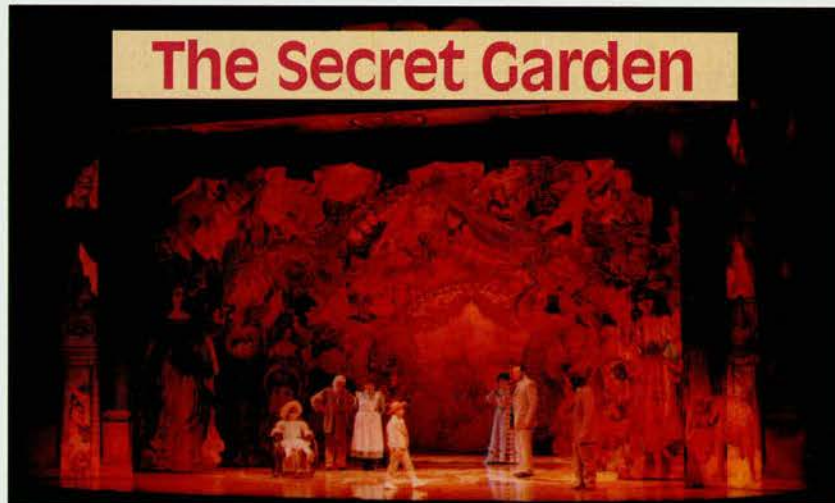
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100% produced in Australia

The Secret Garden



The Gordon Frost Organisation's latest production *The Secret Garden* opened at Sydney's State Theatre last month after a successful run in Brisbane. On opening night the show had taken \$3 million in advance booking. Sounds a lot but Gordon Frost will need to take \$5.7 million at the box office for *The Secret Garden* to break even in Sydney. The potential gross from a 14 week season is \$9 million.

Sets and costumes are the same as the Broadway production but the lighting design is totally new.

"I don't know any particular reason why they didn't use the American lighting design other than probably the American LD didn't want to do it!" said lighting designer Rory Dempster. "The unions in America have a particular deal whereby they can sell out their interest in the show.

"I was pretty much left to myself when it

came to the design. It's a typical Broadway show in so far as the stage is very shallow and very wide. All Broadway shows are like this because their stages are very shallow. Technically, I had to light it from the side using very small units. So, due to personal choice, I've used all profile lamps and the ideal lamp for that is the leko. It's nearly all lit by a couple of hundred lekos. I have a couple of colour changers but I don't use them much and there are a couple of floods. It's pretty simple and low tech really."

Unfortunately due to the width of the State Theatre stage about half the set has had to be chopped off. The landscape 'pictures' of the show are much narrower with cloths that were 40ft wide now 20ft wide.

Control at the State Theatre is a Strand Gemini and the lighting is supplied by Chameleon.

● Cat Forcer



photo Marty Williams

URGE OVERKILL

Seen at Selinas and the Metro in Sydney.

Production: Revolver

Australian Tour Manager: John Pope

The last time Urge Overkill graced our shores, they were a lesser known featured act on the Big Day Out bill.

Their current tour, coinciding with the release of their new album *Exit The Dragon*, travelled to most capital cities combined a mixture of clubs, universities and larger venues. Urge's live performance is punctuated by the band's distinctive stage personas.

Lead singer Nash Kato (above) looks like a 70's femme fatale and sings like lounge lizard.

● Natalie Apostolou



photo Marty Williams

JEFF BUCKLEY



Phoenician Club-September 5

As the rains poured down on a desolate Broadway, the collective temperature inside the palpitating Phoenician club was steadily on a rise. Throats went dry, eyes watered, tension built as Buckley took the stage producing a coercive intimacy, the likes of which spoke volumes to a spellbound Sydney audience.

The Sony PR machine was relentless in its subversive Jeff push. Using selective in-store appearances and industry oriented

shows (Sydney's Metro, Melbourne's The Lounge). A craving that was truly satiated as each venue sold-out with rapid fire certainty.

So there was Jeff, all languid beauty and petulant eyes crooning our sorrows, soaking our empathy and purging our souls. "F--king is the only redemption" he proclaimed and the followers melted. Frontier have announced his return in February.

Australian Tour Manager: John Pope.

● Natalie Apostolou

The Australian Opera Production of

Nabucco

Opera lovers have been up in arms over Barrie Kosky's latest production for the Australian Opera *Nabucco*, a tragedy based on the oppression of the Hebrews by the Assyrian king Nebuchadnezzar. Kosky and designer Peter Corrigan both hate conventional treatment of opera. Originally the opera, written by Verdi, was set in biblical times but Kosky has taken it into a surrealistic 21st century 'complete with a man dressed in a grey suit covered with large spiders'. Oh, the audacity.



Shocked Opera patrons, such as 'Angry from Wahroonga' and 'Irate from St Ives' have been venting their anger via the pages of *The Sydney Morning Herald*. One has even lodged a complaint with Consumer Affairs to get a refund on his ticket. He also believes the Australian Opera have a legal and moral obligation to warn prospective patrons of the unusual nature of the production. I suspect your typical opera goer is not at the forefront of adventurous and modern design.

'We couldn't enjoy the music as the gimmicks and disco lights, cardboard signs were much too noisy and distractive' said another complainant, a remark I don't quite understand.

Props include the head and shoulders of a giant woman with metallic teeth and detachable arms as well as a giant snake. Both are painted in fluorescent yellow and green, giving them a Mambo inspired look. There's an enormous dog's head several metres high which has large fresnel lenses, specially imported from the US, inserted into it's eyes. Add to that 32 crows, totem poles and a myriad of animal heads. Sounds groovy.

● Cat Forcer

Wet Wet Wet - sound

Sound engineer Jim Ebdon won the 'Best Live Sound Engineer Award' in the UK last year for his work with *Wet Wet Wet*. In Sydney he was using a 48 channel Yamaha PM4000 with a rack of what he describes as 'spectacular effects'.

"These include a rack of Focusrite 6 which is a mic pre-amp and EQ that I use for Marti," he told me. "It goes through into a tube tech compressor which is a valve compressor/limiter. Basically I do that by-passing the desk, just using the fader on the desk as a volume. I bypass the mic amp from the desk. It's just so much cleaner, warmer and nicer."

Also in the rack are Behringer compressors, BSS compressors and Drawmer gates. Effects used two Eventide H3000, one AMS, two SPX990's and a Roland Delay. All of these Jim bought with him from the UK knowing that at some of the places they are going to play he will not have time to do a whole sound check and reset everything.



Although Jim has been using a Yamaha desk for the tour so far, he plans to replace it with a Midas XL4 for the next UK tour.

"Yamaha desks are OK and they're very well laid out," said Jim. "But I prefer the sound of a Midas. The PA here in Australia is Turbosound TMS3 which has been supplied by the PA People. It's a nice sounding system but it doesn't throw very far. What we've had to do is couple the horns together so we get further throw. I wanted to use the Flashlight over here but it was being used. In the UK we used the Electrovoice MT4 System from SSE of Birmingham. I think it's the best system in the world. They modified it a lot at SSE and we used digital cross overs."

Monitor engineer Jon Ornesher was using a Midas XL3 desk and TC Graphics.

"He's a brilliant monitor engineer," said Jim. "From a FOH engineer's point of view



it's good to have a monitor engineer who is considerate to me as well as I am to him. Just for Marti, we bought four SSE BLM's, which are modified Electrovoice Delta Max speakers. All the band are on Garwood in-ear monitors.

"With microphones I have a deal with AKG and I basically use AKG all around the kit, apart from the toms. I have four 414's on the overheads, two 451's for the right cymbal and the high hat and EV 408's on the toms. There's a Shure SM91 in the bass drum and Shure 57 on the snare. Everything else is DI-ed apart from the guitar which has got two AKG 409's. Then we've got the 900 Series Radio System from AXC for the brass and Marti's vocal mic which is a 50 900.

"I try to keep everything as natural as possible. The band are very competent musicians and know how their instruments should sound. I believe very firmly that if the sound at source isn't right, that's the sound you need to fix first before you start EQing it and adding processing, which is basically just adding more noise to what's already there. We try to get the original sound as close as possible. There's a lot to mic technique - positioning the microphones in the best place. The Focusrite definitely helps with Marti's voice, it cleans it up and having to use a radio mic as well, they're never going to be as good as a cable. He's a very dynamic singer and the valve compressor takes care of that."

● Cat Forcer

Turn to page 84 for a report on the LX



Martin Nicholas, LD, & Jim Ebdon, SE.



Last month Caroline & Julius Grafton went to PLASA, the UK's largest trade show for our industry. While predominantly full of lighting, it's got a lot of audio too and this is growing following the decline of the APRS trade show in the UK. PLASA is held each September at Earls Court and is well worth visiting.

Colin Williams of Key Lighting Australia P/L, (left) the Melbourne based film location lighting firm. Colin attended PLASA to see the latest film lighting technology, and then went on a tour of European Lighting Factories with Peter Kemp of Coemar DeSisti Australia.



Cuon Buiviano (at left), boss of ULA, with Abstract MD Stephen Watts, and Kick Karafinas from Australian Disco Services (Melbourne), pictured at right. A PLASA pic.

ShowCraft boss Lee Conlon, (middle) promoting Australian technology at PLASA. With CCT people, David Manners (left) and Pat Brogan (right).



Selecon director Jeremy Collins is pictured (right) with Auckland based LD Brian Coldwell at left, and Philip Dexter of Hampstead Theatre London. Pictured at PLASA in London during September

He we have Show Technology director Rod Salmon, a little lagged, at PLASA.



It was way back in July, but this pic of our stand at PALA in Singapore has turned up. It shows Connex power duo *Natalie Apostolou* (the only photo ever taken of this recluse), and *Caroline Grafton*. Between is 14 yo *Alex Mair* of Sydney, a dedicated Connections reader who made the trip to Singapore to catch up on new equipment. Dedicated huh?

EMA Tours

It's showcase time again, courtesy of **Export Music Australia**. Tommy Emmanuel, Christine Anu, Past to Present and The Robertson Brothers have been jetting about the Asian region. The trip will encompass Hard Rock Cafe appearances in Hong Kong, Kuala Lumpur and Singapore over Sept 24-Oct 2.

Daltrey Stays Home

Unfortunate tour news of the month comes from the John Whale Productions office. The Roger Daltrey "Greatest Hits of The Who Tour" was cancelled. The decision was prompted by poor public response and extremely low ticket sales. At cancellation time ticket sales had amounted to less than 20% capacity in most venues.

Gilbey Resigns

BMG's, **Chris Gilbey** has resigned from his position as head of A & R for BMG Ariola Interactive Entertainment. He plans to keep an eye on his favoured artists at BMG like RIG and Anti Anti where he shares a publishing interest with BMG. He plans to continue to explore the world of entertainment technology.

Getting Taken

Brit pop icons Take That have brought some unsavoury tour practices with them. Australian support Nick Howard and manager Neil Clugston were given a rude shock when told of the pay for play system that Take That were demanding. Subscribing to a practice used in the US and Europe where the larger the act, the higher the fee demanded from the support act for the privilege of playing. Nick Howard has declined the privilege.

Tour of the Decade?

Golden Sounds are planning a series of 5 major shows featuring the likes of Sonic Youth, Beastie Boys, Foo Fighters, Pavement and the best of our local talent. The concerts will tour round the nation from Dec 29 to Jan 7, with Sydney hosting a New Years eve extravaganza. Watch this space for pending details.

Job Changes

Cathy Oates formerly National TV and Radio manager at Sony Music Sydney has moved over to BMG as National Promotions manager. Her position at Sony is being filled by **Stuart Crane** who was previously International Promo Manager at Sony Vic. Also at Sony Vic, State Manager, **Scott Mitchell** has resigned.

Leaving the position of EMI Melbourne's Promotions Manager, is Michael Matthews. Label Marketing Manager Michael O'Reilly has resigned.

Austereo has appointed **John Williams** as Group News Director. He will be responsible for the Austereo networks 11 radio stations nationally.

Roadshow Music has appointed **Sheriden Harmer** (previously Festival Records), as sales manager for Victoria and Tasmania

John Farnham and manager Glen Wheatley have left **IMG**.

We'll give you 45 days to discover why these are the best headset mics available.

"We went through every head mic we could get our hands on. The CM-311 solved a lot of our problems by keeping the drums and monitors out of the vocals. It's the most natural sounding headset mic we've ever used."

David Baker, Monitor Engineer
Restless Heart

"The 311 gave us as good a performance as a regular hand mic for sound quality and rejection. They're reliable, comfortable and sound great."

Patrick Hamp, Sales Engineer
Systems Wireless
Herdon, Virginia

"The CM-311s give us the best rejection of crowd and car noise of any microphone we've ever used. They're very rugged. Our race announcers use them at all four turns of the track."

John Rayer, Assistant Technical Director
Indianapolis Motor Speedway Radio Network

Our headset mics are making an impression on audio pros and performers worldwide. And now, we're giving you the opportunity to try them yourself - risk free!

The CM-311 is simply the best mic you'll hear for gain-before-feedback and rejection - it virtually

eliminates bleed-through from on-stage instruments and hot stage monitors. It's rugged too - to handle life on the road - yet lightweight and comfortable enough for hours of use. And, it's small profile lets you put your best face forward.

The new CM-312 provides outstanding performance with an even less obtrusive profile and lighter weight, making it perfect for aerobics, sports broadcasting and live entertainment.

And now, with our *Trail Offer Program*, you can use a CM mic for 45 days to actually hear for yourself

how well it performs. After the trial period, if you don't agree that it's the best headset mic you've heard, simply return it for a full refund. No questions. No hassles.

For more information on the CM Crown Mics Call David Gable on (02) 684 1022.



The Adaptapack™ Tel. pack lets you access an internal 9 volt battery or external phantom power.

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You're on the cutting edge. You record in the newest generation studio. You need tapes that are designed specifically for digital audio applications.

So we consulted with the most demanding artists and engineers in digital recording and spent months in development back at the lab. The results are Ampex 489 S-VHS, 488 Audio Hi8, and 467 R-DAT, designed specifically for digital mastering.

They are simply the finest mastering tapes you can buy. In fact, more artists, engineers and studios go gold on Ampex than on all other tapes combined.

Thanks to our unique dual coating technology, Ampex 489 and 488 feature low dropouts, high output, and the most consistent quality tape after tape. Plus, low abrasivity

to ensure long headlife. Which is why Alesis, the creator of the ADAT format, recommends Ampex 489 ADAT.

Ampex 489 is now available in our new 60 minute extended play configuration – for use on ADAT System 4 recorders or newer. Ampex 488 Audio Hi8, in 30, 60, and 113 minute configurations.

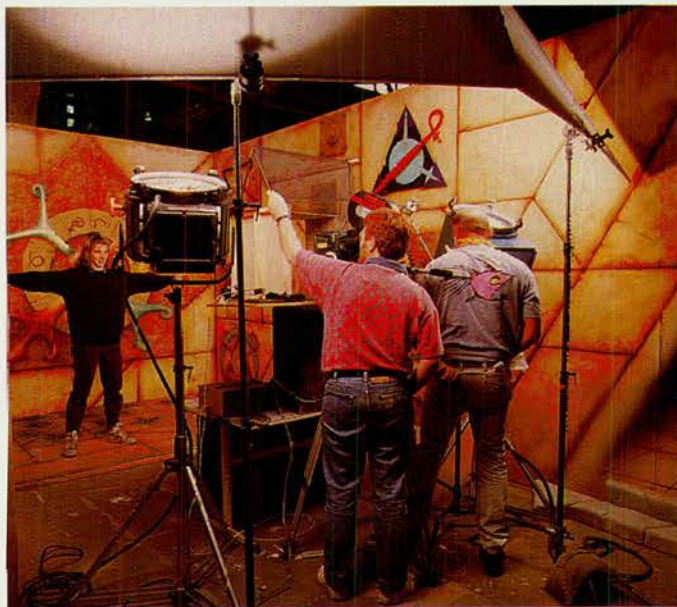
And for two track mastering tape, try Ampex 467 R-DAT. They're all easy to find, thanks to the industry's largest distribution network. And they're backed with the service and support that has long been the industry standard.

For more information, or the name of your nearest distributor, just call us at 1-800 023 124. Ampex 489, 488 and 467 audio mastering tapes. Born digital. Bred for gold.

AMPEX

Ampex Media International, 51 Rawson Street, Suite 104, Epping, New South Wales 2121, Australia, 61-2-869-0600, Fax 61-2-868-5775

SCITECH Special FX Exhibition On Tour



Special Effects: The Secrets Behind The Screen

Many of the mysteries behind movie technology are laid bare in Special Effects, an interactive exhibition currently running at Museum of Melbourne's Scienceworks, and is scheduled for Sydney's Powerhouse Museum from December 10.

Eight displays let visitors act out fun and hair-raising scenes, even capturing their performances on video to take home.

Developed at a cost of two million dollars (two mega-bucks) by the Scitech Discovery Centre in Perth, the exhibition features forty hands-on exhibits. The impact of lighting, make-up and computer generated morphing are just a few

of the many techniques and effects demonstrated.

By gradually moving LEGO pieces on a model landscape, visitors can produce a short film and see how much effort animation requires. Add sound effects and bring a sequence from Tarzan to life. Re-edit a scene from Star Trek.

Time lapse photography, the complexities of 3-D and even the internal workings of your VCR are laid bare.

Blue screen technique is utilised, for example you can walk across a rickety bridge which is just over a blue void. You may choose to quite safely dangle your

Production Tips

Making sound effects:

- To make a PUNCH sound as if it's landing on someone's chops, use steak. Yup, a side of beef slapped against a wet slab of concrete will do!
- Need to STAB someone? The sound effect accessory for this is a watermelon. Attack, then eat it after!
- Footsteps in snow can be mimicked by moving your fingers through rock salt. Use to season beef (above!)

An Interesting Film Effect:

- The vehicles which 'floated' across the desert in Star Wars each had a full length mirror attached along the base. The camera then saw a reflected view of the sand below the vehicle, the mirror had covered the wheels.

toddler over the edge. Naturally, the overlay on screen will show a loving parent dangling a happily oblivious tot just above a flowing sea of lava. You cruel sod!

There is the compulsory leap from a 20 story building, and plenty of other fun and horror.

Of course, if the human eye didn't retain images for a fraction of a second, then a TV screen would just look like a small dot scanning back and forth! -JG

DEvised BY: Scitech Discovery Centre. SET DESIGN: The Woodland Studio. MODELS: Monster Productions. LIGHTING: Shadowland Designs. SOUND: Creating Waves.

Music News

(continued)

Money Talks

Rumours are buzzing that Time Warner want to sever its indie arm Interscope records. Polygram and Sony have expressed interest in the label. One of Interscope's offshoot distribution labels, Death Row, is being plagued by Delores Tucker (radical morals activist), in which she has offered to take Death Row away from Interscope, clean up the labels lyrical output and absorb the company into a record label she plans to form.

EMI Records Europe is facing a writ from their ex-president/chief Executive. Alexis Rotelli was dismissed in May and is claiming 1 million pounds in damages. He alleges his contract entitled him to 12 months notice.

Perry Farrell and the organisers of Lollapalooza are being sued by a 17 year old punter who was crippled at a Rhode Island Lollapalooza in 1994. Jeremy Libby, a quadriplegic claims he injured himself while crowd surfing.

The passing of Jerry Garcia has proved to be a great marketing tool for the Dead. Sales have rocketed in the states, with 30,000 copies of their 1979 concert documentary being sold the day after his death.

Directory on Net

The Australasian Music Industry Directory is now available for viewing on the net at immedia.com.au. Apart from their directories expansive listings are a Music Staff info area, where resumes can be emailed. It's a comprehensive site.

ENTECH: Every April!

Entertainment Technology Trade Show, call (02) 876-3530

Sydney Exhibition Centre April 23 - 25 1996

Melbourne Exhibition Centre April 1997

Sydney Exhibition Centre 1998

"I've got a major gig:
Give me the
cheapest guitar
you've got."

As a professional musician, you'd never pick out your guitar that way. You know it takes a good instrument to give you the sound you're after. So why choose your sound equipment that way? No matter how good your instrument is, if you don't have a good PA you may as well be twiddling your thumbs.

All equalizers are not created equal. Sure, equalizers all look pretty much the same stacked on a shelf. But a mediocre design can turn your trademark sound to mush.

Choose your sound equipment the same way you choose your ax. Consider sonic quality, reputation, reliability and durability. How will it perform after it's been rattling around in the back of a truck awhile? Ask around. A lot of what you hear will point you to Rane.

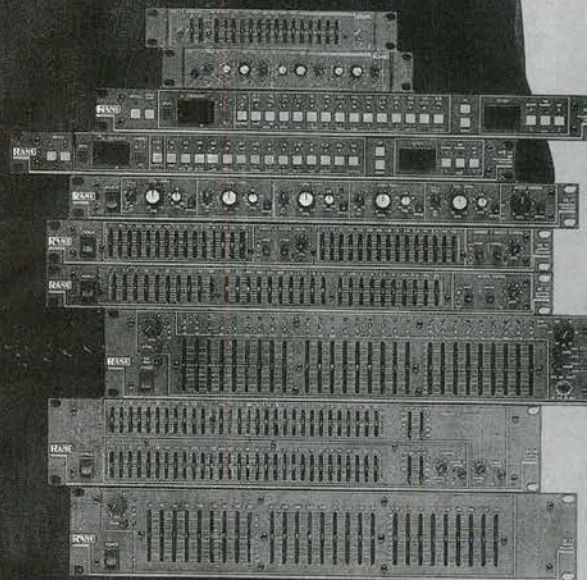
A professional sound at a reasonable price.

For not much more than the cheap stuff, you can own a piece of Rane gear. Rane has pioneered many of the latest advances in EQ technology including Constant Q, State Variable, Accelerated Slope and more. In plain English that means you get a better sound, with less feedback and minimum fuss.

And Rane delivers years of reliable studio-grade performance, backed up by a two-year warranty and a well-earned reputation for the finest in factory support.

Consider *all* your equipment purchases as if your sound depends on it. Then consider the sound equipment that's already proven itself everywhere from guitar racks to grammy recordings.

Consider Rane.



Made in USA

Write in Reader Service Number: 114

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Music Retailers Debut Convention

■ Music Show the venue as MI meets MT— for an eye opener at AMRA

The Australian Music Retailers Association held its first conference during the Music Show - AIMS '95 across the October long weekend. It was linked onto the music show, but remained separate. The synergy worked, despite the 10,000 paying public who attended the music show being unaware what AMRA means.

Formed 18 months ago, AMRA now represents more than 300 of the 1500 recorded music outlets nationwide, and membership is set to grow as a result of the conference according to chairman Barry Bull. "Membership focuses on performance" he said, and the overall music industry view is that AMRA has established a viable conference.

It's an interesting confluence - the music trade (MT) is the public face of contemporary music, the players are the record companies and the retailers, allied with artist managers and booking agents.

The music INDUSTRY however (I'm searching for a tag here, we got MI and MT, OK?) would be characterised by the musical instrument retailers and distributors who make up the core push behind the Australian Music Association - and AIMS, the music show itself. For the first time, both shared the same stage. And it was an eye opener.

If you were attending either AIMS or AMRA as a trade visitor, then you weren't one of the paying public whose motivation in attending AIMS was to see instru-

ments or observe celebrities in action. You could visit both distinct trade show floors and experience the different cultures of both worlds.

With AIMS taking up a hall and a half at the Sydney Exhibition Centre the way was cleared for AMRA to hold a trade fair alongside its conference, and more than 40 exhibitors were attracted. These included majors like Sony Music, whose stand cost better than \$50,000 to prepare. It was probably one of the better displays I've yet seen at a tradeshow.

MT has flashy innovative displays funded by good profitability in the record companies, flush with back catalogue sales and high margins. MI is down to earth and sometimes just a lump of truss, a black and some gaff. Nevertheless the AIMS displays were characterised by enthusiastic if not pushy ex-musician types extolling the virtues of their guitars, drums or keyboards.

AMRA had seminars, which attracted good media coverage. The opening address by Arts Minister Michael Lee proved another hollow utterance, no word on sales tax relief for the beleaguered recording studio industry, another opportunity for the government to show the trade it has some vision was lost. Peter Rix then mediated a retail forum.

Day two saw some angst expressed at the threat the Internet poses to retail, 'Media and Technology Towards 2000' touched on the issue of CD's being available

from mail order houses in the USA and imported here without 22% sales tax.

Music publicist Phil Tripp put up his hand during this session and reported he had been offered a marketing deal whereby a major US mail order house would pay him a commission against sales if he promoted their internet service here. He told the seminar he rejected the deal on the basis it would wound the local industry.

Independent music and how it affect retail was a big subject. Participants from MDS, Shock Records and Larrikin all represented number one releases, and retailers were able to debate strategies, point of sale and chart action with these companies.

The overall thrust of the conference, according to Barry Bull, is to stress retailers are strategic partners with the record companies, major and independent.

"The conference puts everyone on the same platform" he asserted, "and retailers could see the companies don't have sixty story glass office buildings. Hell - Shock (Records) bank in Northcote, not in Switzerland".

With the conference over and the showcase performances by such acts as Badloves, Max Sharam and Chocolate Starfish a memory, AMRA are poised to announce their conference will go annual - and to seek further synergies with the Australian Music Association.

And that is a good thing.

-Julius Grafton.

Theatre Production Course at James Cook Uni.

Naturally when we ran a roundup of education courses in our last issue we missed some. Reason? Our coverage was freshly researched, and so we can't cover or unearth everything first time.

The Theatre Production Course at James Cook University in Townsville started this year, so we can be forgiven for missing it. However, WAPAA in Perth is considerably more established and we feature it at the back of this issue in some depth. It we should not have missed!

The Bachelor of Theatre Degree at JCU offers one of three strands: Acting, Playwriting or Production/Design. It is this which we concern ourselves with here.

A 3 year course, it will focus on Production and not require students to waste hours or days in voice or movement classes. Year one deals with basics of sound, lighting, costume and set construction. Student productions are run to put theory into practice.

Year two allows specialisation into stage management, set or costume design, lighting, stage mechanics or sound.

Year three sees students working alongside professionals within the industry through work experience. The whole course is slated to provide a practical vocational emphasis to better prepare students for the workforce.

Details: Ian Cole, (077) 814-662

ENTECH: Every April!

Entertainment Technology Trade Show, call (02) 876-3530

Sydney Exhibition Centre April 23 - 25 1996

Mebourne Exhibition Centre April 1997

Sydney Exhibition Centre 1998

World Electricity

Country	Cycles	Volts
Argentina	50	220/380
Australia	50	240/250
Bangladesh	50	220/240
Brunei	50	240
Burma	50	230/250
Canada	60	120/240 & 110
China	50	220/380
France	50	220/380
Germany	50	220/380
Grt Britain	50	240 & 240/415
Greece	50	220, 220/380/127
Hong Kong	50	220, 200/346
India	50	230/400/220
Indonesia	50	127/220
Italy	50	220/380
Japan	50/60	100/200
Korea	60	110/220
Malaysia	50	230/240/415
Mexico	60	varies
NZ	50	230/400
Russia	50	127/220, 220
Singapore	50	230/400
Sth Africa	50	250
Tahiti	60	220 & 110
Taiwan	60	110
Thailand	50	220/380
USA	60	120
Vietnam	50	120/127/220

Not here? The COMPLETE Connections goes EVERYWHERE list of Electrical currents around the world is on our online site at MSN, see Entertainment: Trade Journals.

DOLLAR HISTORY

HOW the A\$ has fared over time.
One Australian dollar would/will buy:

	US\$	Yen	£	DM	\$\$in
1965	1.14	403	0.39	4.46	3.25
1970	1.12	400	0.46	4.05	3.22
1975	1.33	392	0.59	3.11	3.15
1980	1.16	251	0.49	2.03	2.52
1985	0.66	165	0.51	2.02	2.10
1990	0.77	98	0.39	1.18	1.45
NOW*	0.75	77	0.48	1.10	1.09

30 day trend ▲ ▲ ▲ ▲ ▲ ▲ ▲
Trendline: rise means A\$ strengthens, imports cost LESS, while exports earn more. Note: It takes sustained trend to have effect.

NZ\$ at publication: \$1.13 ▲

*At 20/9/95. All rates indicative only. Check with your bank.

MAJOR TRADE SHOWS

- **AES 99th**, New York, October 6th - 9th. Call +1-212-586-5989
USA's leading pro audio show, a good thing to visit this!
- **REPLitech Asia**, Singapore, Oct 24th -26th. Call +1-212-643-0620
- **LDI Miami USA** Nov 18 - 20 1995. Call +1-212-229-2965
Worlds largest lighting trade show.
- **INFOCOMM ASIA**, Singapore, Nov. 23-25. Call +65-290-5868
Asian edition of leading USA AV, Multimedia show
- **NAMM** Los Angeles Jan 18-21 1995. Call +1-619-438-8001
USA's leading music show.
- **Musikmesse**, Frankfurt March 13 - 17. Call +49-69-7575-6662
Largest music show in the universe!
- **SIB, Rimini**, (Italy), March 24 - 27. Call +44 1323 442-747
Worlds Biggest Disco Show, a real visual treat!
- **Broadcast Thailand**, Bangkok. April 4-7, 1996. Call +66-2503-2199
- **ENTECH '96**: Sydney April 23-25, 1996. Call (02) 876-3530
Australia's annual Entertainment Technology show
- **AES 100th**. Denmark May 11-14, '96. Call +45-9785-1122
Europe's leading pro audio show.
- **NSCA St Louis (USA)**, May 13 - 15, '96.
Best contracting and pro install audio gear show there is!
- **PALM China** Beijing, 25 - 28 May 1996. Call +65-227-0688
- **World Lighting Fair** Tokyo, June 20-22nd, '96. Call +81-3-3706-5687
- **PALA '96 Singapore**, 10 - 12 July. Call +65-227-0688
Lost it's lustre. We're not going in 1996!
- **AES 101st**. Los Angeles, Nov. 7-10, 1996. Call +1-415-558-0391.
- **ENTECH '97**: Melbourne Exhibition Centre, April 1997.
Annual show, at Sydney Exhibition Centre on even years.
- **SMPTE**, Sydney July 11-14, 1997.
Biannual TV/Film equipment trade show and convention.

MARTIN TRADE LX DEMO'S - ALL WELCOME

MELBOURNE- CC's Stage & Studio, 6.30pm Tue. 10 Oct, 538 City Rd, Sth Melbourne. Call Roger Clapton, (03) 9532-0488. **BRISBANE**- BJ's Sound & Lighting will host, from 7.30pm Tue 17 Oct, at Hogies nightclub, 127 Charlotte st, Brisbane. details from Mick Hawthorne, (07) 854-1122. **SYDNEY**- 6.30pm Tue Oct 24 at Show Technology, 13 Bridge st Rydalmere. Call (02) 898-1111 for info.



World Weather trend, OCTOBER

Where?	Temp °C	Rain mm			
Auckland	17/11	102	Manila	31/23	195
Bangkok	31/24	255	New York	18/10	84
Beijing	21/07	16	Paris	16/08	50
Chicago	17/08	71	Perth	21/12	54
Dubai	33/22	0	Rome	22/13	99
Frankfurt	14/07	52	San Francisco	21/10	18
HoChiMinhCity	31/24	269	Seoul	19/07	49
Hong Kong	28/23	121	Shanghai	23/14	74
Jakarta	31/23	112	Singapore	30/24	208
Kuala Lumpur	32/23	275	Sydney	22/13	71
London	14/08	57	Taipei	27/19	117
Los Angles	23/14	10	Tokyo	21/13	220
			Toronto	17/07	58

CASH!

The column by the **Beancounter**.

Is it OK to complain in writing? From our recent trade show experiences, no way!

At **SMPTE** in Sydney this year we were unhappy with the security, which allowed us in and out of the hall on setup day without any kind of pass. Then, the exhibitor passes, essential for entry, were only available for collection **INSIDE** the hall. Finally, an organiser was rude when we asked for a press pass, saying we obviously wanted 'special treatment'! Wow.

A letter to the **SMPTE** board was answered seven weeks later by the event organiser, who basically accused us of sour grapes because they didn't advertise **SMPTE** in Connections!

• A few weeks later, up in Singapore, we took a stand at the **Pro Audio & Light Asia** show at **very high cost**. The hired video unit carried a 50% excess because we booked it late. The form said 30%, but they said: 'that a mistake, you must pay!'

The Exhibition Guide, in which we had a full page colour advert, was charged for at \$10 a copy instead of being free.

The money pinching continued in the hall, where the carpet was uncomfortably ultra-thin and laid in strips. You stood on bare concrete in many cases.

Finally, waiting outside for 40 minutes in the stifling heat for a taxi, we pondered the lack of hotel shuttle busses!

No response from the **PALA** organisers to our letter. Yet!

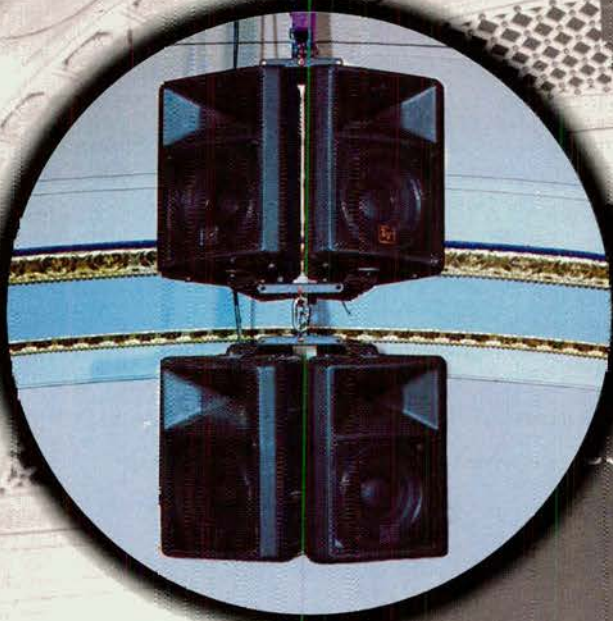


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For DEALS to LDI Miami '95 call:

JOANNE: SYDNEY 237-2916 ♦ CRAIG: MELBOURNE 9682-6166
Show dates November 18 - 20

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Electro-Voice Sx200's provided sound reinforcement at the 1995 Ann Arbor Folk Festival in University of Michigan's 4,000-seat Hill Auditorium.



**Powerful enough to fill
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System 200™

MODULAR PRO AUDIO

EV's System 200™ Modular Pro Audio was designed to be the best lightweight, compact, full-range speaker system in the industry. It has succeeded.

Because of its clarity and impact, audio professionals have put it to use in venues typically reserved for much larger, more expensive systems.

So, once you've heard the depth, detail and power of the Sx200 full-range, Sb120 sub and Xp200A electronic controller, don't be surprised if you find yourself wondering, "Is this more system than I need?"

You'll quickly admit...

"You Can Never Have Too Much Of A Good Thing."

Write in Reader Service Number: 128

Hot Career Opportunity for Staging Genius!

Your chance to avoid late-night load-ins, room service burgers and interstate trucks.

(You will have to wear a tie to work)

Staging Connections, Australia's largest and fastest-growing corporate audiovisual group, are looking for an Account Manager for our Sydney office.

The job involves co-ordinating the technical requirements for our clients' conferences, product launches, roadshows and other events.

You will have a detailed knowledge of sound, lighting, video and data projection equipment. You will be able to co-ordinate plans and scheduling for complex events.

Most importantly, you'll have the personal and communication skills to relate to corporate clients at the highest level. You'll understand what a presenter is going through as they step up to the lectern in front of 400 people.

We can't promise you freedom from stress, heavy deadlines and the occasional late night, but we have some really pleasant clients, a nice office and some very capable people for you to work with. Staging Connections also offers considerable career potential for talented people. Call Peter Helft on (02) 818 2555.

Audiovisual Operators

We are looking for experienced audiovisual technicians to work from our Sydney office. The right people will have a broad range of experience in installing and operating video, audio and lighting systems for large events.

You will have the determination to make your show a success no matter what, and you'll be calm under pressure.

If you can make a nervous corporate client confident that they're safe in your hands, you'll have the opportunity to work on some very exciting events. If you're really good, you'll get to supervise major roadshows all around the country. And not in a truck, either.

Appearance and presentation is critical, as most of our work is in five-star hotels in front of corporate audiences.

Long-term, many of Staging Connections' senior technicians have moved on to management roles due to growth. If you're talented and energetic, this is a great opportunity to develop a career.

Call Terry Rooney on (02) 818 2555.

Visual Display Specialists

Staging Connections is looking for people with a passion for design and creative decor to work in our fast-growing Set and Display department in Sydney.

Working as part of a small but frantic team, you'll be able to transform a hotel ballroom into a fantasy vision for all sorts of special events. You'll be able to pin a piece of lame in flamboyant style, and your clients will gasp with surprise at the way you turned a spike and some pineapples into a fabulous table centrepiece.

You may have worked in retail display, or perhaps theatre. If you think you're the one, call Justin Cowell on (02) 818 2555.

STAGING[®]
CONNECTIONS

Technology

WHAT'S NEW, HAPPENING & IMPORTANT FOR THIS MONTH



PIONEER 96kHz DAT

■ High Sampling Digital Audio Tape Deck

Pioneer have launched the D-9601 DAT recorder for the professional audio market. Dubbed 'HS DAT' (High Sampling), the D-9601 can operate at a 96kHz sampling rate—twice that of conventional DAT recorders. It can also operate at 88.2kHz as well as the standard 44.1kHz and 48kHz sampling frequencies.

To achieve 96kHz sampling, the tape passes the head drum at 16.3mm per second rather than 8.15mm and the head drum's rotational speed is doubled from 2000 to 4000 rpm. As a result, high frequency response increases to 44kHz and any undesirable side-effects of anti-aliasing and post-DAC filtering are forced an octave higher in frequency, say Pioneer.

Although sounds with frequencies above 20kHz lie beyond the 'audible' range of the human ear, such high frequencies nonetheless lend to music an ineffable quality appreciated by discerning listeners. This is more than a theory!

The D-9601 also has a double speed digital audio interface. Its format is original, but similar to, and based on the IEC-958. An external A/D converter can be used to output double speed digital audio. Also, if using two recorders in High Sampling mode it is possible to edit programs simply. Two D-9601's can also be used to make 44.1kHz and 48kHz double speed copies via the AES/EBU digital in-

terface.

The D-9601 AES/EBU interface can switch the output signal format: one is a High Sampling mode digital audio interface; the other is the normal AES/EBU format signal, but it is down-converted from 96kHz to 48kHz, or from 88.2kHz to 44.1kHz.

- Priced at A\$2,995.
- Pioneer, Phone (03) 9580 9911

WRITE IN 201 ON READER SERVICE CARD FOR INFO

Sales

- **Channel 9** in Sydney have ordered a Euphonix CS2000 console plus a Lexicon 300 Digital Effects Processor with LARC.
- **Wild Gravity** in Townsville have installed 10 QSC MX3000a amplifiers in the Play Pen Nightclub, Townsville.
- **Genelec** monitors have found homes recently at Alberts Studios Dopplebass P/L, Grevillia Recording, Channel 10, & Factory Sound.
- **Austrasound** have installed QSC MX series amps in Studebakers and Booby McGee's Nightclub in Sydney.
- **Lexicon** PCM 80 digital effects units can be found at System Sound, Sydney Opera House, CAAVA, Wharfs End Studios and West Gippsland Recorders.

NEW VIDEO POST PRODUCTION CONSOLE FROM SOUNDCRAFT

Soundcraft has introduced its first dedicated post-production moving fader console with the release of the DC2020.

Available in 24, 32 and 40 channel in-line formats, the DC2020 is carefully tailored to its market with four-band semi-parametric EQ, video sync capability, a PC and Mac interface to allow for the addition of an external keyboard and mouse for faster operation, enough memory to cope with broadcast-length projects, fast processing, six flexible auxiliaries and Soundcraft's unique 'floating bus' routing system.

The C3 (Console Control and Communication) automation system encompasses fader and mute control, machine transport and record controls, on-line mix edit-

ing and project management with facilities applicable to commercial post-production facilities.

C3 is already in use on more than 200 Soundcraft consoles worldwide and according to Soundcraft managing director Mike Johnson, represents the most cost-effective integrated automation available.

"As an affordable moving-fader console with integrated machine control, the DC2020 offers unprecedented commercial benefits," he says.

DC2020 is available from a recommended \$58,000 (24 channel) and is distributed in Australia by Jands Electronics: (02) 517-3622.

WRITE IN 202 ON READER SERVICE CARD FOR INFO



Ampex Recordable Compact Disks

Ampex has introduced its CDR product line. They are available in 63-minute/580MB and 74-minute/680MB configurations. The Ampex CDR Series is compatible with virtually all formats—including CD-Audio, CD-ROM, Extended Architecture CD-ROM XA, and CD-I interactive formats.

The advent of CDR has placed the compact disk format into a broad range of applications such as CD-ROM, reference media, CD-

I projects, long-term storage.

All Ampex CDRs utilise a special top-surface shield that protects the discs and their information from scratches and abrasions.

The shield also serves as a chemical barrier which allows users to write across the surface of the disk. To ensure long term stability, Ampex CDRs incorporate the use of a special phthalocyanine dye that is stable in high heat and humidity. Phone (02) 369 0600.

WHEN IT'S TIME TO FACE THE MUSIC ...



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Sony's F-700 family of dynamic microphones are for those times when your performance has to be right on cue - and isn't that all the time?

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The F-710/720/730/740/780 Series from Sony. There's a model to suit your most critical audience.

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Write in Reader Service Number: 1E0

SONY

COOPER MIXER- NEW LENGTHS

Cooper Sound System, manufacturers of location audio mixers have released a new extended chassis version of their popular mixer.

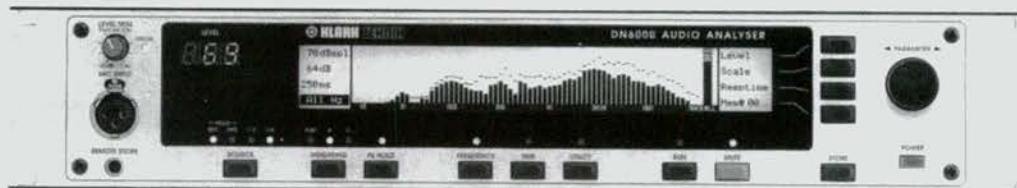
The new CS108 +1 Audio Mixer features top quality specifications, a comprehensive communications system and may be ordered with 6-9 modular input channels. Input channel options include mono or stereo modules with M/S decoders and the new Aux. Module CSD-2. All modules are plug-in so the mixer may be easily reconfigured should the application change.

The Aux. Module CSD-2 converts the Cooper Audio Mixers into true 6/8 x 4 + aux. mixers. Installed in the 7th or 9th channel slot, the Aux. Module CSD-2 provides two extra independent balanced outputs that can be utilised for four track recording, two stereo mixes or additional aux. sends. Any of the input channels may be selected and panned to these outputs.

CS108 + 1 Audio Mixer: from \$18,000 + tax; Aux. Module CSD-2 : rrp \$1395.00 + tax.

•From ASC; (02) 901-4455

Write in 208 on Reader Service Card for info



Sound Level Control

The Sound Safe System, made by Masters Electronics, is the latest 'noise clamp' device for constraining sound levels on installed PA and club systems.

SSS allows various levels to be set according to different times of day. The unit can be key locked to avoid tampering.

Programmable parameters include start and end times, maximum sound pressure level (of course!), tolerance time for exceeding sound level before the unit activates, and weighting filters for the threshold.

A variety of options are available, including a hand held radio remote which works to a distance of 200m from the main rack mounted unit. The unit is made in Italy.

• Details: Ashton Admor, (09) 478-3800.

KLARK TEKNIK LAUNCHES NEW AUDIO ANALYSER

Klark Teknik have a new audio analyser for providing high resolution spectrum/time analysis. It has a ball-tearingly bright rearlit display which really works well we can report, having seen the thing at the Mark IV Audio dealer conference at presstime.

The DN6000 performs real time 1/3 and 1/6 Octave spectrum, LET, LEQ, and RT60 analysis to a resolution of 0.2dB - and incorporates microphone or line level inputs, with a 20dB trim control to allow optimum visual display.

The DN6000 is designed to conform to Type 1 specifications of IEC 804 and IEC 651 - the stand-

ard for integrating averaging sound meters. Thirty two memory positions are available to store spectrum analysis data and a further sixteen to build up a composite average - it can automatically analyse a whole evening's or a whole week's data.

Other features include an internal generator, output parallel printer port and a data output port to link with the DN3600 programmable graphic equaliser, allowing auto EQ. \$9275.00 rrp, from Mark IV Audio (Aust), call (02)

Write in 209 on Reader Service Card for info

Pro-Bel appoint Amber

Amber Broadcast will market the range of Pro-Bel master control switches, automation, routing and signal management products. In addition, Amber will support ex-

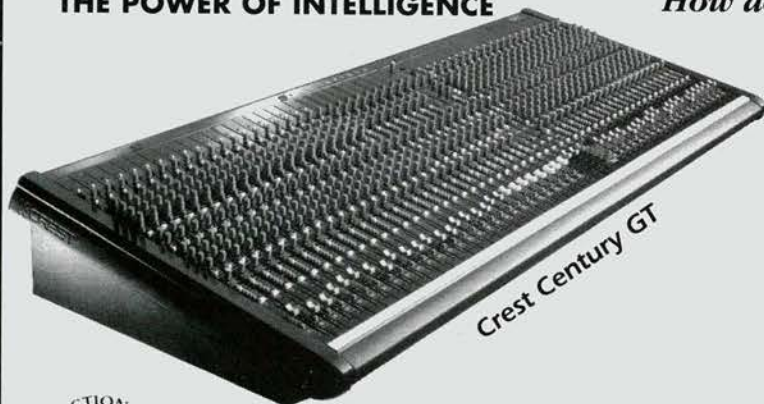
isting users of Pro-Bel products.

Amber Broadcast supply to the recording, education and corporate markets as well.

•Call (02) 9975-1211.

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MELBOURNE: 6-8 Elizabeth St., Richmond, VIC 3107

Ph: (03) 9415 1585 Fax: (03) 9415 1595

Write in Reader Service Number: 123

Technology

20 BIT A/D Converter

Transferring audio from the analog to the digital realm is a critical process. If a recorder or work station stores 16 bit audio, the A/D converter must use those bits in the most effective way. Ideally, the converter must be greater than 16 bits, and should incorporate intelligent dithering and noise shaping.

The Symetrix 620 is an outboard 20 bit A/D converter for efficient transitions between analog and digital domains. The 620 can work with either 16 bit technology, improving low level noise and distortion, or the 620 can work in an existing 20 bit environment with likely improvements on internal A/D converters.

Although 16 bits can theoretically provide 96dB of dynamic range they do not represent well low-level signals. One of the advantages of analog tape was that low-level audio could fall below the recorders noise floor and still be discernible. Not so with digital. Undithered signals that fall below the digital 'quantisation' level are lost and gone forever, covered by quantisation noise.

If working with - say - a 110dB range console and a 16 bit DAT the dynamic range is reduced to

96dB at best. Even with direct digital input into the DAT, the DAT will truncate the last four bits—even if it is equipped with an 18 bit converter.

The 620 20 bit A/D converter aims to capture the detailed analog audio (which in many cases has well over 110dB of dynamic range) and intelligently process it into the 16 bit storage medium. The 620 does this through the use of dither and noise shaping. The 620's dither algorithm (D16) improves the effective dynamic range of 16 bit sounds by changing the characteristic of quantisation from a harsh, signal related distortion to a smooth hiss.

The 620 integrates a 20 bit delta-sigma IC with a DSP processor to noise shape, dither, down-sample (44.1 to 22.05 conversion) and remove DC in the digital range.

Applications for the 620 bit converter range from mixing to DAT, CD mastering, sample library mastering, multi media mastering, and outboard A/D for hard disk.

- Price A\$2,463.
- Audio Telex, call (02) 647 1411.

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Connections

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Write in Reader Service number: 127

VIRTUAL SETS VIRTUALLY IN AUSTRALIA

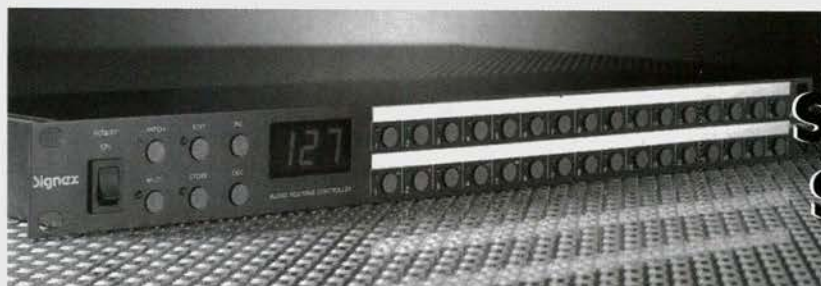
Techtel has announced its intentions to demonstrate a complete working virtual studio in Australia. The ELSET virtual set utilises current computer hardware and software working with full broadcast quality live studio action. Demonstrations are scheduled for November.

The creation and integration of computer generated graphics with live studio operation merges the virtual world with the real one. ELSET provides a realistic environment where the cameras follow the talent whilst the computer, in real time, changes the set to provide the correct perspective.

A key feature of the ELSET system is the ability for the talent to walk in front of and behind set pieces within the virtual set. Seen by program producers as a creative tool to take them beyond the bounds of conventional sets and operational practices, ELSET allows quick set changes and for actors working in a six metre blue stage to appear in a much larger set.

A Silicon Graphics ONYX computer provides the necessary computation power to read data from robotic camera mounts, and using the stored computer generated set, produces a realistic image to the viewer. The demonstrations are to be held at Techtel in Sydney where a blue screen studio is being constructed.

Bookings for the ELSET virtual set demonstrations can be made by calling Techtel in Sydney on (02) 9906 1488.



Signex Smart Patch

TDM for SampleCell II

Digidesign has announced the addition of TDM functionality to SampleCell II, its stereo 16-bit, 32-voice, 32-megabyte sample playback system for Macintosh.

This allows SampleCell II to communicate digitally with the Pro Tools III/TDM mixing and processing environment for a integrated sample playback/hard disk recording system.

TDM is a 256-channel, 24 bit 'data highway' that allows high-fidelity, high bandwidth communication between Digidesign's Pro Tools system and hardware and software products from Digidesign. TDM provides an open-ended, digital alternative to the analog patch bay found in a number of professional recording studios.

SampleCell II owners will be able to add TDM plug-in digital effects such as reverb, delay and EQ. Other features include internal mixing and integration with both MIDI and digital audio tracks. TDM support allows 24-bit digital routing of eight outputs per SampleCell II to any available Digidesign interface as well as to the eight analog outputs available on each card.

•R.R.P. \$999

•Details from Sound Devices,
Phone (02) 283 2077

WRITE IN 205 ON READER
SERVICE CARD FOR INFO

Audio system designers often need to switch audio paths and re-patch signals as a standard system function. Which is a clunky introduction to a useful product, the Smart Patch allows any 16 audio inputs to be switched to any 16 audio outputs.

Smart Patch can perform switching as a remote unit from a MIDI command, or as a 'stand alone' unit, with commands from the front panel. It offers fast and

silent FET switching, and a 'patch' can be stored in memory. A total of 128 internal patch memories are available.

The unit comes as 2 pole (for unbalanced) or 3 pole (balanced audio), and operation is said to be intuitive. Suits contracting, theatre, studio or live applications.

• 2 Pole unit \$1595

• 3 Pole unit \$1750

• From Studio Connections,
call (03) 9646-0544

WRITE IN 207 ON READER SERVICE CARD FOR INFO

Beyer Boundary Microphone

The new Beyer MPC 65 Acoustic Boundary Microphone measures 86 x 61 x 31mm and is suited for recording and sound reinforcement applications requiring high quality reproduction of speech, including telephone and video conferencing systems, boardrooms, courtrooms and churches.

With its semi-cardioid response, the MPC is also suited to multiple microphone installations while an integral low-cut filter eliminates low frequency rumble and unwanted surface bound noise.

The MPC requires 12-48v DC phantom

power and may be used free standing or surface mounted.

It comes complete with either built-in or external preamplifier; a terminated captive cable; XLR connector

•R.R.P \$599

•Amber Technology, 02 975 1211

WRITE IN 206 ON READER
SERVICE CARD FOR INFO



More NEW
TECHNOLOGY
in our NEW
A.V. section:

AudioVisual

from
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UltraMix

Automation the Mackie Way

The Quest for Affordable Automation

How many times have you done the perfect mix except for one lousy bitty detail? When you went back to do it again, something else went wrong and you never did quite get the perfect mix. Engineers and producers working on major-label projects at "world class" studios have known about the power of automation for over 2 decades. But, until just a few years back, if you didn't have a six-figure budget, you probably couldn't afford an automated mixdown.

With the recent explosion of MIDI-based home and project studios, low-cost automation has become a reality. When Mackie introduced their 8-Bus consoles, suddenly thousands of recording studios realised a quantum leap in overall audio performance and mixing flexibility. Well, Mackie have done it yet again with their incredibly powerful Universal Automation System.

So, when all the tracking and sequencing is done, UltraMix automation takes your Mackie 8-Bus (or any make of console with inserts!) into a whole new realm of control, creativity and productivity. The Mackie UltraMix Universal Automation System consists of three separate, but related components. Let's take a closer look.

UltraMix Pro Mixing Automation Software for the Macintosh

Welcome to the world's most powerful software program for fader/mute mixing automation. It was designed to improve on the automation interfaces found in the most expensive of consoles.

Some of its key features that make it ideal for automating today's MIDI-based studios include control of up to 135 channels of fader/mute automation. OMS 2.0-compatible for seamless integration into MIDI systems. Playback of any Standard MIDI File from INSIDE the program. Colour-coded sub-

grouping for any or all channels; 8 subgroups. Multilevel event editor. Fade curve editor. On-screen metering for all channels. Automute function automatically mutes unused tracks. Fader level and mute events recorded separately. Solid and 'glass' faders on each channel show actual VCA level and controller position simultaneously. Trim mode merges data between previous and current mix. Null mode ensures seamless

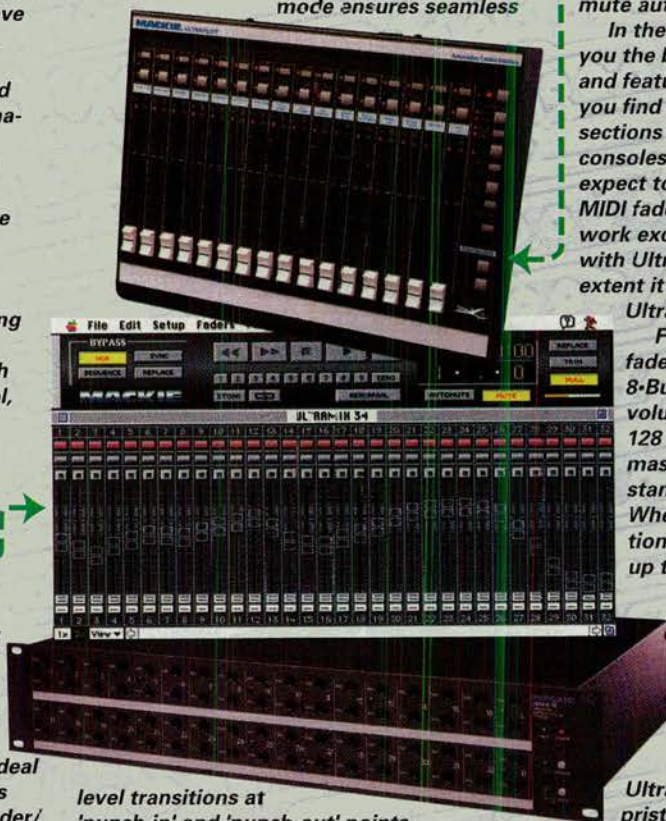
UltraPilot MIDI Fader Pack and System Controller

When your mix is rolling, a mouse or QWERTY keyboard just doesn't cut it. Nothing can replace the feel of faders under your fingers. UltraPilot combines the intuitive feel of traditional mixing with dedicated hardware controls for the most sophisticated fader/mute automation system available today.

In the UltraPilot, Mackie once again gives you the best of both worlds. The functions and features are surprisingly close to what you find in the 'command and control' master sections of horrendously expensive big-studio consoles. But the price is around what you'd expect to pay for a bare-bones 16-channel MIDI fader pack. UltraPilot was designed to work exclusively 'hand-in-glove-on-mouse' with UltraMix Pro software, and to a great extent it mimics the virtual control surface of UltraMix Pro software.

Features include 16 x 100mm linear faders (just like the ones found on the 8-Bus). Bank switching provides direct volume, mute and solo control for up to 128 console channels, controls 8 group masters, 8 effects control sliders, and standard MIDI volume and MIDI pan. When used with UltraMix Pro Automation software, one UltraPilot can control up to four Ultra-34 VCA systems.

Suggested Retail Price \$1195



Ultra-34 Automation Gain Cell

Ultra-34 combines 34 channels of pristine VCA control with convenient patch-bay access to all channel and master insert points in this rugged two-rackspace cabinet. VCA technology has made tremendous strides forward in recent years, and the VCA's inside Ultra-34 are the best available.

The rear panel has 34 1/4" TRS jacks which connect to the channel and main insert points of your 8-Bus or other console. Any mixer can be automated, as long as it has channel insert points. And yes, you can control the Ultra-34 with any MIDI continuous controller device, including mixer maps in popular sequencing programs.

Need more than 34 automated channels? Up to four Ultra-34 units can be daisy-chained together - that's 136 channels of mixing automation. Need more channels? Beyond this point we suspect the onset of 'channel lust dementia' and the need for counselling.

level transitions at 'punch-in' and 'punch-out' points. Printout of studio track sheets. Tightly coded for flawless operation on older, slower Macs. Blazing speed on new, faster Macs. Compatible with new Ultra-34 or existing OTTO-1604 systems. Optional integrated control modules for popular effects processors - think of the possibilities!

So much to say, proceeding further in this direction will push us into verbal overkill. Suffice it to say that for the power user, many more sophisticated editing features lurk inside UltraMix Pro.

For more details, visit your local Mackie dealer for a demo. Or, you could contact us, (details at the bottom of this advert) so we can send you an exceptionally-detailed colour brochure.

Suggested Retail Price \$895

Suggested Retail Price \$3995



STOP PRESS The SR32-4 has arrived

The 'big brother' to the SR24-4 features 28 mic/line inputs, 2 stereo line inputs, true 4 x 2 x 1 buss, 6 Aux sends, plus the same incredible specs, value and versatility as the SR24-4.

Suggested Retail Price \$5495

MACKIE

Need more information? Product Brochures? Price Lists? Contact: Australian Audio Supplies • Tel (043) 291 711 • Fax (043) 291 747

Write in Reader Service Number: 131

NuMark update sampling DJ mixer

At PLASA in the UK last month I was shown the DM 2175 XLS, top of the line disco mixer for NuMark.

In the words of Nick from NuMark, "what previously happened was that only one bank could be edited and played in its edited form. In other words, if bank A was edited in order to

achieve the perfect loop, and then bank B was also edited, the edit points of bank A would be lost."

"Now each bank can be edited individually". The sample time is 180 seconds. Price: 2175XLS \$3599. •From ULA, (075) 290-688.

WRITE IN 211 ON READER SERVICE CARD FOR INFO



SONY's new Hi8 MDM tape

Sony has released its new DARS-116 metal evaporated audio master tape for use in 8mm DTRS format audio recorders.

The DARS-116 digital audio master cassette takes advantage of Sony's new proprietary 'Diamond-Like Carbon Coating' process to get maximum performance from Sony's PCM-800 and Tascam's DA-88 modular digital multitrack recorders.

The DLC™ process means the DARS-116 tape has a smooth, durable and cleaner surface for improved tape-to-head contact and low error rates. It offers new levels of consistent, dependable performance in an audio edit session, where a tape may be subject to hundreds of passes. Sony think the DARS-116 represents a new benchmark in 8mm digital audio media.

In the DLC process, carbon atoms are irradiated inside a positively charged Argon gas atmosphere, forging a 'diamond like' car-

bon coating over the magnetic surface. This coating protects the metal evaporated layer without infringing on its recording characteristics.

Sony's DARS-116 has an extended recording time of 116 minutes making it ideal for long form audio-for-video work. The product also features an ABS anti-static lid to minimise dirt and dust contamination and a durable plastic library box that is ideal for archiving, and includes industry standard pre-printed labels.

Details: Sony Broadcast and Professional Division, Media. Ph (02) 887-6666.

DID YOU KNOW this magazine costs as little as **\$2.90** home delivered? A subscription could also be tax deductible. Just call us on **1-800-635-514** now!

Neutrik Patch Panels

The new Neutrik "Easy Patch" Patch Panels are pre-assembled on printed circuit boards terminated with spring-loaded punch blocks for rapid connection without soldering. They are available in different sizes; 96 Bantam (NPP-TT) jacks or 48 B-Gauge (phone) jacks, both with gold plated Neutrik jack assemblies.

Other features of the patch panels include; optional individual jumper blocks; top and bottom rows internally linked, easily accessible and replaceable; front panel features include large lettering and optional snap-on colour identification plates.

An economical version of the Easy Patch Panel is available with solder termination in a fixed-wired 'half normalised bottom' configuration.

R.R.P. Bantam NPP-TT \$1,873
B-Gauge NPP-HN \$1,068
•Amber Technology, 02 975 1211.

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amplifiers

Buyers Guide

from Page 69

This month our Buyers Guide features Power Amplifiers, the essential and hard working part of any PA system.

The market is undergoing rapid change as manufacturing efficiencies force list prices down to levels more typical of five years ago. Local manufacturers still feature, with Ampower, Audio Telex, Australian Monitor and ARX all featured. However, market leaders Jands Electronics have ceased local manufacture of amplifiers in favour of importing CREST from the USA.

The sales map now has QSC, Yamaha, and Crest fighting for top

place, with another twenty of so imported amplifiers all vying for market share.

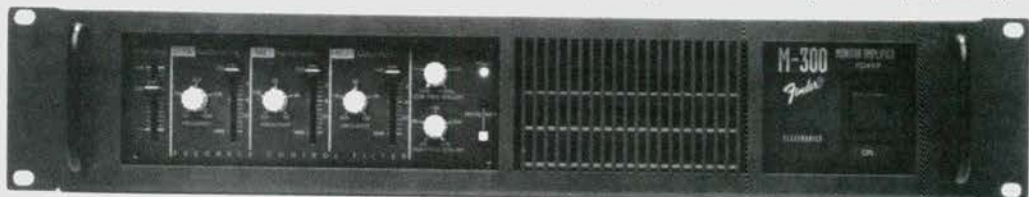
Amongst the new players this year are AB International, and Fender, who offer a variety of types.

Value for money, features, reliability and truth-in-specification are all the major factors, and it is up to you, dear audio user, to sort out the ac-

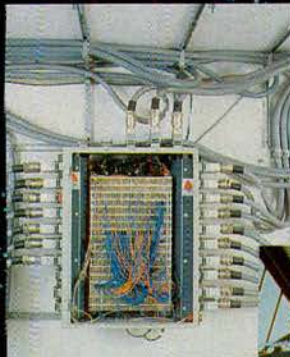
tion from the deadweight. And, it's never been harder to do so. -JG



AB International, new for Production Audio services (above), and Fender do poweramps! (Below).



Make your electrical world more flexible!



Distribution Systems using Olflex 110 and Wieland multipole connectors.



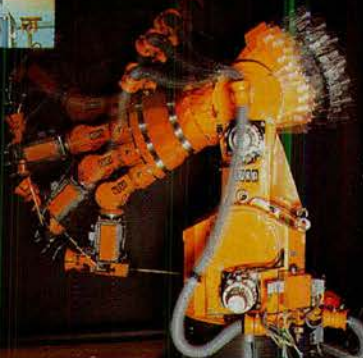
World recognized Skintop and Skindicht cable gland technology



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In the pursuit of electrical excellence, **LAPP CABLE** in partnership with Edward Keller Industrial are setting new standards in flexible cabling systems. **LAPP CABLE**, the worlds leader in the supply of flexible cables offer solutions to a variety of applications; particularly where temperature, chemical, microbe, hydrolysis and mechanical protection is required whilst maintaining extreme flexibility. **LAPP CABLE** is comprehensively stocked in Australia, manufactured to ISO9001 Standards and backed by the Edward Keller Electrical Team who are always available to provide expert advice.

The innovative nature of our industrial products, genuine service and support and our dedication to meeting customers objectives have in turn given our customers the competitive edge. It's what you have come to expect from Edward Keller.



Edward Keller Australia Pty. Ltd.
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Write in Reader Service Number: 178

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Aussie Installation Amps

If you think there is a growing number of Australian built installation amps out there, then you'd be correct. REDBACK amps are distributed by ALTRONIC, who have outlets in most states. The mixer amp pictured right is the 2036, offering 4 balanced mic inputs; phantom power on mic inputs; Mic 1 priority over mic's 2, 3 & 4 if required, vox switching on all mics, stereo aux. inputs, and a 250 watt amplifier stage with 100v, and 16Ω

to 4Ω outputs. It runs on 240vAC or 24vDC.

Redback also have a 125w model, the A2026, and two booster amps (without mixers).

•A2026 \$825, A2036 \$999. Call (09) 328-2199.



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amplifiers

Buyers Guide

- Touring amps
- Installation amps

from Page 69

For those about to Rock...

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Amber TECHNOLOGY

QSC Award?

QSC's PowerLight 1.8 amplifier has been nominated for a 1995 Technical Excellence & Creativity (TEC) award. The TEC awards highly regarded, and are handed down by MIX magazine in the USA each November.

The PowerLight Series of amplifiers feature QSC's Powerwave Switching Technology. The flag-ship product, PowerLight 1.8, delivers 700 watts per channel into four ohms and 900 watts into 2 ohms in a two rack space chassis that weighs 8.2 kgs. Other features to note; the power supply has higher regulation tendencies than conventional power supplies and provides very good dynamics and low frequency response levels; thermal performance through a custom high-efficiency heatsink; a 115kHz switching frequency eliminating AC hum, reducing noise to -105dB *unweighted*.

The PowerLight 1.8 is suitable for touring sound and high-power applications.

- PowerLight 1.8 (700w per channel) \$3,395
- from AR Audio Engineering, Ph(02) 299 3666

WRITE IN 203 ON READER SERVICE CARD FOR INFO



Total Solution

PEAVEY

ARCHITECTURAL ACOUSTICS®

Peavey Architectural Acoustics is a comprehensive line of sound equipment that satisfies the professional sound contractor's needs for any permanent-installation project. Peavey AA gear works optimally as a complete system, offering everything from state-of-the-art, 26-channel mixing consoles to steel-reinforced loudspeakers with built-in mounting points to Med aMatrix™, a software-based audio system. The extensive AA microphone line utilizes award-winning technology to accommodate any miking situation.

Challenging audio demands? Choose a powered multi-zone paging and foreground system or a user-configurable electronic crossover and delay processor from Architectural Acoustics.

MediaMatrix is an unprecedented way of designing and building sound systems. A software-based audio system that operates under the familiar Windows™ interface, it is a tool that gives you the freedom to design and build sound systems easily in the convenience of your own office. Whatever the installation requirement, Peavey AA equipment will fit the bill. So, tune in to the command center of the **Total Solution** package—Peavey Architectural Acoustics.



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 NEW ZEALAND: PH (09) 415 9426 • FAX (09) 415 9864



Windows™ is a trademark of Microsoft Corporation

don't forget your toothbrush



Rohan Thornton details the inside workings of a major new TV show

The Nine Network secured the rights to produce an Australian version of the number one rating show in Britain for the past two years, Don't Forget your Toothbrush. The decision was made to produce this show at the traditional home of television variety, GTV 9 in Melbourne.

Toothbrush is mind blowingly big and it is live. These are two elements of television production that are rarely put together into the same program today. The other challenge, was to make it bigger and better than it's British counterpart.

Tim Ferguson of the Doug Anthony Allstars fame was cast as the host and a production team headed by Peter Wynne was assembled to scour the countryside for likely victims for the many varied stunts that are conceived for the program. The other and most important aspect, was that we had to fit it into an already tight studio schedule. In fact, there was a 27 hour window in which we were to set, light, block, rehearse and put it to air then pull it out. Not something we would generally volunteer to do.

THE SET

The first hurdle to overcome was the simple problem that the set would not fit into the studio. Designer Ian MacPherson spent many hours at the computer coming up with many combinations until one fit. We eventually turned the studio around 180 degrees from it's normal function

then proceeded to build a audience area to hold 350 punters. The three main elements of the host area are the band, the reveal area (effectually known as the eyelid) and the centre reveal. The centre reveal consists of two independently controlled revolves run by electric motors. The set was constructed in steel

and needed to be broken into components that would fit through a 3.9m x 6m doorway and it needed to be set in 6 hours. Mark Ashby supervised the bump in of the set, and after a slow start, it is now set well within the time frame.

LIGHTING

Lighting the set provided a different set of headaches. The first was the set was bigger than anything that had been in Studio 9 before and we ran out of grid. Secondly, was the time frame and third was as usual, the budget. As each element of the set was reduced due to budget, a lighting solution needed to be found thus eating into the LX budget. A "different" contemporary look had to be devised along with a host that could be anywhere at any time.

The host camera was predominantly a back pack or soft camera. Tim needed to be able to turn 360 degrees without a level or color temperature change. Camera shadows were also a major consideration.

(still haven't solved that one) It was decided to hit him from four corners with followspots. Two Selecon Performers from the front and two Coemer short throw spots from behind. The Selecons work well being such good spots, they are easy to color correct and are unbelievably consistent in output. The half power function is handy when Tim heads into the audience. He certainly keeps the spot operators awake.

The next problem was the automated lighting rig. Being a moving fixture as opposed to a moving mirror fan (I figure if you pay for them, you should be able to point them anywhere), the Varilite 300 series was the obvious cost effective choice. We settled on 18 VL*6, 8 VL*5 and 4 VL*M

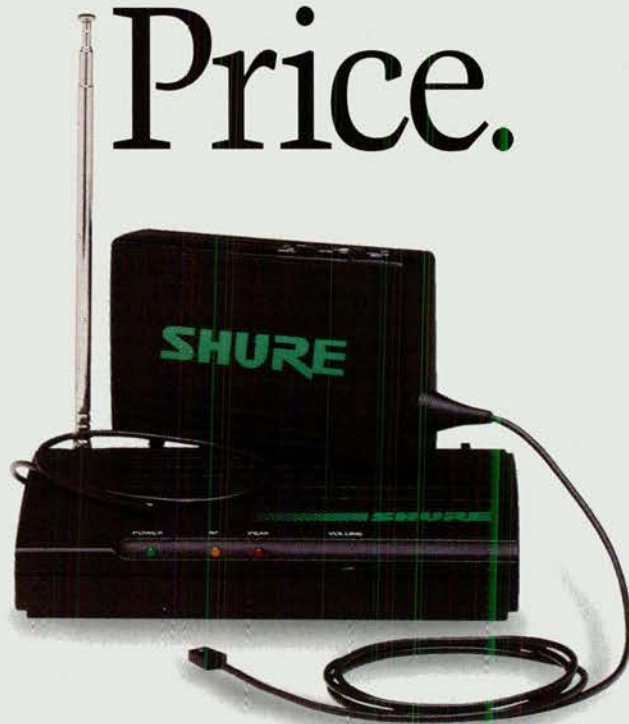
fixtures which were supplied by Varilite Australia through On Air Productions in Mel-

bourne. Control was a major headache as the only two cost effective solutions was the Avoltes Pearl and the Jands Hog. In a recent trip to England, I visited the Avoltes factory, and although very impressed by the Pearl, it did have some restrictive features. On my return we looked at the Jands Hog and was immediately impressed even in its beta software form. I begged and we got a Hog 250 for Beta testing. There is only one word that describes it..... SENSATIONAL! Since the first show we have added Goflenscans and Cyberlights for one off effects to the rig. The Hog appears to be the answer to controlling DMX based intelligent and conventional lighting from a single console. It's basis of operation follows the path of all of the better automated light consoles such as the Artisan that being the assembly of parameters of pallettes out side of the cue then bringing them together.

Analogue was a little easier. Apart from the usual compliment of typical TV type lights (5K's, 2K's and 1K's) we hired in 120 Par 64's to give the band and the host areas that (pub shew) look. The punters are lit mainly with Iris 4's and Colorscan groundrow units. I think there is a representative from every lamp manufacturer in history somewhere in the rig. At last count, there are over 300 fixtures in use at one time or another and the camera operators still complain that there is not enough light level. Smoke was a little easier to solve. We needed that oil-cracker effect to pick up the beams, but it could not soften the pictures too much. We tried a DF 50 and fell in love. We bought one and the little bella just chugs away without any complaint.

Probably the biggest logistical stumbling block was that the studio was not designed to cater for a set of this magnitude. A heap of truss, chain blocks (chain motors were a little too expensive) and some fast

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engineering research eventually solved this problem.

Once we figured out what we had to do in the studio, the outside broadcast element had to be considered. Blow up a car in the middle of Melbourne, sure. Light a teddy bear hanging from a helicopter over Sydney Harbour, no problem. Light two barges, 500m apart on the Yarra River easy. If we are lucky, we get three days notice of our outside locations which gives us a little time for error.

Of course not every thing goes as planned. On our first show upon blowing up a chair, we said good bye to \$400 leather jacket as well as to the use of pyrotechnics in that segment.

SOUND

Audio on this show also had it's difficulties. The band wanted to play with live monitoring as opposed to traditional TV methods, and of course a host that could go anywhere anytime. Audio Director Steve Delmenico states the age old catch 22 still applied. The need for the audience to hear everything from dialogue to the band at a level loud enough to maintain the 'vibe' but at a level to provide a clear sound to the punters at home remains to be the premium objective. The band under the musical direction of Chong Lim are a great bunch of players and the insistence of live monitoring simply adds to the dynamic feel of the show.

Tim is miked with Sennheiser radic mics. A lapel mic with a MKE2 cap and uses a handheld when he goes into the audience. In fact there are 13 channels of radio mics used all up. Most of the music is played live but there is some music, particularly the short stings that are recorded in the afternoon and played back off Digicart.

The audience PA and band monitors are mixed off the floor each having their own isolated splits for local mixing. The PA consists of 2 EAW boxes flown per side, a handful of JBL Control Ones, all supplied by McLean Audio, for the areas close to the host set and 160 in floor speakers for near fill in the main audience area. That works out to be one for every

two punters. The band chew up 10 sends of monitors all up. Chong uses a Garwood 'in ear' monitoring system in which he has a program mix and a feed from the control room. The broadcast mix is done on the studios SSL Console again chewing up nearly all of it's 88 channels.

THE BROADCAST

The compliment of cameras chosen for Toothbrush is a little out of the ordinary. Director Adrian Delevirgin chose 3 hard cameras and 4 soft cameras of which one was to be mounted on a camera crane and a hot head. The crane started as a 20 ft crane but it seemed to get in every body's way (as they do) so it was then reduced to 12 feet. The main host camera is a soft camera which in itself is a little unusual. The camera requirements for the outside broadcasts vary from stunt to stunt.

The outside broadcasts themselves a constantly a source of tense amusement. Each week we listen intently to what stunt the warped minds in charge have come up with. All of them have provided challenges from getting microwave links from a moving lift to finding a 10 story building which a punter can deliver pizzas by throwing them from a moving cherry picker.

The program is quite demanding for all crews that work on it. If we make mistakes, there are a hell of a lot of people who will notice. We are finding that the further we get into the run, more elaborate are the risks we are willing to take. The best thing of all as far as GT 9 goes, is that we are educating another generation of studio crews in the almost lost skills involved in the production of live television.

It does have it's lighter side though. The night that the car failed to blow up resulted in many angry telepathic messages directed at the poor pyrotechnician who up until this point had never had a mis fire in a long distinguished career. There were several tense moments indeed. Then there was the time we flew to Adelaide to have a party in a house of a couple we knew were in Melbourne. As the shoot finished and the house was locked Miss

Wendy remembered that one of the invited guests had left a message on the answering machine that they would not be attending the party. Its amazing how quickly one can develop telecommunication skills.

Love or hate it, Don't Forget Your Toothbrush is the type of program, we as television employees need. It employs more people than I can remember and it reinforces skills that Australians are famous for the world over.

But above all, it keeps us of the streets on Tuesday nights

THE TOOTHBRUSH CREW:

LIGHTING

LIGHTING DESIGNER	ROHAN THORNTON
HOG OPERATOR	HEATH CORNWELL
O.B. LIGHTING DIRECTOR	BRENDAN MADDEN
LIGHTING CREW	

KEN WALLBRIDGE
PAUL HARDING
STEVE MCNAIR
CHRIS KAPPA
JASON SAUNDERS
MICHAEL TAIT
BRENDAN MILLER
ANDREW PODOLSKI

AUDIO

AUDIO DIRECTOR	STEVE DELMENICO
DIGICART OPERATOR	ANDREW GERSCH
FOH ENGINEER	KALVIN SWASTICA
MONITORS	ROD MATHESON
SOUND CREW	

MARK BROWN
MATT SIGLEY
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STAGING

STAGE MANAGERS	PAUL BELL
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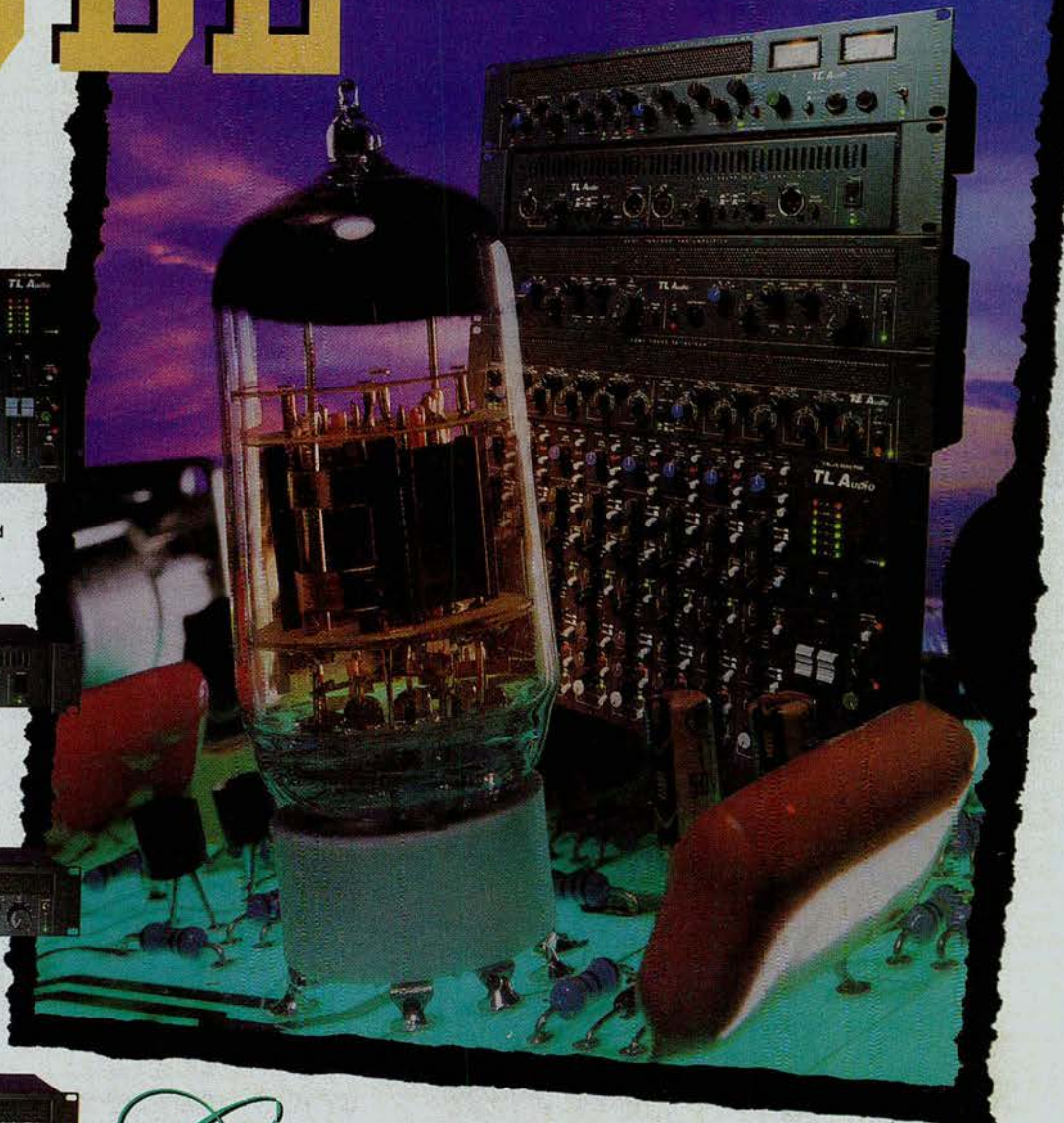
2 channels x 4 band tube EQ, balanced mic & lines, +48v phantom power, front panel AUX input, bypass switch.

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The Panel Operator

In The Hot Seat—Radio 2UE's Morning Shift *You have to be quick to keep up with Mr Jones*—that's Alan Jones, 2UE radio personality. The person who makes it all happen for you, me, and 2UE is Panel Operator Murray Wilton. He tells Danie! Cole about his work.

The term panel operator suggests an occupation concerned only with pushing faders up and down with little responsibility beyond technical matters. This is not the case at Radio 2UE.

"Nobody likes being referred to as a panel operator," says Murray Wilton, "we've been called everything from audio engineers, studio producers to technical producers. It depends on where you work."

Murray Wilton's job description then works across at least three areas: producer, director and technical operator. He makes decisions regarding; what music is played, what ads. and when, the flow and timing of interviews, audio levels—the lot—including talkback.

I asked about how talkback is organised,

"Again, I do all of that—apart from the receptionist who field the calls—she sends them up to me with caller details such as; name, age, suburb, in brief what they want to talk about.

"[With talkback] I ride the fader a lot. The surprising thing is that I've only dumped a caller once in two and half years.

Stan [Zemanek] dumps a lot! [The 9pm-12am shift—say no more]

"Alan talks—that's it. I do the rest—even turning his microphone on."

The Alan Jones Show is high-energy at 5am until 9am. Murray Wilton has to be ahead of Alan Jones which can't be easy...

"There's no choice other than to be fast. I worked once on a music format show and it almost drove me mad...its to do with pacing. We run a very tight program—I'm often about fifteen minutes ahead of Alan as to where we are going and when we will finish.

"I will cue up carts tighter than

what is pre-set so its there when played, as well, I often fire commercials before Alan's finished his last word—this all maintains the energy of the show.

"I have to watch the clock—if we are running three interviews between 7 and 7:30 plus editorials, traffic and ads.—it's up to me to keep it all in check, and Alan trusts me to do it."

Murray Wilton works in the studio with Alan Jones with only a desk dividing them, so it is close working quarters,

"We have our moments sometimes!—he screams at me and I scream at him and it's on for young and old! But we get along very well—there is mutual respect.

"It's not an easy job—over the past two and a half years Alan and I have built up a rapport so we don't have to look at each other for cues etc which makes it hard to get replacements if I can't come in."

Mr Wilton arrives at 2UE at 4:30am.

Alan Jones's staff come in at 2:30, Mr Jones at 3:30. The shift begins at 5am.

"When I arrive I will set the studio, pull commercials (select and line up) [the 'pull-sheet' alphabetically lists the ads. to play in that shift]. Normally I run four racks of ads. which equates to roughly 100 ads.

"I also check that the music is all timed out and set up Alan's headphones, microphones—make sure its all at the right level and in the right place."

The show is prepared by both a meeting the day before and a 10 minute meeting prior to airtime where newspapers are checked and other immediate issues are raised.



The show goes to air at 5am. For Murray Wilton the shift finishes at 2 30 PM,

"That's when I try to leave the office however there are usually things to prepare and do for the next day. This usually involves a debriefing session research, segment writing if necessary.

"At the moment I'm also looking after a segment called 'It Happened Today'. It is a pre-recorded history segment which I research and write that is played every day.

"One other thing I do before the end of the day is extract what should be kept from that days broadcast to be mastered and included on a highlights/best-of tape."

Located on the heights of Greenwich, Pacific Highway Sydney, Radio 2UE has commanding views which must off-set the hours worked. The working environment at 2UE seems pleasant and neat (cont. over)

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with well defined work spaces and the staff have a matter-of-fact presence, considering that they are rated number one in Sydney.

The Alan Jones show is #1 in its time slot and accounts for over 21% of audience share. This equates to roughly 500,000 listeners—excluding networking and accumulated figures.

Having a panel operator is a rarity in commercial radio; 2GB and 2KY still have them however most other stations have moved towards automation and self-driven shows—even public broadcasters ABC and SBS Radio.

"In the near-distant future with the developments in broadcast technology there may not be any need for panel operators.

"Generally you need operators for talk-back shows because there is so much going on. Stan Zemanek and John Laws are exceptions to this, both do their own paneling. John Laws does have an extra person who looks after the network but apart from that John Laws lines up his own music and promos. and ads. himself."

2UE networks its programs around Australia and most country radio stations. The John Laws show is networked into over 60 stations, from Tasmania to Townsville. The increased footprint via the network is one change in commercial broadcasting, as well as technology.

"The complexities of the program hasn't changed a great deal, except that Alan has given me more responsibility. Technically it is the same as when I was at 2GB four years ago but digital has changed this to an extent. I'm not too keen on the new digital cart technology but it's probably a matter of familiarity. The news department is cart-less and has had some initial problems.

"Ideally, I would like a system that would be quick as analog—for example—if I decide not to play one ad. but another in its place—if I can do that in half a second without problems I would be interested.

"I worked on-air doing talkback at 2CC Canberra and 2GN Goulburn before I came to 2UE four years ago. Eventually I would like to be announcing again.

"At the moment work is satisfying because of it's pace there is always something to anticipate, always something about to happen. It's good fun."

Julius Grafton visits a musical and finds technology hiding unobtrusively behind a transparent sound mix.

Hot Shoe Shuffle is a show that looks and acts a bit like a comic book, large and colourful. It's not immediately obvious, but high-tech audio is at work here, smoothing and finessing the performance.

"We do weird science" says System Sound supervisor Peter Jago. The custom automation system the firm has designed is anything except weird, I sat through a show in Sydney last month with operator Lachlan Carrick and saw a very busy show reduced to something manageable by one operator.

To put this in context, the show is a musical with a 13 piece band plus two backup vocalists. The cast is made up of seven singing and tap dancing 'brothers', a father, and Deb Byrne as the dancing/singing female lead. As you'd expect, the cast are everywhere at once, and of course the 'tap' element must be mixed in. "When you first do this show, you don't know where in the mix to sit the tap", said Lachlan. I concur, but he certainly had it placed right.

So there are a lot of inputs, and the main mixing console is a 40 channel Yamaha PM 3000, with a Yamaha ProMix 01 submixer, the delightful fully automated-everything 16 ch \$5000 desk released at ENTECH last year. It is fed the band signals, while everything else comes into the PM3000. The show uses 12 channels of Sennhieser EM 1036 wireless, with MKE-2 lavalier mic's planted in the actors hairlines.

Anyone who's worked theatre will tell you about the dreaded 'proximity effect', where two actors close together can cause phase cancellation if dual miked. This 'phasing' requires several courses of action, in 'Phantom' the system design goes so far as to have two separate systems, called A and B, run in tandem. Thus close-by actors are routed to the second system. Ordinary theatre can't afford this, although 'Joseph' used a similar A + B approach here. The solution is to carefully jiggle gain

Anything But A Shuffle



Operator Lachlan Carrick

so as the person speaking is speaking through an open mic, and the person not speaking has a closed mic. Thus, every dialogue microphone is 'ridden', the gain for each must be under the operator's fingertips.

Then there are four Countryman Isomax mics which sit on the floor at stage front to pick up the actual 'tapping'. These footmics need to be judiciously used because they sometimes need to run at searingly high gain. Thus, you have all the ingredients for needing automation assistance.

System Sound's solution is a PC based package running on a laptop computer, with a second machine running in mirror image for backup. The laptop is wired to the PM 3000's VCA's so that channel VCA assignment and muting can be called by the software. The PM-3000 has a 'cue' punch button down next to the VCA masters, so the operator can hit the next cue. There is a reverse direction button for the previous cue too.

How does this work? The operator can mix the show on the eight VCA Masters. IE: VCA 1, 2, 3 and 4 are normally used for the lead actors' headmics. But when those characters burst into a tap routine, the headmics are not required but the footmics are. And, it is necessary to 'follow' the action across the stage, raising and lowering footmic gain along the

way. The footmic channels are thus assigned to VCA masters 1 - 4, while the headmics are temporarily routed to another sole VCA master.

Step cues like this are reasonably simple stuff, where the software shines is in addressing the snap recall functions on the Yamaha ProMix 01 mixer. The cue for the previous sequence, where the tapmics were reassigned, has also changed the ProMix settings with a completely different bandmix AND EQ to that used previously. Reason? The previous scene was a ballad, so the band mix emphasis was different. Outboard effects parameters have also changed with this cue change - and remember - it's all done with one punch of the button! The operator still has his hands on the eight VCA masters!

How the automation system works is relatively simple, the output from the serial port of the PC is cabled into the PM-3000 to eventually talk with each channel's Voltage Controlled Amplifier (VCA), and for MIDI devices such as the ProMix 01, it operates a relay closure to a Yamaha MPC-1 controller. ProMix has recall-able scenes which can be adjusted for channel gain, EQ, auxiliary sends and internal effects. It's a dangerous little mixer! Likewise, relay
(continued over)



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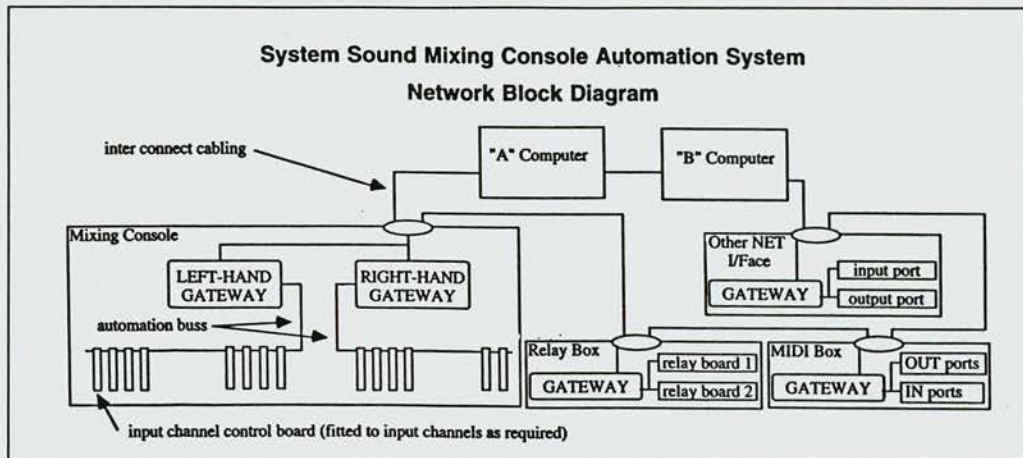
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Hot Shoe

closures fire a Denon CD Cart machine for a sound effect used in the show.

Hot Show uses some Meyer UPA speakers flown each side of stage, and in a central cluster. System Sales, System's Wholesale Company have recently acquired a Meyer distributorship for Australia, after having used the product for some fifteen years. A private opinion from me for you: provided you have damn fine, ultra small full range speakers, and provided you KNOW that the dispersion is consistent, and that the sound will 'spray' where you point the speaker, then you can use it. In this case, System know what the UPA will do, and use it. The sound was A.O.K.

So, the key to good theatre sound - after you have designed a system that is un-obtrusive, dead quiet when at idle, and almost totally feedback resistant - is tight



control.

Lachlan Carrick told me after the show he was but 22 years of age, which surprised me a little. These younger sound guys and girls are fast on their feet and adopt technology easily, in Lachlan's case he did a fine mix of Hot Shoe, albeit to a strict formula applied by System. The au-

dio for show works to a script, and the operator alternates with the number two sound crew person, whose job entails tracking wireless units and looking after the stage. Speaking of which, there was minimal foldback for Hot Shoe, a philosophy aimed at lowering the overall gain of the show.

All together I left Hot Shoe with

an appreciation of why System Sound offer a complete package which includes crew. It's been that way for a long time now, and works with shows like Phantom, Miss Saigon, and ... Hot Shoe Shuffle, which is likely to head for Japan with System Sound as you read this. •

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WHAT is Digital Radio?

By Daniel Cole

Digital Sound Broadcasting (DSB) is a new form of broadcast technology. The basic aim of DSB is to deliver digital fidelity at full bandwidths with little interference, taking advantage of high-quality studio audio products, reflecting them *intact* to the radio/music consumer.

DSB has the potential for flexibility; it can be used for other services *apart from* audio, such as; business news, paging, 'pay' services, traffic and weather information—all without being sensitive to geographic occurrences (like mountains and other large things).

According to the Department of Communications and the Arts, the shift towards DSB is due to an increased public awareness of high-quality consumer sound (CD, later, DCC, MiniDisc formats).

This has created a demand for high-fidelity sound in most consumer/domestic applications. This demand has now out-stripped the technical capacities of established 'delivery services'—that is— AM/FM radio.

As well as providing enhanced audio signal, with an appropriate receiver, DSB will offer additional information such as song title, artist and album names. A 'Smart Card' option may follow (where discounts on radio products can be attained).

It is the case that Very High Frequency Modulation (VHF-FM) can produce good quality audio however it is prone to interference, what is termed 'shadowing' or 'multi-path interference'. In high density areas or moving vehicles FM becomes unreliable.

Whereas conventional analog signal is transmitted through ground stations, Digital Sound Broadcast services can be 'delivered' through terrestrial (earth) or satellite (out there) based transmitters, or a hybrid form as a combination of both.

It is expected that DSB services will not be as fragile as FM. Other benefits of DSB include:

- ~ Full-bandwidth stereophonic sound services
- ~ Improved reception both portable and fixed
- ~ Improved spectrum efficiency with reduced power requirements for receiving
- ~ Service related options such as station idents, audio data, access,

hearing impaired services.

~ Different data services, value added, such as traffic messages, paging, 'Smart' card services.

~ Local, regional or national service coverage using terrestrial or satellite based transmitters.

~ Common receiver for both terrestrial and satellite

There are now two different DSB systems available, both are currently under review by The Federal Government's Department of Communications and The Arts. Briefly, they can be classified into; systems requiring *new spectrum allocations*, and those that can operate *within existing spectrums*.

The first DSB format is the
(continued over)



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Digital Radio

Eureka 147 Digital Audio Broadcast System. It is a wide-band format that occupies a bandwidth of 1.5 MHz and can operate over frequency range of 50-3000 MHz.

The Eureka system apparently produces 256kbps per second over 6 channels in full CD mode. This can be divided into 12 lower quality channels if required. Eureka uses either terrestrial, satellite or hybrid-based transmitters and requires an entirely new spectrum.

In December 1994 the Eureka system was endorsed as the European standard and in September 1995 the BBC commenced DSB broadcast in the greater London area. Europe is to follow with full-time DSB transmissions in 1996/7, however different counties will use different spectrums.

The second DSB system comes out of the United States. Based on a concept termed 'In Band', it uses the available frequency spectrum rather than adding a new spectrum as required by the Eureka

format.

The In Band concept allows for the addition of an extra digital channel to an existing FM service as well as enhancing the AM-band signal (almost equivalent to FM). This is achieved *without* the addition of a new frequency spectrum, which in the US would mean extra competition in the form of new frequency allocations in an already fractured and relatively low-profit radio market.

There are two alternatives within the In-Band concept. The first, In-Band On-Channel (IBOC) involves transmitting a DSB signal *simultaneously and on the same channel* as a AM or FM signal. The bandwidth of this signal is much wider than the analog signal however the signal is suppressed below the analog signal.

The second option within the US system is 'In-Band Adjacent-Channel' (IBAC) and involves transmission of digital audio on *adjacent unused spectrum* within the FM band. (This spectrum is used often by FM stations as a rev-

enue raising device, leasing the unused spectrum out to advertisers and private organisations).

Both In Band options aim to deliver CD quality audio services, except on the AM band. According to Colin Knowles from the Australian Broadcasting Authority, the overall data rate achieved by the In Band options *seems* to be around 120-160kbps per second for FM digital and roughly 96kbps per second for AM digital. So in this instance AM IBOC aims for superior quality but is limited by bandwidth limitations of analog.

The In Band options have yet to be fully trialed. Also, the politics of DSB in America is almost as complex as the technology. But that's another story.

When DSB is introduced in Australia listeners will need to buy a new receiver that is capable of decoding DSB signals. In Europe, these receivers are expected to cost between 200 and 1000 European Currency Units (as a guide).

There will also be multi-purpose receivers that will be able to re-

ceive AM/FM as well as DSB or, in industry-speak, termed 'backwards compatible'.

According to Colin Knowles, from the Australian Broadcasting Authority, the constraint in planning for DSB in Australia is technical one and will depend on the amount of spectrum available. As well, he suggests that the network structure or 'network architecture' used to deliver the service has yet to be defined. Again, the Canadian model will be useful for Australian communication planners.

DSB brings with it new issues and arrangements for radio programming and transmission. When it is installed, the difference between old and new services will become stark. This will change the way radio is 'provided' and 'received'.

DSB will eventually replace AM and FM, in a sense bringing them together. Each will have the same coverage, audio quality, technical limits, signal reliability. So an entirely different radio broadcast environment looms. •



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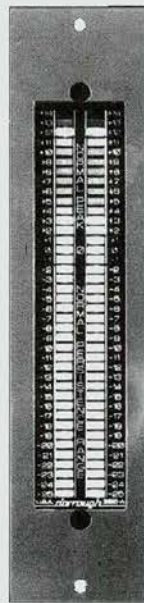
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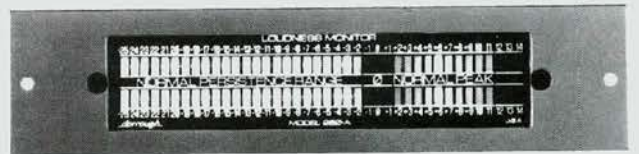
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OUTLET

Revolver Music Gallery

Revolver Music Gallery is another contender in the cut throat equipment retail business, offering a vast range of services and products to the general public. Employing a total of twelve staff, they are split between the retail floor and support services. Aiming to provide honest and informed service, the support doesn't end after the sale has been made, with an emphasis on continuing contact with the customer.

Operating for two years, Revolver quietly appeared on the scene, establishing a firm base from which to enter the market.

Seeing a need on the eastern side of the city, the store is located in Chapel Street, South Yarra to service the needs of the inner city music scene. As part owner and manager of the business, Gordon commented on the decision to move into retail. "I saw an opportunity. There were two factors, my partner had just bought the building, which he owns outright. I was winding up a production company I had with

another partner operating out of RBX Studios and was seeing the writing on the wall for music production facilities. There were two ways to go, one was out and I went that way.

In that interim time Tam came up with this incredible space. When we looked into it, lot of people thought we were mad because there were two other major stores in the street."

The store has been in continual expansion from day one, starting life as a second hand dealership operating on consignment. "At first we started out as a second hand store, recycling other peoples goods, and sold accessories to that customer base. We still sell on consignment, because most people don't want to have to sell their own equipment."

Continually expanding its product base, at the current stage there is a comprehensive range of guitars and associated technology, such as Gibson, Maton, Martin and Crate as well as the drum hardware of Pearl, Sonor, Paiste and Zildjian. Not only does the store stock the hardware, but a wide range of accessories to complement the products on the floor.

The service doesn't stop there, with a large workshop facility on site for repairs and modifications. Added to this are six rehearsal studios at the rear of the building for general hire.

These also allow for the auditioning of equipment away from the retail floor, giving a chance for a comparison to be made before purchase.

The next phase of expansion includes moving into the rapidly expanding home recording market, headed by Finbar O'Hanlon, who will be known to the cliental of Gosford Music and Turrumarra Music in Sydney. "In the current selling forefront of home studio technology we are pretty much going to do everything, and in a pretty serious competitive way."

With retail floor space doubling in coming



months, the recording technology department will not only stock a wide range of products including Alesis, Mackie, Tascam, Ensoniq, Lexicon, Emagic, Apple Computers and OSC's Deck software, but also have the products operating on the floor. The aim is to allow the audition of equipment in a fully functioning setup, allowing the full exploration and demonstration of a products capabilities.

The plans for the future include not only the increase in floor space and move towards the home recording market, but the opening of a 400 seat live performance space in the upper floors of the building.

Driven to demonstrate what is possible with from a music retailer Gordon closed with the comments, "I had no experience in retail, I just looked at what was available. We simply applied other peoples retail sales and customer relation techniques and those basic principles to music retail. There no real secret apart from we've got a great location, we are really in to what we are doing, and we've got really, really good staff."

-Will Burston.

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Vig's Dark Obsessions

There's definitely something stirring beneath the measured tones and calculated cool emitted by one Mr Butch Vig. A guy to which gushing adjectives of seminal greatness and legendary status for his production credits are part of life. *Rolling Stone* Producer of the Year? C'est la vie. Try Nirvana's Nevermind, Smashing Pumpkins' Gish & Siamese Dream, Sonic Youth's Experimental, Jet Set Trash, on for size.

Working with some of the most tortured and complex figures of our generation, could explain why his band Garbage have a seemingly terminal curiosity with things dark and psychotic. "During recording we were watching *Blue Velvet* for inspiration in the studio, and it is a perfect analogy to our work. On the surface is this perfect shiny pop veneer but underneath it, something's wrong. There's always darkness lurking. Garbage has a melodic veneer but if you listen to the lyrics they're all f---d up."

The Garbage project could well be surmised as a reflection of the dynamics of US's musical underground, described by Vig as 'an exorcising of personal demons'. "We have an obsession with voyeurism and self-destruction. Everyone's fucked up at some point. Some can deal with their problems well, others can't. A lot of themes we've touched on, people can relate to."

The Garbage sound is post-modern derivative pop bliss. Butch and co's reference points appear at every turn only to disappear in their own distinctive apocalyptic noise swell.

"I use the studio as part of the writing tool. I've got a fascination with what you can do in the studio. With Garbage it was an experiment to see how far we could go. We subscribe to the notion that more is more."

Their use of sampling although not revolutionary in itself, is exemplary in its use of masking and camouflage within the mode of production. "We use an Akai S1000, which is kinda old school which we've had for about 7 years, we try a lot of stuff. We constantly sample ourselves and steal lots of stuff from other artists. We really run it through distortion boxes and harmonisers and fuck it up to the point where it sounds cool and nobody will recognise it."

"A lot of songs don't have the arrangement completely defined until the mix, where we'll just turn the faders on and off and bring stuff to the front. At any point in the song there are like 5 drum tracks going and 12-14 guitars, which don't even sound like guitars, more like a scratch or a scrape. Ultimately you have to distil all those down until it works in the context of the song."

Despite helping nurture the cream of indie

music's heavy weights, his own project was one of continual experimentation.

"Some of the songs, before we actually finished the mix, were quite chaotic because when we did some of these ideas, we were tracking, sampling guitars and noises, using bass loops. A lot of times we didn't really know what we were going for, so we had to throw stuff out and make a lot of decisions in the mix. I normally don't like to do that. 9 of those 12 songs had the arrangement figured out when we mixed the song. So the mixing took a long time, probably 3 or 4 days to mix. We'd often decide... 'I don't like the sound of the rhythm section' and re-record it, after it was basically

MUSIC
By Natalie Apostolou

ready to be printed to tape. Not necessarily the most cost effective way to record. But we were doing it in our studio, so we had a fair

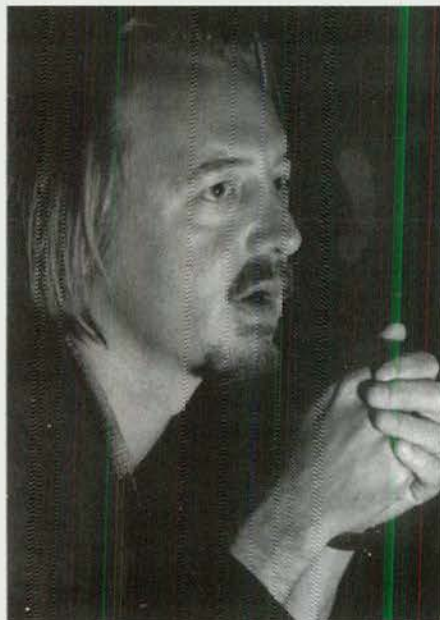
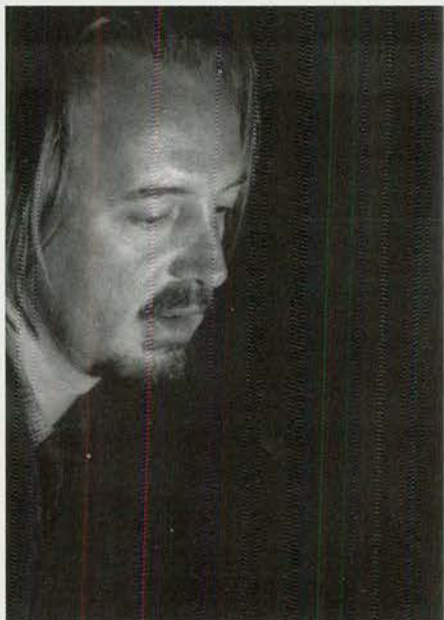
amount of time on this record which was ideal. If we did it in a studio in LA it would've cost at least 3 times as much".

Butch and band mates Duke Erikson and Steve Marker (also engineers), constructed their own studio in the late 80's. Smart Studio's in Madison Wisconsin, evolved from bits and pieces of modest equipment recording wannabes to early involvement with labels such as Touch & Go and fortuitously- Nirvana's first label Sub-Pop. The studio is now steeped in history, housing re-mixing and knob fondling sessions with Sonic Youth, Nirvana, Nine Inch Nails, U2, L7 and Depeche Mode and Garbage's first album.

"Because we work there so much there are a lot of things we have that we like. We use a lot of old tube gear, modified guitar and preamps, there's a lot of analogue boxes. We have this thing called *the ringer*, I don't know what the hell it is, it's an extreme notch filter and you can dial it in via click stops and sucks everything out apart from this on real narrow range of frequencies, great for running guitars through because if the mix is really dense you can put something through it and spin it around. We don't really use much digital stuff, the Akai is the only thing and that's kind of a lo-fi thing compared to Protocols, Sonic Kurtzweil and the newer technology.

We mixed to analogue tape and went to Masterdisk for mastering and used a lot of analogue gear and at the end of the day when it goes to CD it has to go through a 1630 so we kept it as analogue as possible all the way."

Butch's quest for the 'perfect noise', started while at college, dodging parental expectations and dropping out of med school, playing in bands and going to film school. "I was always in bands before I got lucky with producing and the direction of my career took off. Duke and Steve and I started doing re-mixes a few years



Pictures by Marty Williams

ago. When we do a re-mix we erase everything except for the vocals..... basically re-write the song. By doing that it was fun and inspiring because your writing and playing again, that was what inspired us to start a band."

A degree of career schizophrenia crept in while creating Garbage as Butch had to toe the line between producer/muso.

"I was paranoid at the start because we didn't want that to overshadow the band. But it opens doors. People got interested because of my name and I guess that's good. Ultimately its a cliché to say this but we want people to like the record because of the songs or Shirley's singing not because of 'Nevermind'."

Grasping with the polemics of objectivity added complications to recording. "Especially when you start using your own ideas. Objectivity didn't emerge until we got involved with the mix, pressed the button and listened to what you've done. Sometimes I'd get attached to a noise or something that had nothing to do with the song. A lot of it was trial and error, the ratio of what we kept to what we recorded was maybe 10%."

An extended European and Australian tour is planned over Summer, in which time Garbage are working on how to tackle their layered studio sound live. "Trying to play the songs like they are on the album would be kind of impossible, unless we had live computers and 10 samplers on stage. We don't want to be a slave to technology. The whole point of playing live is that it is visceral and you can be spontaneous."

It is somewhat ironic that Vig's launch into the bastions of the production world's hall of fame, was through capturing the raw intensity of Nirvana, a feat that was anathema to the use of high technology. "It was my job to capture them live and reproduce their energy and passion as best as I could. One of the reasons that people responded so well (to Nevermind) was that it sounds honest and real. It doesn't have

a real high processed sound where everything is perfect and glossy." Although Garbage's debut is a distinct backlash to the 'grunge' methodology, a synchronicity is shared in the ground roots of pop. Speaking of Kurt after the recording of Nevermind, Butch stated, "Kurt has this knack for wonderful pop sensibilities, even though its amidst all this heavy metal noise and chaos. He writes strong melodies with lyrics that are intriguing-filled with rage and mystery."

Essentially this is also Garbage's forte, albeit shrouded in high gloss technical conditioning. "Between the four of us we found some common ground in our pop influences. I can't even know if its cool to say that I like pop music but I do. I grew up listening to it and I like melody. Some people think we've made a really fucked up bizarre pop record, other people think its totally accessible. We push it all together, mix it all up and throw it out there. To have all these different elements, pop/techno/rock is exciting. I think its impossible to invent something that is entirely new in rock. I'm excited by artists who are taking the new technology and combine it to produce something that sounds fresh."

So how does the consummate producer/engineer who helped define the soundtrack to an emerging culture spend his time? "I get really obsessive about whatever I'm working on, I don't have much of a social life to a fault I guess. I don't really buy CDs or watch MTV. I don't go out and listen to music. I shut myself in and try and get fairly reclusive. I don't know if its healthy, but its the only way I can make records. Although my professional act is together, my personal life is somewhat of a mess, but I need to eat, breath, sleep and dream what I'm working on to a point where that's all I do." •

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also equipped with a special barcode reader designed and made in Australia by ASP Microcomputers of Ormond, Vic. As an umpiring decision is made, the Observer scans the appropriate reading from his chart into the barcode reader.



The barcode reader, which represents a state of the art example of miniaturized high technology, uses a special program prepared by Prowess Systems and holds in its memory each decision made during a match. All decisions made by a particular umpire are stored together inside the barcode reader's memory, quarter by quarter to form an electronic record of the match.

After the final siren, the contents of the barcode reader are downloaded by modem into an AFL computer sited at the MCG. Umpiring decisions are "tagged" onto a full videotape of the match (supplied by Channel 7). Each field umpire is given a copy of the tagged videotape for

home study during the early part of the week following the match. In addition, the AFL's principal Field Umpires Observer, John Moss, a former field umpire with 16 years AFL experience, may then review the tape with one or all of the match umpires to give assessments of each decision.

Paul Stuart, managing director of ASP Microcomputers says that the AFL's program is one of the world's most advanced methods of providing ongoing training and support for field officials, who frequently have to cope with emotional disputes from players and crowds. The system is being studied by rugby league, basketball and soccer clubs in Australia, while there is increasing interest from overseas sporting bodies.

**Many Connections readers use Technology to score too.*

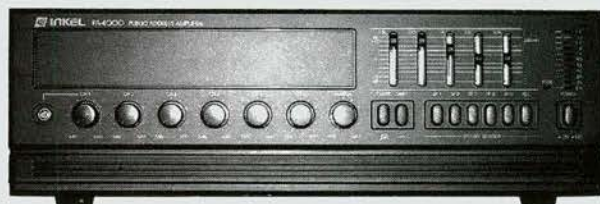
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20 Years Ago

Julius Grafton reflects on business in 1975

Have I mentioned business theatre? In '75 the industry as we know it was almost prehistoric, me and my colleagues were mostly in hot pursuit of a freshly evolving rock touring market, theatre was dull and boring unlike today, but there was some pizzazz coming into business conventions and product releases.

I did a Hilton release for a new brand of shampoo in September 1975. The producer hired me to light to thing, got a sound system from Ian McLean at Sound Affair and had Brian Shirley do the audio visual.

This was in truth the first multimedia/AV thing I had ever seen, and the Shirley crew spent what seemed like DAYS setting up their banks of Kodak Carousel projectors behind the screen. With some awesome great analogue switcher, linked somehow to a Revox tape deck for audio, they rolled an impressive multi screen display.

Just a week or two later I worked with them again for the Rocktober launch held by radio 2SM. The A/V industry was a hot ticket thereafter, the audiences all ohhed and ahhed when the thing kicked along through a real PA system. Sometime later that spring I did another one, a Saturday morning product launch for Sunbeam dealers and reps at their warehouse. The producer had me wire a flashpot under a central section of the screen, through which the M.D. burst just after the AV ended. Naturally I gave the guy a close call, back then fireworks on stage were normal. Skyhooks even exploded a large penis on stage with a quarter stick of dynamite!

Don't get me started. I've written in the distant past about this, but since the topic has raised itself I'll go again. While I was happily blowing up rock bands, ever experimenting with increased mixtures of flash powder and coloured

fire, a guy in Brisbane went too far. His flashpot system had a metal ammo box as the firing platform. It had a micro switch on the lid to disable it if shut, but of course someone slammed it so hard the switch failed AND the latches locked it shut. When it fired it exploded and killed a 16 year old girl.

Pyro sales were tightened up, so we moved on to FFF gunpowder with elements like magnesium powder added in. I myself had a brush with tragedy, blowing up a band at Paddington Town Hall and causing so much damage the gig was cancelled. There is a victim of that explosion still working in our industry, and each time we meet he mimics the (fortunately temporary) deafness my blast caused him.

I saw a great FUBAR at Hornsby Police Boys Club, the gig I'd won which caused Phil Cullen some angst (see last issue). A truly hor-

rible band called: (wait for it) 'The GEEZA Rock & Roll Show' started their set with a phone box on stage. A takeoff of Mission Impossible rolled through the PA, you know 'your mission is to rock Australia in ten seconds this phone box will self destruct'. Sitting watching this you hug yourself in anticipation and then BANG! The guitarist is supposed to emerge from the wreckage playing the first riffs. Well, I'm sure Spinal Tap was born out of this night, September 20, 1975.

The box exploded very satisfactorily, but instead of chords all you heard was a string of urgently shouted expletives. When your pupils had adjusted, you saw his silver glitter suit all charred, and best of all, his hair on fire as he ran about the stage shrieking.

When he barged into the drummer and collapsed in a heap of kit the crew extinguished him. A great moment!

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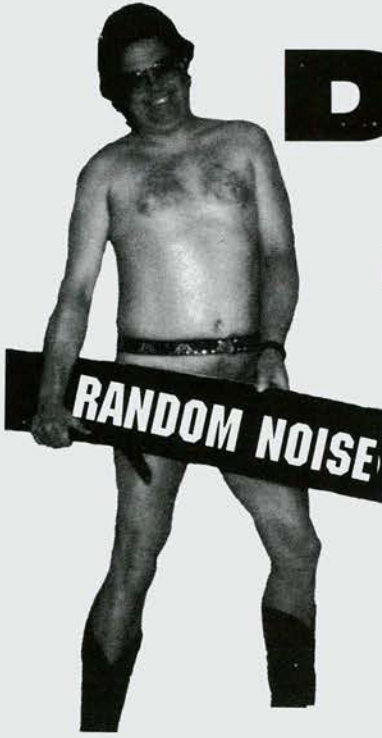


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Duncan Fry



NASHUA...WHEN ONLY THE BEST WILL DO

As anyone who's done it knows, driving down the Hume highway at night is a scary business. A few years ago, Colin Park and I had to go up to Sydney for some gigs and some product demonstrations. We didn't think that either of our own trucks would get us there or back again, so we had rented one. We soon found that there is nothing like driving a rented truck with out-of-state number plates to command respect amongst Sydney drivers.

Struggling with the tiny, one way city streets, we missed the turnoff to the Harbour Bridge, so without a second thought Col drives up over the median strip in a highly illegal U-turn. We laughed at the looks of horror on the drivers' faces as they calculated the odds on a successful insurance claim against us (not good) and screeched to a halt to let us in.

All in all everything had gone pretty well, and we were on our way home after a successful and profitable trip. I was driving on one stretch, and as I came up to the top of a winding piece of road I could see a convoy of semis about 4 kilometres behind me. I was travelling

as fast as I thought was safe around the corners of this twisting downhill piece of road, considering we had a complete PA system in the back, but by the time I got down to the bottom of the hill the semis were all bunched up right on my back bumper!

There was so much light from their collective bitumen burning headlights that we could have been starring in *Close Encounters of the Worst Kind*, or maybe an alien abduction from the *X-Files*. As soon as the road straightened out, 'VROOM VROOM VROOM' they all rocketed past us as if we were standing still, leaving our small truck swaying in their slipstream.

Anyway, a few hours later we were tootling along about a hundred k, and all the trucks behind us kept flashing their lights at us as they passed us. Col was driving by this time, and I was a passenger.

"Why do you think these bastards keep flashing their lights at us?" he asked.

"Oh, probably just picking on us because we're only a little truck," I replied.

"Yeah, right, I suppose so," he agreed, and settled back to driving. I leaned back in my seat and idly gazed out of the window, looking in the rear view mirror.

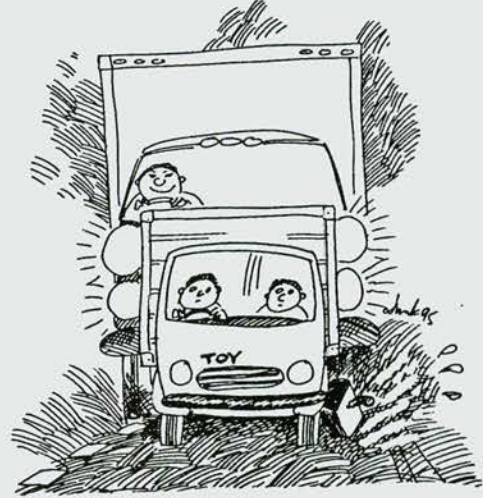
Every now and then I thought I could see a shower of sparks fly up from under the truck. "Hey, stop the truck a minute," I said, "I think there's something scraping on the ground"

"Probably a piece of muffler or something," said Col. "OK, I'll pull over here."

We stopped the truck, jumped out, and nearly shit ourselves - *now* we could see the reason for all the light flashing from the semis. The muffler was fine, but the fuel tank had

been dragging on the ground, only held on by the flexible fuel line!

The two metal strap bolts that held it on to



its cradle had come completely undone, and the whole tank was just banging and scraping on the ground, sending up a shower of sparks as it went.

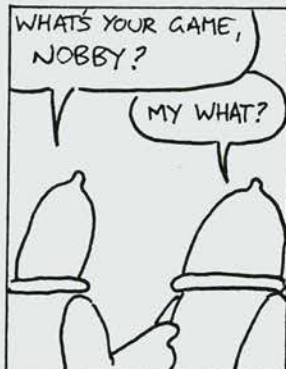
Luckily we had rented a diesel truck - I'm sure if it had been petrol, the first thing we would have known about it would have been an almighty BANG as we cartwheeled through the air.

Bloody rental trucks - it went some way towards easing any pangs of conscience I might have had about disconnecting the speedo about 2,000 kilometres back!

So, we lifted the tank back on to its cradle, pulled out the ever useful roll of gaffer tape, and taped it back on! And it lasted the 500 kilometres back to Melbourne. Well, it was Nashua gaffer tape!

DICKHEADS.

by Tim Ireland



HIRE & PRODUCTION NEWS

NEW SENNHEISER RADIO MICROPHONE FOR HIRE

Murray Tregonning and Associates have purchased 30 new 700-800 Mhz "frequency agile" Sennheiser Radio Microphones, to add to their hire range of radio microphone systems. The Sennheiser Systems offer new features. Murray has been hiring radio systems since the company started as Pamit Services in the late 1970's and in Murray's words "These Radio Microphones have features that I have only ever dreamed of, and they're so quiet they sound like a cabled microphone".

The Sennheiser Microport UHF band radio systems were developed especially for Theatre, Film, Radio and Television applications.

Receivers: The EM1046 RX Rack-mounted Receiver Module, can be mounted in either the EM203MF "THE 3 PACK" Mainframe or EM 1046MF "THE 8 PACK" Mainframe. The Mainframes provide antenna dividing and monitoring and each Mainframe system is supplied with 2 x AB 1036-UHF Antenna Boosters, 2 x GZA 1036-TV Ground Plane Antennae. Of course it is possible to "cascade" multiple EM 203 MF or EM1046MF, to allow you to operate in excess of 50 channels of radio microphones. We also have the EK 4015 UHF Mini Portable Diversity Receiver which is the most compact "True Diversity" receiver available for Television and Film applications. All receivers in the range have 16 switchable (frequency) channels.

Transmitters: SK 50 UHF Pocket Transmitter has a flat and compact full metal case. Some of its features include, 50 mW RF output, HiDyn Plus noise reduction system with 110db (A) dynamic range. The B250 Quick change Battery Pack runs on 3 x AA size batteries and has an incredible 9 hours of battery life.

SK 250 UHF "High-Powered" Pocket Transmitter has a flat and compact full metal case. Some of its features include, 250mW RF output, HiDyn Plus noise reduction system with 110db (A) dynamic range. The B250 Quick change Battery Pack runs on 3 x AA size batteries and has an incredible 4 hours of battery life.

SK M 5000-UHF Hand Held Transmitter has a unique interchangeable microphone capsules system. It allows you to swap in a few seconds between, ME 5009 Wide cardioid condenser, ME 5005 Super - cardioid condenser, ME 5004 Cardioid condenser, ME 5002 Omni-directional condenser, MD 5005 Dynamic super-cardioid, and MT&A Special Shure Beta 58 Dynamic super-cardioid microphone head. All transmitters in the range have 16 switchable (frequency) channels.

It is interesting to note that Jands Productions Services purchased 33 Sennheiser systems in May through Murray Tregonning &

Associates P/L for use on the new musical "Beauty and the Beast". MTA still hire Sony 900 MHz UHF Radio Microphone Systems, complete with SRT-67 Modified Hand Held Transmitter with Shure Beta 58 Capsules, WRT-28 Miniature Pocket Transmitter, and PB-36 - Portable Base Units.

MTA: (03) 9819 6455.

STOP PRESS : Murray Tregonning & Associates P/L will be opening in Sydney soon. For details call John Simpson 019 196 661.

WHO'S DOING WHAT

R & K LIGHTING DESIGN

• Openings of Dandenong and Greensborough Shopping Centres in association with Austage Melbourne. • Various odd jobs O.L.S.H. College. • Fashion shows around town including Complete Woman and Diamond Cut.

A.V.L.A.

(Audio Visual Lighting Australia) 300 Newcastle Street, Northbridge, W.A. Ph: (09) 227 1399 Fax : (09) 271 5611 - Visual Department has won the contract for Galaxy Pay TV Promotional events using a 9 screen smart wall at various venues and shopping centres. AVLA have also purchased 4 x Martin Robo Scans 1220 RG's for their ever increasing Hire Department.

Custom Audio

of Newcastle used 4 x Martin Roboscan PRO1220's and 4 x PRO518's at the launch of the Newcastle Bicentennial logo at the Honey Suckle Development Area. Custom gobos were provided by Show Technology Australia. Phone 049 294 996.

Night Shift Ent. Services

in Sydney have just acquired 12 x Martin Roboscan PRO518s to add to their ever-increasing rental department and have also installed the following equipment into the nightclub in Cronulla Leagues: 6 x Clay Paky Miniscans and a Elektralite CP-1 Controller, GENI Mega Strobe, Derbies, Sky Lab, Moon Flowers, a JEM ZR20 smoke machine and an EV sound system including 4 x DML-1152A Deltamax Loudspeakers, 2 x DML-2181A Deltamax Sub-Woofer, 7600 and 7300A Power Amplifiers and DMC-1152-A and 2181-S Processors. Phone (02) 744 7777.

QSC Amps

Troy Balance Corporation of Melbourne have added 8 QSC MX3000a amps to drive Meyer 650 subwoofers.

AAA Productions have also bought MX3000a's, to drive EV Delta/MT2 subwoofers.

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HOW can we run the Olympics?

Sydney's Rugby League grand final was notable for the lousy pre match entertainment. Best was the Optus Vision 'spectacular', a truck sized 'TV set' disgorged dozens of dancers who then made with the spectacle before presenting back towards the TV set. Frozen, they waited, 15 long seconds later a tech leaps out and the thing separates from its base and is hoisted aloft by a crane. Oh wow.

Then it (the TV) collapses, one end falls off and narrowly misses the cast. Hundreds of balloons fall out and hurtle ground wards as if filled with lead!

This was better than the tragic league grand final segment in 1989 (I think) when the cast of 42nd street troop on to do a dance routine, but the music is not forthcoming. Many uncomfortable seconds later, the wrong song blasts through, dancers look at each other and shrug.

Then silence, then the sound of a tape rewinding through the PA. After two minutes of shuffling about, they all marched off, unfulfilled.

HIRE NEWS: WHO'S DOING WHAT

Black Express Sydney have just added 8 x Martin Roboscan PRO518's and 3032 PC Controller to their rental department. Phone (02) 559 4363.

Vibes Audio (Phone 08 341 0080) in Adelaide have also added 4 x Martin Roboscan 812's to their rental department while their fellow dealers in Adelaide **Gottalite** (Phone 08 269 2399) have added another 5 x Roboscan PRO 1220, 4 x 812's, 2 x PRO518's, and 4 x PRO218's.

Stagecraft, Perth (Phone 09 227 9000) now have 8 x Martin Robocolour PRO400s available for rental as well as almost every other Martin product.

AVLA (formerly Soundworks) (Phone 09 227 1399) have added 4 x Roboscan PRO1220's and 4 x 812's to their hire stock.

Electric Sunshine in Sydney (Phone 02 660 6000) have taken delivery of another 8 x Clay Paky Miniscan 300's bringing their total number of units to well over 60. In addition they have purchased more CP10's by Elektralite,

JEM Show Foggers and GENI Shimmers.

Skypak Lighting in Brisbane (Phone 07 3852 2757) have been keeping themselves out of trouble with the following. Blackout Dance Party at the Roxy with a 7 watt Triple Scan Argon Laser which was complimented by Martin Robocolour 2s, PRO518s, Clay Paky Golden Scan 2s, Strobeflowers and a range of Martin DJ Series effects. The Tunnel Nightclub, Surfers Paradise, has just added 4 x Martin Roboscan 805s to their already impressive lighting rig which includes Roboscan PRO218s, a Clay Paky Saturno, Astrodisco 3s and a range of Sapro effects. The Underground, Brisbane, has just added 4 x Martin Roboscan 805s to their lighting rig.

Total Concept Productions have designed and supplied the new South Sydney Junior's auditorium which includes 8 x Golden Scan 3 HMI 1200 Touring Versions. Phone 02 648 3444.

Stop Press

A further nail in the coffin of the live music scene was delivered by the dominant Harbour and Premier booking agencies at presstime. A fax from Scott Leighton to various band managers has fallen into our possession. Dated Sept. 27, it states: "At the joint Harbour and Premier agents meeting, no support band is to provide loaders for any shows".

This means mid level bands who need to hire production (PA and lighting rigs) for shows in venues which do not have such, will be forced to pay for at least an extra two hands to load this.

Standard practice in Australia until now has seen support bands provide two loaders in exchange for use of sound & lighting provided by headline acts.

This move further marginalises mid-range live acts, and is strange given the average support act can usually find two loaders.

We couldn't get a comment from Harbour before deadline.

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'Poor Journalistic Practice'. Michael Coppel Affronted

I was seriously taken aback to read in your August issue the comment in Cat Forcer's article that 'putting (Massive Attack) in Sydney Town Hall was an aesthetic error and technically impractical'.

I challenge both claims, and question the basis on which they were advanced - certainly nothing in Forcer's article supports the comment about the aesthetics of the venue other than perhaps the quoted comments that it was 'too big' and has 'a white ceiling'.

The key criterion imposed by Massive Attack in selecting the venue for their performance was that it had to be one in which they could present their Sound System party for between 5-6 hours each night with a curfew of not earlier than 2AM.

Other than Alexandria Stadium, which was unavailable, there is no other suitable Sydney venue for a

dance-style event that met this requirement.

Having seen Massive Attack play two shows of their European tour, including their Amsterdam show which was staged at the old Dutch Stock Exchange, I consider Sydney Town Hall to be in no way aesthetically lacking as a venue for this tour. Massive regarded the Amsterdam show as one of the highlights of their tour, and that building is very similar in layout to Sydney Town Hall.

With regard to the technical aspects of the tour, what Cat Forcer was clearly not told during her interview was that all details regarding the Australian venues and the available sound, lighting and video equipment were communicated to Massive's production crew months ahead of their arrival and that their production manager was in Sydney for five days prior to

the first show and had ample time to advance both the venue and the equipment suppliers and thereby avoid any of the problems mentioned by the crew members quoted in the article.

My production staff made every effort to accommodate and assist the overseas touring crew - I believe Forcer's article adversely reflects both on their professionalism and on my company.

It is poor journalistic practice to print claims like this without bothering to contact anyone in my organisation for a response.

I went to see two of the shows on Massive Attack's European tour to discuss production (and aesthetic) issues with the group and I feel personally affronted by the ill-informed assessment that passes for a journalistic assessment in a professional publication of what (for virtually every one of

the 5,000-plus audience members in Sydney) was a great experience.

-Michael Coppel, Michael Coppel Presents, Armadale VIC.

• *I thought the crew came across fairly reasonably— given they hadn't slept. Perhaps their production manager didn't advance properly, but a schedule that denies crew sleep is not sustainable. It leads to a lot of whingeing at least; and at worst: to breakdowns of people, equipment and accidents. Anyway, I don't think the story reflects badly on Michael Coppel or his fine staff. -Editor.*

• *Cat Forcer says: "I would have been happy to write more positive views - if I had heard any."*

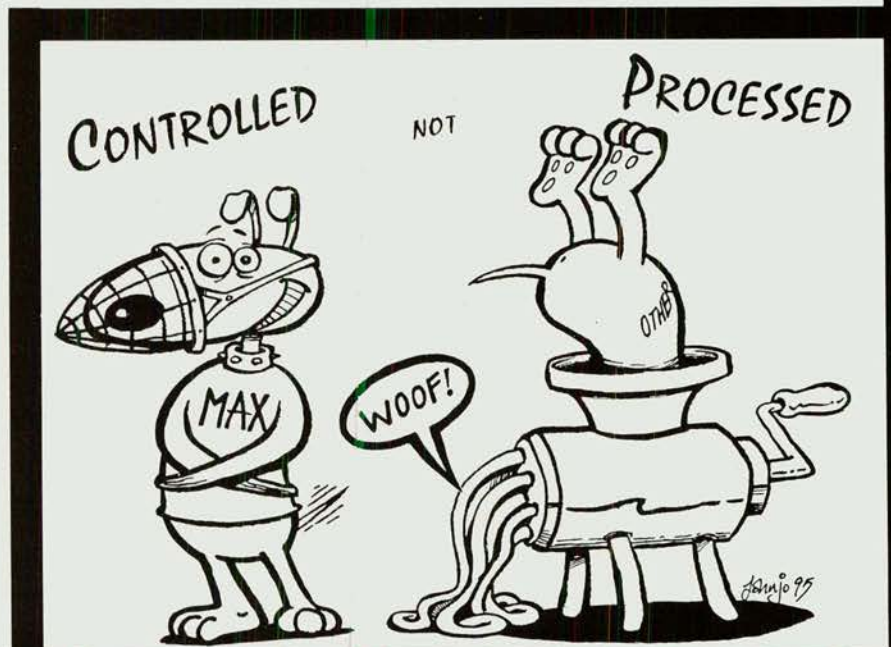
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(LETTERS: continued from previous page)

MORE on Earthing.....

Having read Phil Allison's letter (Issue 25) and from what I can remember of Peter Twartz's letter in issue 24 (which I have lent to a friend) I have to agree with Phil that removing a power Earth, be it in the power lead / plug or inside the chassis of the Equipment, is a hazardous if not downright dangerous practice. Definitely not to be encouraged.

To get around earth loop problems I much prefer to firstly star earth the equipment by running all equipment from one power point / distribution board and to break the earth on the signal leads.

Or, a more elegant and flexible solution I have found useful is to solder a 10 ohm resistor in series with the shield on the signal lead, this provides sufficient earthing to shield the cable from electro static and magnetic fields while providing sufficient isolation in

most cases I have dealt with, to eliminate or reduce earth loop hum. Also, check proximity of power leads and unbalanced signal leads, and proximity of equipment like computer or video monitors, power amplifiers, power supplies and transformers to equipment or signal leads.

I am yet to receive a reasonable / logical explanation as to why connecting an earth to double insulated equipment (and lets face it, I am sure just about every studio and PA out there mixes earthed and double insulated equipment) is a no-no. I have found instances of problems where earthing (signal leads) on double insulated equipment has fixed noise problems caused by 50 Hz mains and RF signals.

As for earth lift switches on equipment, in my experience (and on equipment I have made) usu-

ally disconnect the earth pin on the connectors of the devices rather than disconnecting the mains earth from the electronic earth as Phil appears to suspect, which should be an acceptable compromise as earthing every pin on every connector on equipment would seriously compromise its operation.

Anyway I hope this is some help to people having problems with earth loop noise and if anyone knows why earthing double insulated equipment is a no no could you please let me know?

-Richard Freeman
Hornsby NSW.

• What has become apparent is that 'simple' issues like earthing are anything but. Essentially, assume nothing when commissioning a new installation, be it studio or mobile, and allow PLENTY of time to find loops. -Ed.

Corrections

Why don't you take more care with facts and the truth? That way you wouldn't need to run all those corrections every issue. Obviously you get a lot of legal letters.

-Pissed Off, Adelaide.

• We always publish fixups and so encourage readers to contact us quickly when anything marginal appears in print. It doesn't take a legal letter to get something fixed here. We also monitor many other 'technical' magazines who do NOT do this. Believe me - our 'mistake' rate is well under control compared to much of the print media out there. -Ed.

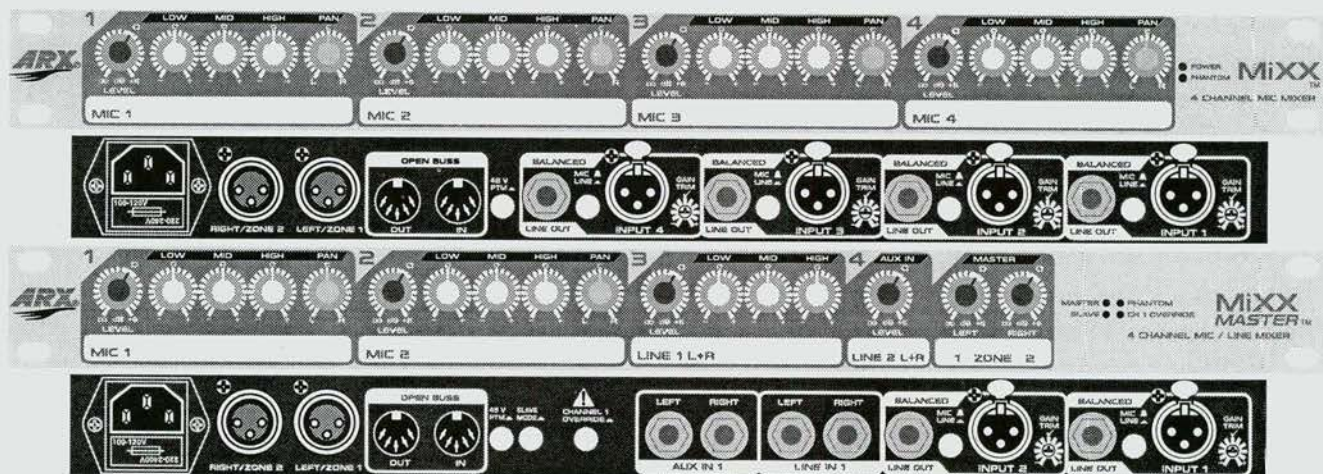
Inverted

I noticed on page 60 (August, issue 25) the clubland picture of Mayfield is inverted. Aside from that, your magazine is very groovy, hip and informative.

-Andrew Oakeshott,
Normanhurst, NSW.

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Write in Reader Service number: 124

Sydney OH & Strand: fixup

CLANGER! Your reference in paragraph 2 of 20 Years Ago (Issue 26, Sept. 1995) re Siemens and the Opera House is not correct.

It's a long story that goes back years earlier to when I had to fly back from a holiday in outback Central Australia, but the upstart was 3 of 4 invited tenders were submitted.

One was from Siemens, approximately £440,000 (note, Pounds back then), one from Graham Bros (Swedish) approximately £400,000 and one from Strand Electric for £220,000. This was all long before the advent of the Rank Organisation. (Rank took over Strand).

The specification was totally Teutonic, and we of course offered anglo-Australian alternatives. The Opera House denied right of appeal to lowest tenderers.

-Denis Irving, Entertech, Terang, Victoria.

•Thanks to Denis for putting this one right. Denis was boss at strand

in those pre-Rank days. Doubtless he experienced extreme frustration when the Sydney Opera House became a museum of useless old German lighting technology due to some Byzantine bureaucratic foulup. Of course it was all thrown away and replaced some years later. -Ed

I'm Pissed Off!

In response to your Education special (Sept, #26) I'm pissed off, (due to no mention of) the course I recently completed. I refer to the Bachelor of Sonology course offered by the Qld Conservatorium Of Music campus of Griffith Uni.

It's a 3 year full time studio into all facets of music technology and general music studies. This is a great course and deserves some recognition.

-David Champion, Brisbane.

LETTERS

*#//@%XX-?!?

This guy needs help

I would like to introduce myself as Duane Piert, and I have recently started up a business with my brother, Martin Murdoch and my best friend, Brad Hurford. Our business is called "CENTREFIRE, Lighting and Sound Productions" and we control and manage any concerts or theatre productions, etc, which use sound, lighting and pyrotechnique effects.

I am writing to ask you for some information that is probably impossible to obtain, but ever since I sat down with my copy of "Connections Contacts 1995," and read it thoroughly, I thought that if anyone could help me it would be you. I hope that you don't think that I'm crazy or anything but this, what is coming next, is one of my dreams.

The information that I would like to obtain, is any phone num-

bers or addresses of any of the "BON JOVI" band members, or if this is not possible, any phone numbers or addresses of anyone who could help me contact anyone from "BON JOVI." I know what you are probably thinking right now but my dream is to meet and possibly control and manage the sound, lighting and pyrotechnique effects for any of the "BON JOVI" concerts. I would not charge them at all for my services because just meeting them and seeing the look of excitement on my brother's face, who is a major fan of BON JOVI, would be payment enough.

Well that is all, I know that it is probably too much but your help would be gratefully appreciated

- Duane Piert, Gympie QLD.
•Answer from the editor: NO WAY. However, we would like to know more about your brother please.

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OnLine Edit Suite: with more automation, at last their edit controller talks to the recently installed Ampex Vista 18P vision mixer, which in turns talks to their second ADO. Graphics system onboard too.

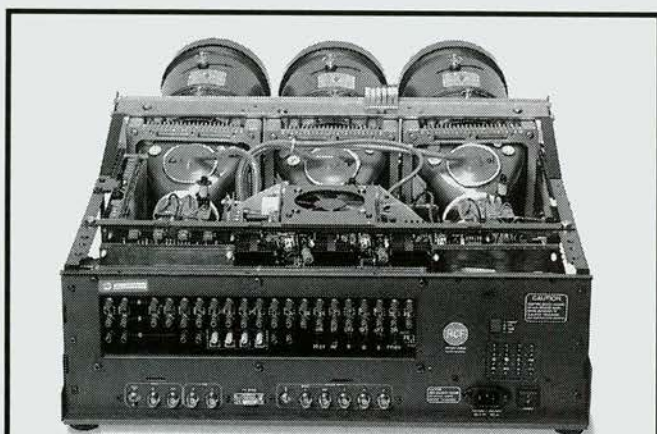
AV Transfers: (slides to videotape), a service jointly run with Wavelength, and said to be the last remaining rig of its kind in Australia. Also plenty of HIRE stock.

Mobile Image Co, for TV and Video production (02) 9953-3833.

◆ **Virtual Reality Equipment** for tradeshows is a new concept, Applied VR have a 'game' which can be custom programmed with your text and graphics relating to a theme promoting your products. The visitor sits in the game and has a virtual reality experience. (Not unlike the experience we have producing this magazine, perhaps?)

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◆ **Image Design Technology** say they are Australia's largest videowall supplier. They offer the new Pioneer projection cube system which wowed audiences at Janet Jackson concerts earlier this year. We at Connections certainly noticed the brightness and resolution of these cubes, and look forward to seeing other systems as good. **Image Design Technology, call (02) 439-3929.**



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Fairmont Resort : Leura

The AV staff are proud of the technical services at Fairmont resort. There are good reasons why. Daniel Cole went up to the mountains to have a look.

FACILITY

At Fairmont, located just behind Sydney in the Blue Mountains, all technical staff have entertainment industry experience. Also, the resort is a realistic size which means they can cater to a client's wishes, to make a show, exhibition, conference work.

"All the crew here enjoy putting on a show," said Robbie Park, Audio Visual and Entertainment Manager. He also brings a solid background to the resort,

"I've done productions for eighteen years working with great people; Models, Mental As Anything, Divinyls, Machinations; touring with Simple Minds and worked on Cats at the Theatre Royal as well as a few tele-movies."

Mr Park has been with the Fairmont Resort since it opened in 1988. He is part of a total A/V crew of six.

Leura is in the Blue Mountains, close to Katoomba. It has a climate of extremes—yes, it's *brisk* in winter, but the air is crisp and the resort has wonderful views from most rooms. The lookout 'Sublime Point' is close by; it is a viewing platform scanning more than 180 degrees at a great height.

The resort has built up a reputation among companies as a conference/meeting place. Instead of getting away from the office for the weekend, *the office goes away for a weekend*—together—to work and relax in peace and tranquillity.

"We try to make conferences that much better. We believe that a good product needs attractive displays. We use in-house skills, subsequently the client gets a

complete package rather than just an empty room.

"The end result is good economics for the client and it looks good



because we design every aspect: entertainment, food, shows—everything," he says.

"The trick is handling people who don't give presentations every day—they're nervous so we aim to keep things calm and light, to make the experience as smooth as possible."

In 1992, the resort was voted 'Best National Meeting Venue'.

This week, KFC are holding a management gathering, and the night I visited both the Fairmont crew and Chameleon productions were preparing for the knees up: the theme night.

Tonight's theme is the M.A.S.H. night: army gear, camouflage, scaffolding, enamel cutlery. Mental As Anything will perform later in the ballroom.

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 EQUALIZERS, COMPRESSORS & GATES**
 Use EQ to OPEN UP your sound & make room for instrumental texture. Examples show use of Compressors and Gates to create your own unique sound. Demos, animation and advanced graphic displays help you understand what goes on.



**SHAPE YOUR SOUND WITH:
 MULTITRACK RECORDING**

Tom builds a song, step by step, taking you through the recording and overdubbing process. Learn the techniques needed to make top quality recordings, regardless of how many tracks you have. Examples, demos and graphics assist the process.

HOW can you make your recordings sound more like a record? How can you get your sound the way you want it? SHAPING YOUR SOUND, hosted by producer and engineer Tom Lubin, is a series of videos that bring professional recording studio techniques to muso's, engineers and home recordists. Each tape is packed with demonstrations, computer graphics and live musical examples. SHAPING YOUR SOUND provides a complete course as well as an ongoing reference tool. Each tape comes with a reference foldout and index.

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JULIUS GRAFTON TELLS ABOUT TOM LUBIN
 "He came to Australia from the USA with a HUGE CV detailing his achievements in the recording industry. Then he became an Aussie and has been involved in education, recording, and products. Best of all he doesn't talk down to mere mortals like me (and you). Tom is very highly regarded as a recording guru, and although these videos were made back in 1938- 1990 they are spot on today!"



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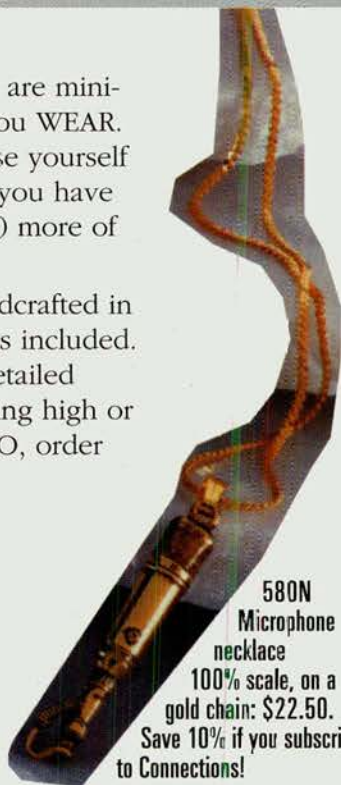
Each piece is carefully handcrafted in the USA with minute details included. The microphones are so detailed you'd be fooled into ordering high or low impedance versions! SO, order one, and wear it!



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The Best of Duncan Fry

Connections Magazine popular columnist Duncan Fry chronicles his road stories, including some XXX rated, never before published! Dunk writes about life at the gig, after the gig, and nowhere near the gig- it is sometimes a chronicle of the world through Duncan's eyes. Duncan Fry ran his own PA and Lighting rigs through the 'golden era' of the Australian Rock Industry. Today he is co-owner of ARX, the Australian PA equipment manufacturers.

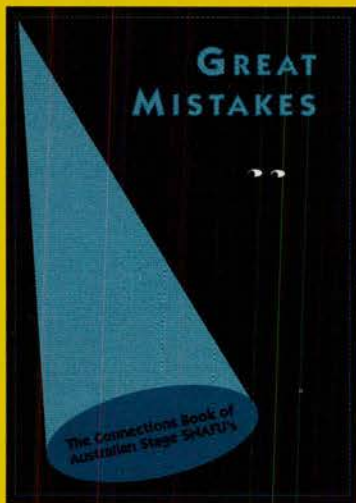
THE BEST OF DUNCAN FRY



Australian Road Stories

100+ pages, \$15.00

AUSTRALIAN MUSIC INDUSTRY BOOKS



Great Mistakes- the book!

Great Mistakes, the Connections Book of Australian Stage SNAFU's is where readers like you and me confess. "If it can go wrong it will" is the theme of these short stories, and there are more than 20 of them. The show must go on, and it usually does, but some of these blunders are almost predictable, and often really funny too. All home grown..

You asked for it, here it is!

GREAT MISTAKES: The Book. 1995, only \$15.00

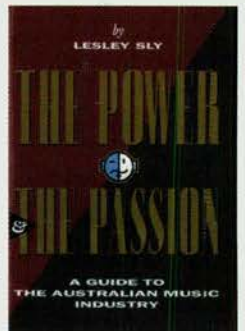


AMID \$15

15th edition, July '95. This is the Australian Music Industry Directory, published by Phil Tripp at Immedia. Has 250 pages, thousands of contacts. \$15.00, in stock, order now.

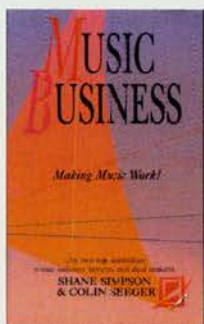
The Power & The Passion

By Lesley Sly. \$45, 392 p. 1993. Over 150 industry powerbrokers were interviewed for this book, which takes you to the heart of the music industry. Mixes art with money! \$45.00, all books are usually in stock



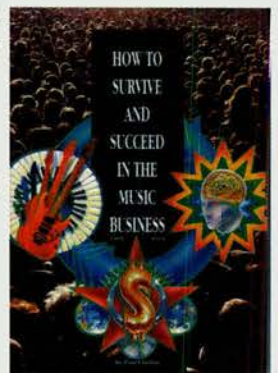
Music Business Making Music Work

492 pages. By Shane Simpson and Colin Seeger. \$49. 1994. Written by two music industry lawyers, this book is unique because for once you get lawyers spreading knowledge rather than hogging it! Yes, in addition these guys are highly regarded too! Wonders never cease. If you hope to make a living from music, then you need this book to navigate you through the minefield of The Deal, Management, Copyright and 1001 other details sent to fry you. \$49.00, in stock.



How to Survive and Succeed in the Music Business

By Paul Christie. 130 pages, A4 sized. 1994 \$39.00. Christie is an older rock muso who made good by being street smart. He flogged the Party Boy concept, played with many leading bands, and this book is really his operations manual. For this it is unique and down to earth. \$39.00 in stock.



Hums & Buzzes Explained \$9



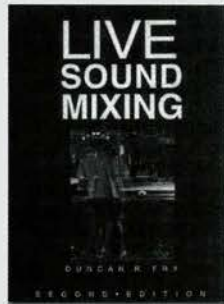
By Laurie Nethercote.
NORMALLY \$12.95 - special price: \$9
 A small handbook written in plain english for sound engineers and musicians. Explains earth loops and magnetically induced noises. No maths, no formulas, just down to earth trouble shooting tips!
INCLUDES: Project; Build your own transformer isolation unit.

Practical Studio Techniques \$40 WITH CD



By Tom Misner.
 Down to business tips and hints for dummy's and pro's alike. Recommended for anyone interested in, or practicing studio audio. Comes with a CD that is equal to a second book ... with easy to follow actual audio tips and lessons.
 102 pages illustrated.

Live Sound Mixing \$35



By Duncan Fry.
 This Australian publication in it's second edition and has sold well around the world, and has an easy style. It deals with everything PA in a matter-of-fact manner, and is a good reference work for those of us who forget what we know! 176 pages.



Concert Sound \$48

By David (Ruby) Trubitt, 166p, written 1993.
 This is a very useful book, Connections say that if you are interested in, or work in, the live sound field, get it! details touring sound

for bands like U2, Stones, Van Halen etc. Has gear tips, rigging, mix of major systems, and is well put together! Illustrated.
 What more do you want? A large format book.

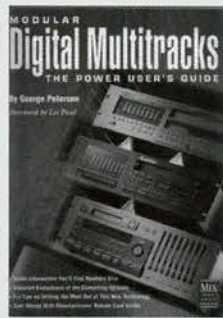


MIDI Systems & Control \$55

2nd edition. 1994, By Francis Rumsey. A book about... MIDI, yes, but for ANYONE who wants to understand the principles of MIDI control, also useful for people who design devices. Heaps of diagrams and illustrations, deals with implementing MIDI in studio, musical and lighting equipment, mixer automation, and jhas info on latest additions to the MIDI spec. 204 pages.

Modular Digital Multitracks \$49

120 pages, written 1994. This guy knows his chops, he is an editor at MIX, the world's greatest studio magazine. This book covers everything you need to know plus more. It details the ADAT, DA-88, RD-8, ADAM and DMR-8 systems, talks about tape, techniques and how to make your own cables.



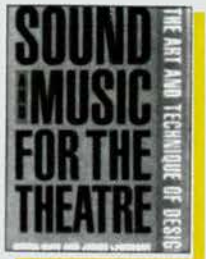
Project Studio Blueprint \$53

The essential do-it-yourself guide to help you put your studio ideas onto paper, and get them into reality. Budget the costs of building and maintaining a project studio, and create the best studio acoustics for your location. Deals with proper installation of audio connections and patch bays, and has a section on troubleshooting equipment and connections; and on sound proofing. 236 pages.



Sound & Music for Theatre \$44

By Kaye and LeBrecht.
 Contemporary guide to theatrical sound, detailing the creative opportunities and practical considerations for composers, technicians and sound designers. Features chapters on researching and selecting sound materials, developing the 'sound plot', building audio cues and working with theatre co's. 196pp, 1992.



Making the Ultimate DEMO \$32

By Michael Molenda
 128 pages, written 1993.
 Find out how to record and market your demo tape, record killer vocal and instrumental tracks, and improve your mother's cooking!



Sound for Picture \$36



From the editors of MIX. 134 pages, 1993. An inside look at audio production for film and TV, with audio post. Details many recent productions. Includes a special section on sound effects, with case studies. 134 pages. Large format book, illustrated.



Tech Terms \$19

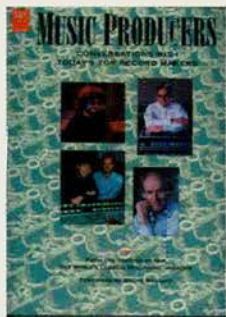
George Petersen and Steve Oppenheimer. 50 pages. 1993. For a quick, accurate definition on using music technology, this is for you. The practical dictionary of audio and music production terminology, explaining 300 of the most commonly misunderstood words and phrases. Get savvy!

Studio Seconds \$19

The comprehensive guide for the assistant sound engineer, or anyone interested in music and sound recording. Master engineer Tom (an Aussie resident) takes us through the studio with a detailed account of the equipment and procedures in a modern studio. 154 pages. It looks at the working relationship with the studio client & is fun too!



Top Music Producers **\$39**



Editors of MIX Magazine talk to 24 top producers, including Don Was, Phil Ramone, Jeff Lynne, Daniel Lanois and others. They tell how they got started, how they mediate between artists and labels, what equipment they prefer, analog vs. digital and much more. 128pp, large format.

Electronic Projects for Musicians **\$39**

This book is for anyone with a bit of skill and a soldering iron! Build your own preamp, compressor/limiter, ring! modulator, phase shifter, noise gate, talk box, tuning standard and 20 other things. Said to be easy to understand. 220 pages.



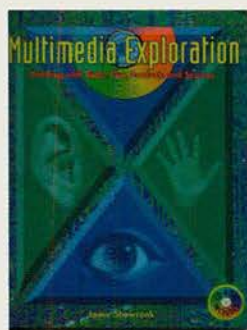
Making Music with your Computer **\$39**

Whether you're a computer user entering the world of music and sound or a musician searching for the right computer, this book will bring you up to speed and help you get the most out of today's modern music technology. An Electronic Musician book. 128 pages.



Multimedia Exploration **\$66 WITH CD**

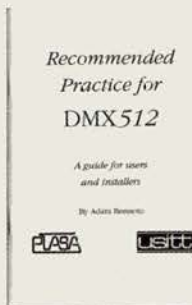
Explore multimedia technology with this book, written especially for network managers, corporate readers and developers of multimedia technology. Explains how to use resources and develop CD-ROM titles. Deals with MIME messaging, standards and reviews desktop conferencing products. Comes with Metatec Natilus CD-ROM for PC. 312p, 1995.



Basic Stage Lighting **\$17**

By Mark Carpenter. Written in 1982, but a good introduction to the art of lighting the stage. 114 pages, illustrated. Covers everything except DMX and Moving Lights. And, it's written by an Aussie and published in Australia. *All books usually in stock.

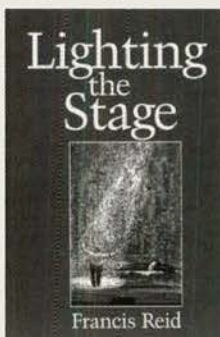
Subscribers save 10% on all books!



Rec. Practice For DMX 512 **\$19**

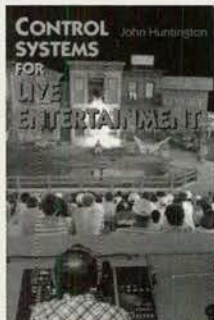
By Adam Bennette. A Guide for users & installers. Explains the DMX512 specification and offers advice and professional advice on how to set up a successful DMX512 system. 80 pages, illustrations. An authoritative study of the standard Lighting Control protocol.

Lighting The Stage **\$36**

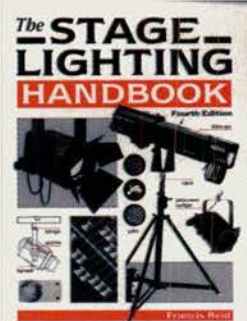


Previous books on stage lighting have tended to concentrate on the factual aspects of design and technology. But for young lighting designers and all those concerned with lighting - directors, choreographers, set designers, costume designers, stage managers and specialist technicians - the equipment and the design processes are only the start. It approaches stage lighting from the human angle. 114 pages, 1995. By Francis Reid.

Control Systems For Live Entertainment **\$79**



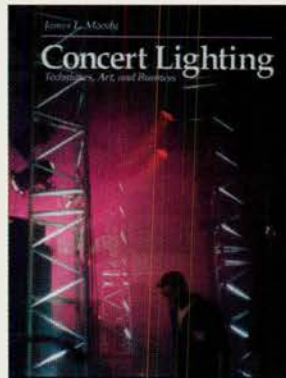
Walk into most large shows today and you see computers at work. All too often systems for lighting, sound, staging and machinery are not connected. This book discusses how different systems can be integrated, and details most different protocols in use today. Invaluable, says Connections editor. 292 pages, illustrated. By John Huntington.



Stage Lighting Handbook **\$39**

Fourth Edition, by Francis Reid. The Standard guide to stage lighting. The book and in this fourth edition appeals to beginner and pro alike, and in this fourth edition incorporates recent advances in technology. The material on the process of designing and implementing the lighting for a production has been completely revised. In 1974, Connections editor Julius Grafton read the first version of this book and went out to light a professional stage play. It's true, it can be done, and this book will help you do it! 208 pages. Plenty of helpful drawings.

Concert Lighting Techniques, Art & Business. **\$79**



This hard back, large format book is a quality item, the first book we have seen to deal solely with large scale concert lighting. Author James Moody is the ideal person to write this, he goes beyond the tour and discusses applications of concert lighting equipment, techniques to other fields including film, theatre broadcast TV and corporate theatre.

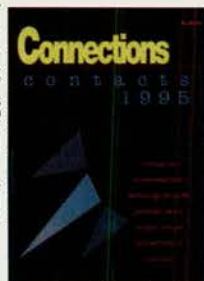
Some quotes: "down to earth, honest, easy to understand, information not found in today's books on lighting. This man KNOWS concert lighting".

This book has colour pix, sections on overseas touring, pre production, business, stage design, dealing with problems and much more. 'Highly recommended by Connections'. 190 pages.

Connections Contacts **\$9**

WHO IS WHO?

Lists more Studios, Outlets, Distributors, Hire & Production firms than anything else! Find who distributes and repairs key brands. Venues listed with production available and stage sizes. Technical Crew listed, Retail Outlets, and MUCH MORE! 130 pages, released July 1995. AN INDUSTRY RESOURCE BOOK





The Blue Mountains are just west of Sydney. Although only peaking at around 4,100 feet, climate here differs markedly from the city on the coastal strip, where a 40° summer day changes to 26° after just over an hour and a half's drive to Leura. The gorge at left is filled with fog.

"Tonight is their social night but we actually plan an event to last over three days. Yesterday and today were business days and the technical crew are there every day looking after all needs. It's very different to theatre which may last for an hour and a half.

"We sub. in Chameleon to provide lighting for the theme nights—the guys' are great. The M.A.S.H. room will have a number of golden scans, pyrotechnics (airburst, glitter bombs), molefays and colour scrollers to create a battle scene."

The technical spaces at Fairmont include the main entrance (which doubles for events), the ballroom, a larger restaurant/room and three smaller spaces for smaller meetings and workshops.

It's all neat, well arranged and to a realistic scale; each room is easily within reach of the other, so it is difficult to lose your way.

The smaller rooms have expansive views so are not geared towards high tech requirements however, all have a/v links.

The ballroom is the main conference area. It has a capacity of 550-600 people and can be divided into five sections. The room is not only "chandelier and obstacle free" but is also popular with crews for ease of access;

"The room works well as a facility—there are sensible things: crews back the trucks right up to the stage; there are multicore troughs and easily accessed technical service plates. Each have audio lines, video and communication lines and speaker outlets.

"The suspension points are rated at 1000kg. In the ceiling we have also installed custom hanging and wiring in the form of 'circuitube'." said Mr Park.

Circuitube is manufactured locally. Made from stress-rated alu-

minium, it can be made to any length and with any wiring format, either standard points or weiland.

Power in the resort is not a concern,

"Every single room has 32 amp 3 phase as does each section of the ballroom. It has two additional 65 amp hardlinks." he said.

There is an emerging trend with large city hotels of sub-contracting to external A/V companies. What may be lost here is a personal or building up of trust. This is an element which is emphasised at Fairmont Resort.

"Along with premium technical service, we offer continuity which means that people know who they will be dealing with. This is important when relating conference requests or designs because the bottom line is the best possible show for the client."

I might add, with a view.

Some of the audio visual equipment on hand at Fairmont Resort:

AUDIO

Bose 402, Bose 802, Jands M600, Yamaha 2002, AM 1600, Beyer 88, Audio Technica Condenser Mics.

LIGHTING

650w Fresnels, 650w Profiles, Low Voltage Accent Spots, 36 Channel Theatrelight Showmaster, Dyalite dimmer racks.

VIDEO

1042 Video Projector, Video Remote Switcher, Sony PVM 27 Monitors, Panasonic TC 2620 monitors, Panasonic MSI Video Camera, National G25 & G500 Video Players, Panasonic HD 100.

PROJECTION EQUIPMENT

Kodak, 3M, Elmo Projectors, 2050 Slide Projectors.

• Fairmont Resort, 1 Sublime Point Road, Leura.

Contact: Robbie Park. Audio Visual & Entertainment Manager, Telephone: (047)82 5222.

SEND AV News:

Att: the editor,
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(Julius Grafton)
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Audio Video Switcher

Quest Electronics has released a new Audio Video Distribution amp and switcher. The AVX4 is an AV tool-kit which has been designed to provide pro specification audio and video distribution, gain adjustment, comprehensive switching and monitoring.

The AVX4 is a 1U rack-mount unit that features a three output stereo audio distribution amp, a three output video distribution amp, a four input stereo audio switcher and a four input video switcher. Video input 1 is hum-cancelling, and its gain and cable equalisation are adjustable also. As well, two buffered video outputs are provided from the video switcher to allow the AVX4 to feed two monitors/projectors etc, without the need for another external VDA. On the audio outputs there

is a muting function used during power-up and power-down to avoid 'thumps' or 'pops' from monitors/PA speakers.

Features offered by the AVX4 can be used independently or in various combinations. For example, up to four VCR's can be connected as playback only for AV presentation; four VCR's may be set up for 1 to 3 duplication and conference monitoring, the DA's could be used alone.

It is possible to control the AVX4 by remote via the built-in contact closure interface—either 'latch' or 'momentary', and may be set internally to default to any of the four inputs at switch-on.

- R.R.P. \$699
- More details from Quest Electronics, Phone (02) 477 35 96 or Fax (02) 477 3681.

AAV Interacts In Sydney

AAV Business Communications, Sydney the creative services division of AAV Australia Pty Ltd. has moved to a new location in Sydney. The offices, which have been relocated due to the increased business over the past year, are situated in St Leonards.

Key operational staff within AAV BC office include Graeme Westwood, Executive Producer/Manager and Mark Muggerridge, Producer/Production Manager.

AAV Business Communications, Sydney was established just over eighteen months ago.

Whilst the Sydney office was established in recent years, Melbourne based AAV Business has been in operation for some fifteen years and has pioneered the use and development of interactive multimedia during this time.

In order to complete projects from concept to distribution, the creative teams at AAV Business Communications, Sydney and

Melbourne comprise project managers, writers, producers, directors, designers, animators and programmers who produce a wide range of creative communications in animation, multi-image, film, video and interactive computer based presentations.

Also situated in the new AAV BC Sydney premises is AAV Australia's Business Development Manager - New Media, Tom Kennedy.

Tom joined AAV earlier this year and is developing a wide range of multimedia projects, utilising the state-of-the-art resources of the AAV Group. He is also responsible for establishing third party distribution channels completing the package of services offered to multimedia clients. For more information on new media, CDRom, CDi and online services, Tom can be reached on his Email address - tkennedy@aavnewmedia.com.au

•AAV BC Sydney 02 438 3900.

AB INTERNATIONAL PROFESSIONAL AUDIO AMPLIFICATION

When designing modern professional power amplifiers, the criteria most often used is performance specifications checked under steady state signal conditions. Unfortunately, good static specs alone do not define good sound. Many amplifiers with otherwise good specifications suffer from a sonic harshness commonly called T.I.M., or Transient Intermodulation Distortion. A primary factor in T.I.M. is the excessive use of negative feedback to achieve "sales feature" specifications. Certain older Tube-type amplifiers with relatively unimpressive 1% or 2% distortion figures, used very linear type designs and little or no negative feedback. Those amplifiers often sound smoother than many recent .01% counterparts derived through use of 40 to 50dB of negative feedback. This "Linear Design" philosophy is the very essence of all AB amplifiers, so as to present a genuinely true sound, while retaining very respectable static specifications.



Model 1100A

Features Include:

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STUDIOS & POST

OCTOBER 1995

Incorporating the **BASF** National Tracking Guide

Edited By Will Burston



New Harrison Console Features in Soundfirm Expansion

■ Pictures and Multimedia on the horizon, but Roger Savage is adamant, "our main forte is audio. The new facility – a formidable expansion, is detailed by Will Burston.

While Soundfirm Sydney received a guernsey last month for their use of the Dolby Fax system to transfer audio via ISDN, this month it is Melbourne's turn. In the final stages of moving to a completely custom built complex in Port Melbourne, I took time to visit the facility and gain an insight into the most successful post production house for feature film and television in the country.

Soundfirm was established as an independent identity in 1982, by Roger Savage with the help of AAV. Roger has a long history in Australian recording, and known to many people working in the industry, beginning with Bill Armstrong at Armstrong Studios. He remained at the firm through its incorporation into the AAV group, choosing to specialise in film post production. AAV remained as a partner in his operation until 1987, when situations lead to their withdrawal, leaving the company under the sole con-

trol of Roger.

Finding mounting pressure to expand operations, and a desire to be housed in a single building, the entire Melbourne operation now resides in Crockford Street. From the 5,000 square feet of the original Bark Street complex, the new facility enlarges this to 12 000 square feet. Not only occupied by edit suites and mix rooms, it also brings the facilities formidable research and development department alongside day to day operations.

An enviable string of audio credits is supported by multiple international nominations and awards, defining the standards attained by the facility and its staff. Quality has always been the underlying philosophy of Soundfirm: when approaching any film or television project. While many post houses are expanding into advertising as a means of generating income, demand for Soundfirm's services has seen them flowing against the tide.

"We hardly do any advertising, although we used to, we end up so locked up in film production that the agencies have given up trying to get in. For instance we posted the Traffic Accident Commission commercials (watchers of Melbourne television will be familiar with the extremely graphic road use advertising campaigns) until the current series. It's just that film or drama tends to take over all the resources."

Discovered by US studios a few years ago, the Soundfirm solution for audio posting is quickly being discovered by our Asian neighbours. Indicative of the production style offered, Soundfirm very rarely hires the studio by hour or day periods, preferring to offer a complete post package for a given feature. Echoed throughout complex, the idea of integration is common theme in both the day to day operation and long term plans for the facility.

The new facility has been built
(continued over page)

Studio News

By Will Burston

Studio 52 in Melbourne has been renovating, building a new control room for Studio A. The old control room is being modified for use as a drum booth and live recording space, with the new control room doubling the size of existing facilities. New slate and timber floors have been laid throughout.

Melbourne's **SAE Technology College** has installed two new Mackie 16:8:2 desks to replace their existing Tascam consoles in the refurbishment of the 8 track analogue studios. The Mackies were chosen due to an international agreement between the manufacturer and SAE for the supply of new consoles.

Rockinghorse has been kept busy with Cartoon tracking singles, Tiddas laying down tracks for their new album while Grinspoon, one of the JJJ Unearthed winners, laid tracks for their first album. Also in residence was Suzi DeMarchi of the Baby Animals while Nuno Bettencourt spent time working up material with Kevin Shirley.

Finding favour with country music types, **Ramrod** has installed the MCI 32 channel desk from Alberts, that during the '70's was used to track many of the hit releases from the facility.

Damien Gerards have their website operational, with everything from info and audio clips, to a virtual tour of the facility, <http://www.ether.com.au/dgss/>. With the final selection made for the DG's compilation, 18 acts made the cut with the release date slated for early December, just in time for those Christmas stockings.

Not content to just offer the best equipment, **Megaphon** have added a 9 foot Baldwin Concert Grand Piano and a Drumworkshop kit to the inventory. The piano should satisfy even the most demanding of clients, especially those looking to

(continued from previous page)

to cope with the demands of digital theatre audio delivery systems, with the latest generation of the Harrison automated console as the centre piece of the operation.

The Series 12 console is the most advanced fully automated board available, developed in conjunction with Sony / Columbia pictures specifically for the demands of the audio posting industry. While the Sydney facility has a Series 10 console, this required heavy customisation to meet the demands of posting work.

"The Harrison Series 10 was the first fully automated console in the world, truly dynamically automated, and although never intended for audio post we had the software modified to meet our demands. Due to this we had an excellent relationship with Harrison, which led to the choice of a Series 12, itself a leap ahead of the Series 10. It has the switching matrix on the front end, along with full automation and upwards expansion coupled with the ability to swap between jobs very quickly."

While not involved in filming, the studio is becoming involved in the picture editing of projects using a Turbo Lightworks non-linear digital pictures system. Not only offered as another service to clients this has become a necessity due to the move away from cutting on film to non-linear video and the inherent complications that this can create. "Since film has gone in that direction and they are not cutting on sprockets, the post production path has been pretty rocky. We find being at the end of the chain that we end up with the problems, for instance if the EDL's are wrong."

It is only recently that digital audio has made its way through the entire audio chain, finally being adopted for the replay of audio in theatres. "There are three formats, SDDS which is Sony Columbia, DTS developed by Universal Pictures and SRD which is the Dolby system. SRD and SDDS carry the audio on the print in digital form whereas DTS slaves a CD-ROM to the print for replay. They say there are advantages to all three systems by they sound

pretty much the same, although SDDS has an advantage as it sometimes contains an inner left and right channel of information."

Digital theatre surround formats are having an impact on the requirements for post production, in much the same way digital revolutionised the traditional music recording scene, especially in the resolution of fine detail. While Australian films in general haven't been exposed to this, Soundfirm has had experience with all three formats; SDDS for the Disney production 'The Kid in King Arthur's Court', DTS for the upcoming release Babe and SDDS for Little Women. "There is a little more preparation due to the quality as everything will be exposed, yet it is a great format compared to Dolby Stereo. You don't have to rely on an optical negative having the wrong density."

DA88's:

Tascam DA88's are used as a working tape medium for audio, with ten units in use at the facility. This is then supported by an Otari MTR 90 running Dolby SR at the final mix, as Roger finds the end result quieter than with 16 bit digital. "I don't have a problem with analogue two inch, we mix it with DA88 where applicable."

The research arm of Soundfirm is run as a separate company, operating under the banner of EDI, or Electronic Digital Innovations. Their first product was the EDI-Tracker, a non-linear audio editing system developed specifically for the needs of audio post editors. "It seemed to us that many of the digital audio editing systems were trying to be all things to all people. Tracker has been designed in parallel by with operators so we feel we've gained a better overview of their needs."

The work stations are based around an IBM computer controlling an Audio Processing Unit, which can hold up to six DSP cards which each offering four analogue inputs and outputs, and a Disk Storage Unit which houses the magnetic media and backup sys-

tem. The user interface based around a monochrome touch screen and dedicated control surface, designed to mimic traditional film editing techniques, enabling editors to make the transition to a non-linear system rapidly productive.

While able and competent as stand alone terminals, the strength of the EDI-Tracker system lies in its implementation of multi-user capability. Work stations utilise their own DSP cards, but share common storage systems, allowing simultaneous access of material by a number of editors, including those working on the final mix of a project. Not



EDI-Tracker, a non-linear audio editing system developed by Soundfirm.

only reducing capital overheads, it increases the flexibility of the system when working on complex projects under difficult time constraints.

Development began on the system in 1989 with it reaching working status by 1991, from where the initial move to commercialise the system began. Units were sold to the ABC and other parties, but with the income generated by the sales plowed back into more development the capital needed to market the system never eventuated. The original units are still in constant use today, including major mini-series such as Police Rescue and all Soundfirm projects.

Recently the EDI-Tracker has been joined by a new system, EDI-Assist. The Assist system is designed as a digital picture preview system which takes a split from the viewfinder of a film camera, allowing the instant replay of a shot at any frame rate while previewing image transitions between takes. Originally developed for the film Babe which involved a huge

amount of variable frame rate replay, the system has recently been taken to Hollywood where four units were quickly secured by producers such as the renowned Stephen Spielberg.

The long term aim for both these systems is to integrate the two, allowing editors to work with both pictures and audio from the same work station, while sharing the source material from a common file server. "We hope eventually to have all our editing rooms connected together with the mix rooms on some form of high speed ethernet backbone, to allow the transfer of files to the mix room, eventually working off one large central storage server. It make sense to have centralised storage because when you are working with a feature where the cuts are digitised it allows anyone to work with them."

The future for Soundfirm is towards looking outwards. "Due to ISDN and digital audio we are able to get more foreign work, it negates the fact we are 10,000 miles away. We are working on more foreign productions and I hope that will increase." The facility is breaking ground in the Asian markets in particular, having performed audio production for Clara Law's 'Temptation of a Monk' and Jackie Chan's 'Rumble in the Bronx'.

"Australian budgets are getting smaller, just generally tighter with audio being squeezed the most. It's been interesting doing those Asian films, a challenge due to their lack of budget, but at least they are seeing what good audio can do and are budgeting in reasonable amounts. They help fill out the holes because the local industry isn't very consistent."

"We will get into pictures, and plan on expanding into multimedia with the recent establishment of a small multimedia development studio to create interactive programs". But Roger Savage is adamant, "our main forte is audio."

Studio News

(continued from page 55)

track Jazz and Classical piano. The range of outboard has also been expanded, adding an AMS reverb, Eventide H3000, TC Electronics 2290, Urei 1176's and a Gates Vavle compressor.

• **Studio FX** have opted for the Sony PCM800 MMDM's, adding three to their equipment list. These units are compatible with the Tascam DA88's, and the units for hire all have the sync card fitted, allowing the read and writing of timecode. Also new on the hire card are Mackie 1604 desks and a pair of Neumann U87's.

• **M.A.D. Studios** housed in the 301 complex has become the new home for the **Disturbed Guys** production team. With credits for Dragon's 'Incarnations' album, Fahrenheit and Adam Reily, they specialise in Pop and Dance, along with music for Film and TV. Not content with 32 track digital, they have added both

the IBM based PRISM and Logic Audio for MacIntosh to their equipment list, providing some very comprehensive editing solutions.

• **Velvet Sound** has been home to the stars over the last month, with some very seriously proven producers booking time. Micajah Ryan, of Guns 'N' Roses and Bob Dylan fame, spent a week away from LA working on the 'Belt' project. Craig Portails has been in working with Cactus Child, for those who don't know him his credits include Terrance Trent D'Arby and Diesel amongst an all star cast of many. To round out the hat trick, Simon Polinsky spent a few days recording the 'The Strange'. Not only content with filling the studio with the best people, the equipment is becoming fairly serious to, with the installation of a **Sonic Solutions** mastering system for both audio and post, hopefully operational by the time you read this.

PATCHBAYS

A patchbay a day can help keep the shrink away!!!

The general move toward smaller home recording facilities is inevitable, yet their flexibility is often compromised by the number of connections that need to be made and changed when working in such a situation. A well planned patch bay can both simplify and increase the usefulness of any installation, and the benefits outweigh the time taken to install even a simple system. As with any facility a general rule of thumb when setting up is to allow an additional 10% of equipment costs for cables and connectors.

Bringing various patch points such as inserts, effects sends and returns, and the inputs of various outboard devices to a central, consentient point will help towards smoother operation. Nothing dampens creativity more than having to clamber behind equip-

ment to make connections, before realising that the cable required is being used somewhere else. Standardising the connectors used in a system also prevents the need for a large selection of specialised cables, and makes the addition of extra devices a quick and simple process.

Patch bays are usually a 1 rack unit box with two rows of 16 or 24 jacks on the front and rear of the unit; each jack is generally directly connected from the front to back panel. The front and back panels are known as *jack fields*, with each jack socket known as a *patch point*. Professional patch bays are often supplied with jack sockets on the front panel and *punch blocks* at the rear, which are used to make connections with bare wires.

(Continued over)

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Patchbays (continued)

Semi professional patch bays use RCA connectors or guitar jacks at the lowest end of the market, supplying unbalanced patch points of either RCA or 1/4 inch connectors. Moving up the next level of patch bay use 1/4 inch TRS (Tip, Ring and Sleeve) connectors, which allow the patching of both balanced and unbalanced signals without problems. Most commercial studios use TT (*Tiny Telephone* or more commonly known as *bantam*) jacks, which allow 48 patch points in one rack unit, but for home use they are expensive, and are difficult to make your own patch cables for. Also much of the equipment in a home studio will have its inputs and outputs on 1/4 inch connectors, reducing the number of adaptor cables required if a similar standard is adopted.

The source of greatest confusion when designing a patch bay is *normalisation*, a system used to define standard routing arrangements between two rows of racks. *Non-Normalised* points are the audio equivalent of extension lead, simply duplicating inputs and outputs on individual jacks, requiring a patch lead between two patch points to make a path. These are useful for the inputs and outputs of effects processors, synths and other equipment.

Normalised connections differ as they make a connection between the lower and upper row of patch points without a lead being inserted. Yet inserting a lead into either patch point breaks the signal flow from one to the other. These are often used for multitrack tape returns which generally appear on standard channels of the desk, but may occasionally need to be returned to a different destination.

The newest standard is *Semi-Normalised*, which is becoming the prevalent standard. The signal flow is identical to a *normalised* connection until a jack is inserted in the signal flow. Plugging into the lower socket breaks the signal flow between the patch points, as in a *normalised* connection. Inserting a jack into the upper socket doesn't break the path between the two patch points, allowing the signal to be sent to two destinations simultaneously. This opens the possibility for sending the same signal to two effects processors,

or splitting the signal into two desk channels for separate EQ.

Most patch bays allow you to chose the type of connection between the two rows of patch points. Older models will require a physical connection to be made or broken in the back of the patch bay (such as a jumper or solder connection). Newer models have taken a modular approach which simply require the flipping of the circuit board holding the jack sockets to determine the normalisation method for the pair of patch points.

When it comes to designing your patching system, which connections should be handled by the patch bay? Generally all channel, subgroup and master inputs, outputs and insert points, auxiliary sends and returns, and tape returns along with all tape machine inputs and outputs, effect processor and outboard inputs and outputs and instrument outputs should appear on the jack field.

The most commonly used points will be those for the insert points and associated outboard equipment. Therefore it makes sense to place these points at the top of the patch bay where they will always remain clearly accessible. Wiring in a project studio mixer that uses a single TRS jack for its insert point will require a Y cable between the patch points and the desk. Plans for these exist in most manuals.

Effects processors generally use number auxiliary sends in any situation, therefore it makes sense to normal your favourite units to the auxiliary sends. This way allows you to always have a processor ready to use, but adds the flexibility being able to patch in another unit at a moments notice.

Labelling your patch bay is of crucial importance, not only the front panel patch points, but also each cable at the rear of the system to assist when performing maintenance or redesigning the system.

No one has come up with the perfect patching system, but by using a little forethought you can design a patching system that allows an operator easy access to all the most commonly accessed connections. Patch bays do take time and money, but the extra flexibility and advantages they add to any set up outweighs these costs.

•Will Burston.

Michael Letho

Will Buston talks gear, style and techniques with one of Australia's most proficient and respected engineer/producers.

Starting back when eight track recording was king, and large multitrack machines were just emerging onto the market, Michael Letho is no Luddite with new technology.

"It allows me to do more out of the actual studio, which I am quite happy to do. It's worth using studio's for doing your rhythm tracks and noisy stuff such as mixing where you need isolation, more to prevent noise leaking out than in, as it's very unlikely you would be able to have a set of monitors smacking at 2am in an apartment".

"You can have great recording sessions at home on an eight track along with great studio sessions. Invariably the studio sessions require a bit more planning and organising, and in that sense it's not quite so easy for people to walk in relaxed and put down the perfect take. So for people to be able to walk in and out of the studio with tapes takes a lot of the pressure off, and it also removes a lot of the financial pressure. When they walk into the studio at a \$1000 a day they know that they are going to put down the drums on these three tracks and how long it'll take.."

Still preferring to work with tape based recording, he finds it is still a faster and more focussed method of operating. "Recording sessions are all about vibe. Working with digital work stations is slightly anti-social, especially when you are tracking because you are having to focus on the displays rather than the artist."

"With tape if you want another take, you open up another channel of the multi-track, put the channel in record and roll tape. Your contact and vibe hasn't left the situation of the people you are working with, and that can be critical working with vocalists, when the ideas are flowing and the performance is hot. It's that magic couple of hours of the day where they are really smoking and you want to be able to catch as much of that on tape as possible."

Digital storage and technology has increased the possibilities for recording, illustrating the point with a project he was working which started life on a Postex G16S

analogue recorder, which held guide tracks recorded in a home studio. This was transferred to a Sony 48 track digital recorder, for tracking during the studio based sessions. From these guide tracks a two track mix was created and dumped to DAT, and sent to the US for use as monitor mixes for vocal tracks. This was then transferred to DA88, and the remaining tracks were filled with vocal takes. Then sent back to Australia, the DA88 was locked in sync to the Sony master tapes and the vocals transferred for incorporation into the final mix. While this was a simple process using digital tapes, it would have been impossible working in analogue.

"A lot of the housekeeping chores we had to be concerned with in the studio you just don't have to worry about any more. You had problems with (analogue) machines that now you don't really even have to consider. You'd have to line up from one batch of tape to another, even from reel to reel from the same batch. As well as striping tape with time code we would record a pure 440Hz signal as well, which would be a tuning reference for the musicians. If the tape machine wasn't quite on speed, the musicians could ensure they were in tune with what was on tape."

Maintenance is also a crucial factor, not only to ensure reliability of equipment, but to prevent interruptions to the flow of recording sessions. "The only problems I've had with ADATs is the tape may have been made, formatted or played on an unclean machine. Playback in a dirty machine isn't so bad as that can be fixed, but if the tape was recorded on a dirty machine that data on the tape may be bad. When I was using ADAT's they were getting a full head clean every morning, as although the ADAT's will drop out of record if the heads are too dirty, you don't want it happening in the middle of a take."

When it comes to the subject of equipment and favourite choices, Michael's knowledge of and love for collecting outboard is large. He stated that the only two mi-

The Robinson Files PART 4



crophones he needed in a studio were a Neumann U87 and a Shure SM57, with just these he could make "a damn fine sounding record".

This simplicity is echoed in many of his choices of equipment. Preferring to track at high speed, with very little outboard compared to mixing, his choice of desk is dictated by the tape format being used. If tracking to analogue Michael's first choice of desk is an older API, as "their sound soften at high gain levels, they retain this crispness which works well with analogue." But if using digital as the primary medium he prefers Neve consoles, again for their sonic qualities as "you run the desk 10db above unity and they sound great."

For mixing though, an SSL with a mixture of E and G Series EQ modules is his first option, finding not only familiarity but the general mixing environment is very conducive to his style of working. The flexibility and open nature of the design, coupled with what he finds a very non-demanding computer system give an SSL the edge.

His favourite analogue tape machine is an older Ampex machine, yet analogue is slipping with him due to the Sony 24 and 48 track DASH recorders. Although he hasn't written off analogue, and still loves the sonic possibilities offered, the stability and permanency of digital is becoming more important.

Following from this, Michael's preferred A/D stages are Apogee, partly because of the soft limit function, but generally due to the high quality and transparency of reproduction. Another modus operandi, and useful tip for warming up DAT masters, is to print the final DAT to 1/2" analogue at of varying levels, until you develop a tape compression effect that warms and is complimentary to the final mixes. This then becomes the final master, yet is permanent for archival as it's source was the DAT master.

When asked for his preference of reverb simulators and ambience generating boxes in general, his reply first targeted drum machines and how their lifeless sounds brought about the need for artificial ambience in recording. The three units that made his short list are anything by Lexicon, and the EMT and Quantec Room simulators. The last two are old digital machines with an 8kHz bandwidth, yet Michael finds they blend really well with the density of a plate reverb to give a sonic richness that many new machines cannot achieve.

But at the top of the favourite gadget and black box list is a top end Eventide processor. Not only useful for their incredibly lush and diverse effects, but also due to their virtually instant sample triggering for drum sound replacement and other such demanding tasks. •

HOME STUDIO MIXER TIPS & HINTS:

XLR panel mounts are superior as they are a locking connector as well as allowing balanced or unbalanced operation. Jack, or TRS types (tip-ring sleeve) are OK if no strain is expected to be exerted on the wiring. They can be balanced or unbalanced also. RCA or pin jacks are a worry, but will do if there is no strain on them. They cannot be a balanced termination.

All main inputs and outputs should be balanced. These include: Master stereo outs to tape, and control room monitors. All sub-groups and Auxiliary outs, line inputs, tape return inputs (from both Master 2 track and the multitrack), channel inserts and, of course, the mic pre-amps. Anything with an unbalanced output (e.g. most synths) will benefit from a balanced termination. (see part one: Audio Wiring).

What if my mastering deck and MTR aren't balanced? I hear you cry. Well, short of having them balanced by an audio specialist, you can look forward to many wonderful hours tracking down hums and buzzes.

One of the main areas of problem solving will be in the FX sends and returns. A lot of the newer Reverbs and Multi-FX units are balanced thankfully, and should solve some problems for you, but unfortunately, most mixers still sport unbalanced FX sends and returns. (Refer to part one: Audio Wiring). Also make sure the input and output gain values match: (-10dB to -10dB, or +4dB to +4dB).

Mismatches will cause problems, even if everything is balanced. Minus 10 out to +4 in will give a loss in gain and noise will increase as you turn things up. +4 to -10 will cause distortion and may damage the -10 input stage.

Some FX units include a -20dB input value; this is so the unit may have an instrument directly connected to it. You can mismatch this to a -10 mixer send/return if the units gain is wide ranging enough, but exact cali-

bration won't be possible. Electric guitars suffer greatly when inputted to an average FX device. Electric guitar pick-ups are in the 6000 to 15000 ohm output range; far too high for the average 20000 ohm input found on most FX units. Most guitar amp inputs are 100,000 ohms or over (some are 2 million ohms) and are unbalanced. This value is needed to capture all the highend and dynamics, but is prone to picking up buzz and hum as well. Rockton (RSP Technologies) is one company who does address this, and their units have 100,000 ohm inputs and under 100 ohm outputs.

Low output impedance is of benefit because of the ability to drive long cable runs without loss. Some of the better FX units have servo balanced ins and outs which means that balanced and unbalanced cables may be used.

When recording anything with a mic, I have adopted the philosophy that less is more.... This means: the less units the signal passes through, the more sound you get. Unless your console has direct outs on the input channels or is "in-line", you will have to route the signal through unnecessary gain stages, which add colouration and distortion. With vocals especially, this is not on. Even if you do have direct outs there is a good chance the mic pre amps in the desk will be of very average quality. Some newer mixer makers like Mackie, are addressing this problem, but I do believe outboard units are a must, especially for any front line sound. If you don't do a lot of multiple mic-ing (e.g. drums) then it may be wiser to buy a high grade line mixer (e.g. Mackie LM-3204) and a couple of stand-alone mic pre amps. The result, as long as you use a good mic, will be far superior to mic-preamps found in most consoles. •

There was no Robinson Files in the last issue (Sept), due to space hassles. Blame the editor.

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BASF NATIONAL TRACKING GUIDE

ARTIST	PRODUCER	ENGINEER	PROJECT
New South Wales			
AF Sharp Studio	Jeff Cripps (02) 534.4440		
John da Silva	Jeff Cripps	Jeff Cripps	Spanish CD
Nicholas Delellis	Jeff Cripps	Jeff Cripps	CD
Melinda Johnstone	Jeff Cripps	Jeff Cripps	Country CD
Airmotion Studios	(02) 5506576 Kristen Wolek 24 Track Recording		
Social Interiors	Shane Fahey/Rik Rue	Shane Fahey	Rec. Trk. Comp. CD
Cafe/Gate of Salvation	Llew Kiek	Guy Dickerson	Mix Album
Big Hand Asia Pacific	Simon Monk	Guy Dickerson	CD Rom
Jan Preston	Jan Preston	Guy Dickerson	Film S/Track
Amazing Grace Bros	Judy Backhouse	Shane Fahey	Demos
Albert Studios	Bruce/Leesa (02) 953 2544		
Wayne Jury	John Brewster	John Brewster	Pre-Prod. New Album
Flash & The Pan	Barry Andrews	Sam Horsburgh	"Hey St. Peter" Remix
Bush Tracks Recording Studio	Ruth Miller (066) 89 1290 24	Track Rec. & Multi Media Studio	
Paul Jones	Paul Jones	Dave Highet	Album Tracks
Young Drums	Peter Jaggle	Dave Highet	Album (33 drum kits)
Tim Tonkin	Tim Tonkin	Highet/Tonkin	Album Tracks
Peter Pix	P. Peart/T. Tonkin	Highet/Tonkin	Album Tracks
Charing Cross Studio	David Sykes (02)387 8362 - 24 Trk Neve		
Universe	Steve Balbi	M. White/K. Cooper	Alb. Trking & Mix
Magic Dirt	Paul Mc Kercher	Paul Mc Kercher	EP Mixing
Even	Greg Wales	Dave Trump	EP Mixing
Godstar	Nick Dalton	John Rafferty	EP Mixing
Screamfeeder	Paul Mc Kercher	Dave Trump	EP Mixing
Jodi Phyllis	Paul Mc Kercher	Dave Trump	Tracking
Crystal Clear Studios	(02) 684 1152 David Tozer 24 Tk Digital ADAT System & BRC 32		
CAGE	D. Tozer/Band	Dave Tozer	EP
Melanie Holden	D. Tozer/Melanie	Dave Tozer	Demos
Paul Stanway	Paul/Dave	Dave Tozer	Demos
Ben Thatcher	Dave/Ben	Dave Tozer	Demos
Sinbad & His Salty Dog	Dave/Band	Dave Tozer	Demo
NABIZ BABAN	Samie/Dave	Dave Tozer	Album Tracking
Damien Gerard Studios	Contact Marshall (02) 660-8776 2 x 16/32 Track		
Thong	M. Cullen/Konrad	Konrad Skirlis	Comp. Album DG's
The Hairy Eyeballs	Marshall & Dave	Dave Trump	Comp. Album DG's
Cluster	Jon Stevens	Russell Pilling	Album Tracks
Hoodoo Gurus	Charles Fisher	Dave Trump	Pre-Prod. Album
Anti Anti	Kevin Shirley	Suzanne Nahas	Pre-Prod. Album
Chain of Hearts	Gary Steel	Russell Pilling	Mixing Album
Eclipse Music Studios	(02) 264 7734 Jodie Sharp 24 Tk Anal/32 Trk Digital		
Nuno Bettencourt	Nuno	Kevin Shirley	Tracking Mixing
Anti Anti	Kevin Shirley	Kevin Shirley	Mixing
Suicity	Kevin Shirley	Kevin Shirley	Mixing
Maree Sheehan	Peter Martin	A. Bolland/M. Ward	Tracking
Baby Sugar Loud	Chris Dickie	Chris Dickie	Mixing
Enrec	Steve Newton (049) 347 844 All Formats (As Required)		
John Williamson	Phil Mathews	Steve Newton	Live Recording
Steve Boyd	Giles Smith	Steve Newton	Demos
Michael Spears	Steve Newton	Steve Newton	Backing Tracks
Festival Studio	(02) 660 4022 Catherine Knapman 2 x 24 Trk & 32 Trk Digital		
Baby Sugar Loud	Chris Dickie	Chris Dickie	Album Tracks
Anti Anti	Kevin Shirley	Kevin Shirley	Tracking
Bleutongue	Louie Shelton	Mark Thomas	Album Tracks
'Lillian's Story' S/Trk	C. Skubiszewski	Mark Thomas	Trking/O/dubs
Bleutongue	Louie Shelton	Mark Thomas	Mixing Alb. Trks.
Redneck Mothers	M. Baker/S. Pomfrey	Matthew Lovell	Single
JMF Sound Studio	Fran Esther (02) 790 4097		
Shoot	Paul Gray	Ralph Esther	CD
No Lies	Band	Ralph Esther	Demo
BTS	Band	Ralph Esther	CD
Coady Sisters	Coady Sisters	Ralph Esther	CD
M.A.D. Studios/	Disturbed Guys Productions. Terry Memory (02) 212 3101. 48 Trk. Dig. & Midi Prod.		
Adam Reily	Reily/Memory	Memory/Herczeg (DGP)	Alb. & Single Remixes
Eric Sebastian		Memory/Herczeg (DGP)	Album Mixes
The Tornadoes	Pat Maloney	Memory/Herczeg (DGP)	Single Remixes
Falling Justice	Steve Suitek	Memory/Herczeg (DGP)	Album Mixes
Kalvin Vaega		Memory/Herczeg (DGP)	Album Pre-Prod.
Main Street Studio	Rob Specogna 042 834 515 16 Track		
Heresy	Band	R. Specogna	Demo
Vaughans	B. Robertson	R. Specogna	CD Single
Zabourne	Band/Specogna	R. Specogna	Cass. Album
Wongawilli	Wongawilli	R. Specogna	CD Album
Vince Brophy	V. Brophy	R. Specogna	CD
Megaphone Studios	(02) 550 6576 Kristen Wolek 24 Track Recording		
Hoodoo Gurus	Charles Fisher	Paul Mc Kercher	Rec. Album
Lawrence Woodward	Lawrence	John Bee	Rec. Album
Rob Hirst	Rob Hirst	Brent Clark	Rec. Trk.
"Coral Island" S/Trk. "Naked"	Alan John	Guy Dickerson	Rec./Mix S/Track
Mirage Studios	Gerald Nixon (02) 211 3915 16 Track Digital, 48 Trk. Digital 24 Track Analogue		
Temple Gods	James Gadskey	J. Gadskey/Jonas	Album - Larikin
Hugh Willson	Brent Clarke	Brent Clarke	Album
Kerrie Biddell	Kerrie Biddell	Guillaume Bourgeois	Album
The Necks	The Necks	Guillaume Bourgeois	Album
Dennis Casali	Jayson De Wilde	Jayson De Wilde	Commercial
Pelican Jed	Jayson De Wilde	Jayson De Wilde	Album
Nu-Town Studio	Greg Hopping (02) 516 3306 32 Track Digital/16 Track 1" Analogue		
Edrenalin	Greg Hopping	Mark Worrall	Carpe Diem (Album)
F.L.U.	Greg Hopping	Mark Worrall	Circus Berzerkus (Single)



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PA-8	2 x 400 watt	\$1,732	NRG-500 1 x 15"	\$1,715
1K2	2 x 600 watt	\$2,751	Target T-1200	\$915
AM-1600	2 x 820 watt	\$3,398	Target T-1212 wedge	\$1,025
			Target T-1500	\$1,170

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New Zealand

Ice Audio
Ph. 03 4554213

Roanwatt Audio
Ph. 049 435622

BASF NATIONAL TRACKING GUIDE

ARTIST	PRODUCER	ENGINEER	PROJECT
The Fergies	Stephen Wade	Mark Worrall	EP
John Hill	John Hill	Mark Worrall	Album
Andy Ciccone	Greg Hopping	Mark Worrall	Album
Libby Rowe	Greg Hopping	Mark Worrall	EP
Paradise Studios Bill Field	(02) 357 1599 48 Trk A'log, Custom Mixer		
Rough Red	Brian White	Brian White	Tracking Album
Squealing Pygmies	Paul McKercher	Paul McKercher	EP
Pollyanna		Dave Trump	Single
Jamie Rhodes		Brendan Morley	Tracking
Fini Scad	Lachlan McGoo	Lachlan McGoo	Demo
Powerhouse Studios Doug Henderson	(02) 318 1220 32 Input Neve Console 24 Ch. Studer		
Joel Harvey	L.Berger/D.Henderson	Doug Henderson	CD Album
Abusement Park	J. Alldis	John Darwish	EP
Tsunami		Boyde Moore	Single
Pryme Mover	L.Berger/D.Henderson	Doug Henderson	EP
Tyrone	Tyrone Coates	Boyde Moore	EP
Melting Pot	The Band	Boyde Moore	EP
Rocking Horse Studios Alan Devendra	066 884 131 48/24 Trk.		
Tiddas		Jeremy Allom	Tracks for Album
Mark Abriel	Mark Abriel	Greg Courtney	Tracks
Nuno Bettencourt	Nuno Bettencourt	Kevin Shirley	Tracks
Baby Animals	Baby Animals	Colin Simkins	Tracks (Demo Trks)
Cartoon	Cartoon	Ramesh Sathia	Single for Album
Gary Spellman	Gary Spellman	Keith Williams	Tracks
Sound Level John Soane	(02) 9552 3200 16 Trk Digital Tascam DA88		
Midnight Oil	Rory Mackenzie	John Soane	Demo
Hoodoogurus	Charles Fischer	John Soane	Demo
Love Gas	Chip Douglas	John Soane	EP
No Idea	Rory Mackenzie	Rory Mackenzie	EP
Def FX	Def FX	John Soane	Mixdown
Vague	Rory Mackenzie	John Soane	EP
Soundwarp Audio Services (02) 9905 7144	Meredith Brooks Mastering/Post Production		
"Craft" Various	Grant Lawrence	Meredith Brooks	Comp/CD Master
Glen Hefferen	Glen Hefferen	Meredith Brooks	CD Single
Leadjawr	Leadjawr	Meredith Brooks	Cemo Comp.
Marguerite	Andrew Kotatko	Meredith/Bill Syrrat	Dialogue Replacement (Film)
Roger McDonald	Meredith Brooks	Meredith Brooks	CD Master/Comp
Grinspoon	Grinspoon	Meredith Brooks	Dat & Cass. Dubs
Studio Arts Productions (042) 849128	Ed Lee. Independent Recording Studio		
Erica's Jive	Band/Ed Lee	Ed Lee	Alb. Tracking (CD)
Matthieu Sylvian	Matt & Ed	Ed Lee	Album Mixdown (CD)
St.Emerg.Serv.NSW	Gary Peardon	Ed Lee	Radio Promo.
Enemy Me		Ed Lee	Album Tracking
Markus & Brett		Ed Lee	Demo
Erica's Jive	Band/Ed Lee	Ed Lee	Docu. S/Track

Studio Shift Nonda/Tom Kazas	(02) 3984268 24 Trk 2"		
Willow	Tom Kazas	Tom Kazas	Single
The Channon	Nonda/Andy Timmins	Nonda/Andy Timmins	Album
Me And My Big Mouth	M. & MBM	Nonda	Demo EP
456	Tom Kazas/Nonda	Nonda/Tom Kazas	Rev. Tracks
Trackdown (02) 550 6850	Geoff Watson 24 Trk, 8-16 Trk, A-Dat 8 Trk.		
The Vaughans	Ben Robertson	Michelle Barry	Single & Alb. Comp
Greenpeace		Andrew Scott	Promo. Song
Heartbreak High	Christine Woodruff	Michelle Barry	Music for S/Trk
Blinky Bill	Yorani Gross	Tim Ryan	TV Ser. S/Track
Tracking Station Studios Aaron/Kylie	(02) 281 8899 24 Trk.		
Wayne Law	Martin Cass	Martin Cass	Album
The Wiggles	The Wiggles	Aaron Ruig	Album
Moondays	Martin Reeve	Aaron Ruig	Album
Pat Drummond	Pat Drummond	Aaron Ruig	Single
Don Spencer	Don Spencer	Martin Cass	Album
Danielle Everette	John Feild	Chris Brooks	Demo
Troy Horse Michael Levis	(02) 557 3129 24 Track		
Front End Loader	Chooper Harley	Greg Wales	EP
PEG	Terry Lamb	John Rafferty	EP
Caliente	Laurent Le Feuvre	Colin Wright	Album
Fields	Band	Colin Wright	Album
Atticus	Mrs Naughty	John Rafferty	Single
Velvet Sound (02) 264 3420	Dave McCunn 32 Ch. 24 Track 2"		
Belt	Micajah Ryan	Tony Wall	CDI
Central	Craig Portells	Tony Wall	Single
Midnight Taboo	Band	Deb Harris	Demos
Cactus Child	Craig Portells	Tony Wall	EP
Woolly Mammoth Studio Mark	(02) 557 2721 16 Trk. Digital 32/8/2		
&i	&i	Nik Sanning	Album
Buddhafied	Bill	Nik Sanning	CD Single
Under The Sun	Under The Sun	Nik Sanning	EP
Jens Norved	Jens	Nik Sanning	CD Single
Jason Gubbay	Jason	Konrad	CD Single
Where's Uncle Bob?		Nik Sannaing	Demo

Queensland

Digital Paradise Recording Studios Ian Peters	(07) 552 70722 32 Trk Digital		
West Hollywood Films	Cary Vignal	Ian Peters	Voice Overs/Comm.
Masa	Masa	Ian Peters	Original Song Demos
Alan Yovich	Ian/Alan	Ian Peters	Album Tracks

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ARTIST	PRODUCER	ENGINEER	PROJECT
Barry Long	Jade Bell	Ian Peters	Audio Cass. Masters
Paul Mulqueen	Paul Mulqueen	Ian Peters	Orig. Song Demos
Tammy Peterson	Tammy	Ian/Tammy	Orig. Song Demos
Outlaw Recording & Records. 018 772 380	Jerry Reinisch	Adat 16 Track	
Rick Martin	Rick	Uncle Jerry	Mini CD
Red Eye	J. Reinisch	Uncle Jerry	CD/Album
Sunshine Studios Leon Prescott (07) 844 6844			
Isis	Lachlan "Magoo" Goold	Lachlan	Album
Budd	Lachlan	Lachlan	CD
COW	Robert Moore	Leon Prescott	Album
Noel Gardner	Noel Gardner	Mark McElligott	Album Tracks
Taramalin Sound Allan Lahey (07) 208 9736			
Chris Foenander	Chris	Allan Lahey	Album
Feeble Junkie	Dave Atkins	Dave	Album
Firefly	Ben Kertzwil	Craig Loyns/Allen	Album
Erebus	Band	Allan Lahey	Demo
Synergy	Band	Allan Lahey	Demo
Damon Fealy	Damon	Allan Lahey	Demo
Total Advertising Production Paul O'Connor. 074 792277			
Urban Dynamics	Dave Atkins	Anthony Marsh	Music Tracks
Betta Electrical	Barry Morrisson	Anthony Marsh	TVCs & Audio Prod.
Izzy Uta	Dave Atkins	Anthony Marsh	CD Single
Vandersound Studios Eric Vandersande (075) 468100			
Paul Nicholson	Eric	Paul Nicholson	Demo
Paul Carroll	Eric	Paul Carroll	Demo
Danny Karnchek	Eric	Danny Karnchek	Demo
Woodhill	Eric	Ken Bird	Demo
Paul Addie	Eric	Paul Addie	Demo
Van Hayman	Eric	Eric Demo	Demo
South Australia			
Bayfield Sound Studio Nigel Sweeting (08) 223 7211			
Double Whammy	Brian Morrison	Nigel Sweeting	CD
Dya Singh	Nigel Sweeting	Nigel	Pre-Prod.
Sean Wilson	Sean/Nigel	Nigel	CD
Disk-Edits Neville Clark (08) 340 1377			
Freaky Nature	Band/Castelle	Neville Clark	CD Master
Tea Rose Duo	B & S. DePasquale/Hall	N. Clark	CD Master
Robby Bowler	Robby/Bryson	Neville Clark	CD Master
The Bete	Band	Neville Clark	CD Master
The Perrenials	Band/Edwards	Neville Clark	CD Master
James Miller	Miller/Bradford	Neville Clark	CD Master
John Reynolds Recording Studio Nick Love (08) 410 3044			
Lachlan McLeod	Svensic/McLeod	Alex Svensic	CD Album
Andrew Firth	Sikorski/Firth	Sikorski/Love	CD Album
Dead Ringer Band	Band/Sikorski	Sikorski/Love	CD Album
Polly-X	N.Love/G.Masen	Love/Masen/Sikorski	CD Album
Finn/Hoy Hoy/S/Liners	F.Lang/N.Love Prod.	Sikorski/Love	CD Alb. Comp.
Chunky Custard	N.Love Prod.	E. Sikorski	Promo & Comm.
Mixmaster Productions Mick Wordley (018) 822 986			
Kinetic Playground	Mick/Band	Mick/Evan	Album Tracking
Daisy Heads	Mick/Band	Mick/Rob Squire	Album Tracking
Colour Wheel	Band	S.Fieldhouse	Album Tracking
Mother Lode	Mick/Band	Mick Wordley	Mix
The Childs	D.Cardin/Mick	Mick Wordley	Tracking & Mix
Clowns of Decadence	Mick/Band	Mick Wordley	Mix
Powerhouse Recorders Kim Horne (08) 364 5669			
Paradise AOG	Band/T.Elliott	Tony Elliott	Album/CD
The Undecided	Band/P.Kolomitsev	Peter Kolomitsev	Tracking Album CD
Condordia College	College/Kim Horne	Kim Horne	Album CD
Freaky Nature	Band/F.Castels	Frank Castels	EP CD
Oily Penguins	Peter Long	K.Horn/P.Long	Remixes
Tupeco	Band/P.Kolomitsev	P.Kolomitsev	EP CD
Victoria			
Allan Eaton Studio (03) 95340752	Leanne 48 Track		
Ansett Aust.	D.Beckerman/F.Formosa	Robin Gray	Commercial
Napoleon	Bill Conti	Robin Gray	Film Score
China Airlines	D.Beckerman	Robin Gray	Commercial
Frank	F.&J.Thorne	Robin Gray	Album
A.M.P.	Paul Grobowski	Robin Gray	Commercial
Belair Sound (03) 9563 7887	Danny Olesh 24 Track anal.		
Kavous	Kavous	Simon Segal	EP
Joe Murray	Joe Murray	Danny Olesh	CD Rob
C'est Ca Audio-Visual Services Moira McCourt (03) 419 1506	Auto 24 Trk.		
The Tea Bags	Girl Zone Rec.	Siiri Metsar	Alb. & CD Singles
Kavisha Mazella	Girl Zone Rec.	Siiri Metsar	Alb. & CD Singles
The Sharons	Girl Zone Rec.	Siiri Metsar	Alb. & CD Singles
MaMaHoHo	Girl Zone Rec.	Siiri Metsar	Alb. & CD Singles
Sulk	Girl Zone Rec.	Siiri Metsar	Alb. & CD Singles
Deregulator	Girl Zone Rec.	Siiri Metsar	Alb. & CD Singles
Fortissimo Andy Parsons (03) 9699 5811	24 Track Analogue		
Black Eyed Susans	Tony Cohen	Andy Parsons	Single
Curtis Late	Dan Knight	Andy Parsons	Demos
Sarah Louis	Andy Parsons	Andy Parsons	Demos
The Jaynes	Tony Cohen	Tony Cohen	Overdubs
Luxum	Andy Parsons	Andy Parsons	EP
Gotham Audio Tom Kehoe (03) 879 9400	48 Track Dig./SSL Console		
Hunters & Collectors	Tony Cohen	Tony Cohen	Live Album Mix
Blow Busto	Mark Forrester	Mark Forrester	Mixing
OOK	Jedd Starr	Paul Annisson	Mixing
Southern Sons		Michael Letho	Album Rec.
Newmarket Studios Graeme Fraser (03) 9329 2877	2 x 24 Track		
Dixie Jive	Terazuka Arita	Daniel Desiere	Album

Moonee Valley Drifters	James Black	Chris Corr	Album
Surfenia	Surfenia	Robert Dillon	Demos
The Big One	Ted Vining	Tim Cole	Album
001 Recording Studios Contact George Siew Ooi (03) 9348			
Kismet	Band	Dennis Aristo	Album
Bestial War Lust	Band	Mark Ingram	Album
Raymond	Raymond	Brian Marsh	Mixing Single
Nick Disbrey	Paul Kosky	Paul Kosky	Single
Merrill Bainbridge	Siew	Brian Marsh	Single
TlotTlot	Siew	Owen Bolwell	Album
Platinum Studios Scott Jenkins (03) 9827 7483	SSL 56 Channel G Series		
Ol Sky Daddys	Gavin Cornish	N.Derrick/A.Rhodes	Album
Doug Ford	Doug Ford	Adam Rhodes	Album
Kim Salmon	Kim	Kalju Tonuma	Album
Mighty Servant	Laurence Maddy	L.Maddy/A.Rhodes	EP
RB - X (Australia) (03) 94296199	Bevan Quelhurst 24/48 Trk	Rec. SSL Cons.	
Lisa McCune	Clive Young	Mark McDougall	Album Tracks
Vennison Chilli	Band	Matt Voigt	Demos
Stone Henge	Band	Matt Voigt	Demos
Greg Champion	Greg Champion	Mark McDougall	Album Tracks
Mike Brady	Mike Brady	Doug Brady	Jingles
Go Hollywood	Adam Dion	Mark McDougall	Live Prodn. Trks.
SAE Studios Michael Pollard (03) 9534 4403	24 Trk, Sony 32 Ch.Desk, Hard Disk Record & Edit.		
Flywyr	Michael Pollard	Michael Pollard	Demos
Monkey Stone	Michael Pollard	Michael Pollard	Demos
Sing Sing Phil & Kaj (03) 428 4622	48 Track		
Clean Dirt	Band	Matt Voigt	EP
Bad Loves	Band	Matt Voigt	B Sides
Body Jar	Kaj Dahlstrom	Kaj Dahlstrom	Album
Champion/Buchanan	Sam See	David Davis	Album
Mark Seymour	Mark	Kalju	Album
Studio 52 Paul Higgins (03) 417 7707,	32 Tracks Studio A/		
Peter Cupples	Peter Cupples	Trevor Carter	Mix New Single
Wendy Powles	Trevor Carter	Trevor Carter	Album Tracks
Trevor Shard	Trevor Carter	Trevor Carter	Demos
Peter Lantouris	Andrew Koikas	Trevor Carter	Live Album Mixes
Box Monster	Band	Rowal Alcock	Album Tracks
Sage	Band	Rowan Alcock	Demos
Whirled Records Craig McArthur (03) 427 1436	24 Trk. Digital		
Lust In Space	McArthur/Band	Craig McArthur	EP
The Living End	McArthur/Band	Craig McArthur	EP
Undreaded	McArthur/Band	Craig McArthur	Demos
M.Frawley	Frawley/Miller	Craig McArthur	Advert
Steve Moffat	McArthur/Band	Craig McArthur	Demos
Icecream Hands	McArthur/Band	Craig McArthur	EP
Wombat Road Studio (051) 454204	Barry Clissold 24 Trk. Plus full Midi Facilities		
Low Dive	Band/Clissold	Barrie Clissold	CD Demo Trks\
Nite Attack	Band/Clissold	Barrie Clissold	Demo Trks
T.S.N.	S.Rauza	Barrie Clissold	Album Mixing
Jack N'Kings	Band	Barrie Clissold	Demo Tracks
Young Voices of Sale	J. Ward	Barrie Clissold	Album
Vaharzew	Band/Clissold	Barrie Clissold	Demo Tracks

Northern Territory

Kakadu Studios Ken Hutton 089 411344	24 Track, Mobile, Digital Mastering		
Urshula Yovitch	Ken Hutton	Ken Hutton	CD Originals
Tiwi Waiters	Ken Hutton	Ken Hutton	Aboriginal CD
Joe Gumbula	Ken Hutton	Ken Hutton	Video Plus Single
Mimi Band	Ken Hutton	Ken Hutton	CD Originals
Alyson Mills	Ken Hutton	Ken Hutton	Album Originals
Paper Cage	K.Hutton/Band	Ken Hutton	Album Originals

Western Australia

Bonsai Recording Studio Tom Thorpe (09) 349 6029	24 Track		
PMFM Morning Crew	T.Thorpe	Tom Thorpe	Jingles
Aurora Dawn	Tom Thorpe	Tom Thorpe	Album
Microplus	Tom Thorpe	Tom Thorpe	Jingles
Syntony	Tom Thorpe	Tom Thorpe	EP
Leaf	Tom Thorpe	Tom Thorpe	EP
Project X	Tom Thorpe	Tom Thorpe	CD
Planet Sound Studios Contact John Villani & Denise Preston (09) 382 2211			
Hank Marvin	Marvin/Bennett	Les Williams	Album Mix-Down
'Franc'	Band/J.Villani	John Villani	Record & Mix EP
'Joys of the Women'	Villani/V.Green	John Villani	Demo
Wayne Simmons	John Villani	John Villani	Album Tracking
Novak Langer	John Villani	John Villani	Album Tracking
Tropo Sound Mick Connolly 091. 922 394.	24 Trk. Dolby S Dat Master		
Various	Lynn Hazelton	Alan Pigram	Comp. Album
Kuckles	Stephen Pigram	Brett Lyons	Corrugation Road
Thunder Mutts	Band	James Edwards	Demo Album
Pigram Bros	Band	Brett Lyons	Debut Album
Witzend Recording Studio (09) 331 1818	Alan Dawson 16 Track		
Bayou Bros.	Alan/Band	Alan Dawson	Album
Urban Roost	Alan/Band	Alan Dawson	Album
Andalusa	Alan/Band	Alan Dawson	Album
Bill Wormald	Bill Wormald	Alan Dawson	Demo

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STOLEN

1964 Fender Duo Sonic Colour Surf Green. S/No. L22572. 1978 Gibson Les Paul Special. S/No. 72548025. Call Michael Levis (02) 557 3129.

Equipment stolen on Thursday 31st August, 1995 from Trans Adelaide

car park, Modbury, S.A. **2 x Etone 1507 Speaker Cabinets plus cables.** These speakers were custom built and have 16 ohm voice coils giving an overall impedance of 8 ohms rather than the usual 4 ohms for this model. The accompanying cables are approximately 20 metres long or orange 10 amp three core construction. Call Chris Houlahan, c/- Roacwork Audio (08) 396 4175 or 015 398 382 or Tee Tree Gully Police Station, Police Report Number 96/J21444.

(2) Sennheiser EM 1008 37 megacycles radio microphone receivers and (2) 36 megacycle radio mic. transmitters to suit above receivers. Belt Pack, 1 with lapel mic. Also (1) EV ELX mixer, Model ELX1 4 channel mono. S/No. 740602. Stolen from vehicle. Please contact Andrew on (08) 223 7211 or 018 084 201.

Blacksheep Productions of Ultimo (NSW) had a theft on the morning of September 22nd, 1995, by a male posing as a

courier. Taken was a Perreux 800B amplifier with 1 black volume knob missing; an Eleco DR505A radio mic receiver (frequency 203.7); Q309T handheld transmitter and power supply for the above. All of this equipment is faulty - amplifier is distorting both channels; radio mic receiver is very noisy; handheld has a broken battery compartment (requires gaff for battery to connect) and power supply is intermittent. Any assistance in the recovery of the above equipment would be appreciated. Phone (02) 212 7222.

'Missing' from Abbey Sound Stage Port Melbourne - Specialised test equipment. **DBX RTA 131 Band audio analyser.** In roadcase. Amber Technology written on side in orange writing. Serial No. 01299. Also **NeutriX Audiograph analyser** in Abbey roadcase. Serial Nos. Input Module GH1742. Output Module GH1730. Mainframe GH1810. Ross Nicol at Abbey is desperately looking for the above equipment to be 'returned'. Please call on (03) 9786 4211.

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Yamaha 916 16 Ch. Desk. Versatile. \$2500.00. Cannon Sound Systems (02) 550 3828 or 1800 804 994 Call Smythy.

Yamaha 2408 Monitor Console, flightcased \$3500.00. (02) 799 7219.

Yamaha DDL 3 \$500.00 each. Cannon Sound Systems (02) 550 3828 or 1800 804 994 Call Smythy.

Yamaha DMP7 in case \$785.00. In case. Cannon Sound Systems (02) 550 3828 or 1800 804 994 Call Smythy.

Yamaha MR 1642 Desk \$2000.00. Cannon Sound Systems (02) 550 3828 or 1800 804 994 Call Smythy.

Yamaha PM 180 \$200.00.

Cannon Sound Systems (02) 550 3828 or 1800 804 994 Call Smythy.

Yamaha PM 3000 40 Chnl \$35,000.00. In roadcase with 2 power supplies. Cannon Sound Systems (02) 550 3828 or 1800 804 994 Call Smythy.

Yamaha PM2800 40 Channel Foldback Desk \$20,000.00. Cannon Sound Systems (02) 550 3828 or 1800 804 994 Call Smythy.

Yamaha Q2031 graphic equaliser, \$699.00. Black Express Light and Sound (02) 559 4363.

Yamaha Rev 5 \$1200.00. Cannon Sound Systems (02) 550 3828 or 1800 804 994 Call Smythy.

ZPE 600 \$1100.00. Cannon Sound Systems (02) 550 3828 or 1800 804 994 Call Smythy.

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BUYERS GUIDE

Power Amplifiers

CONTRACTING +Install AMPS

AB International Production Audio Services (03)9415 1585

200 100wpc 4 ohms, Stereo, 180w Bridged 8 ohms Conv. Cooled 1RU, XLR Inputs, Headphone Jacks, 7.5Kg. \$1095.00.

600LX 425wpc 4 ohms, Stereo, 750w 8 ohms Bridged, Thermal Controlled Fan 3RU, XLR Inputs, 15Kg. \$1595.00

100A 850wpc 4 ohms Stereo, 1700w 4 ohms Bridged, Fan Cooled, 3RU. Soft Clip Circuitry, 18Kg. \$2995.00.

SUB 1850 3ch 2 x 385wpc 4 ohms, 1 x 850w 4 ohms. Built in Xover, 3RU, 18Kg. \$3795.00.

Ampower Amps Unlimited (03) 9357 8580

IS 680 6 Channel 80 watt mixer amplifier. 160 and 250 watt also available. Master vol, treble & bass. Mic/aux switching each channel. Balanced. Optional twin vox. 2 RU. 100 volt line. \$785.00.

IS 380 Single zone 3 channel 80 watt. 160 and 250 watt also available. Preset master vol, treble & bass. Mic/aux switching. Balanced in. Optional twin vox. 2 RU. 100 volt line. \$685.00.

IS 380-2 Dual zone 80 watt mixer amplifier. 160 watt also available. Preset master vol, treble & bass. Mic/aux switching. Balanced in. Optional twin vox. 2 RU. 100 volt line. \$1050.00.

IS 400 400 watt mono. Also available in 80, 160 and 250 watt and dual channel 80 and 160 watt. Rear mount level controls. Balanced optional. 24 volt option. 2 RU 100 volt line. \$1080.00.

ARX ARX Systems P/L (03)9555 7859

SX 800C 300W. 2RU, XLR & Jack in, Transformer Balanced Outputs. \$2238.00.

SX 500C 200W. 2RU, XLR & Jack in, Transformer Balanced Outputs. \$1818.00.

SX 300 100w 8 ohms, 2RU, XLR & Jack in, Protection, 2 Fans. \$1185.00.

Audio Telex

Audio Telex
(02) 647 1411

IC30 30 Watt mixer amp, 3 dual mic/line inputs. 100/70 volt, 4 ohms, tape output, muting, auto limiting, bass and treble controls. \$272.00.

AT120 120 watt mixer amp, 4 dual mic/line inputs, 100/90 volt, 8.4 ohm, outputs, 6 zone selector, auto limiting. (250 watt booster also available). \$648.00.

SA120 120 watt mixer amp, 6 dual mic/line inputs, 100/70 volt 8.4 ohm outputs, 240 vac or 24 vdc operation. Auto limiting (2RU). \$916.00.

DC250B 250 watt booster amplifier, 100 volt, 4 ohm output, auto limiting 240 vac or 24 vdc (2RU). \$1166.00.

Australian Monitor

AM Sales

(02) 319 7699

C-600 2 Unit modular custom construction high performance MOSFET amplifiers. Optional plug in EQ, Limiter and X-over filter cards and 70/100 volt line transformers. 330 watt/side into 4 ohms. Weight 17 Kg. \$1537.00.

C-1200 2 Unit modular custom construction high performance MOSFET amplifiers. Optional plug in EQ, Limiter and X-over filter cards and 70/100 volt line transformers. 600watt/side or 1400 watts bridged into 4 ohms. Weight 21.5 Kg. \$2484.00.

opal 2802 2 Unit modular monocone construction MOSFET amplifier. Convection and fan assisted "on demand" cooling. Perfect for studio monitoring. Power output 280 watt/side into 4 ohms. Weight 15Kg. \$1537.00.

PA-3 2 Unit modular monocone construction MOSFET amplifier. Convection cooling. Power output 175 watt/side into 4 ohms or 300 watts in bridged mode. Weight 12Kg. \$1397.00.

Creative Audio

Creative Audio

(02) 746 1199

A1120 A single channel 120W high quality audio amplifier for public address, paging and light music reinforcement. 100V/70V and low impedance outputs provided. 2 RU Case. \$969.00.

A2075 A dual channel 60W high quality audio amplifier for public address, paging and light music reinforcement. 100V/70V and low impedance outputs provided. 2RU Case. \$1150.00.

A7120 A 5-7 input 120W high quality audio mixer-amplifier for public address paging and light music reinforcement. 100V/70V and low impedance outputs provided. 2RU Case. \$1269.00.

A000 A range of 14 option modules to suit the above amplifiers. They include signal processing, remote control, extra inputs and warning signals. \$115.00-\$175.00.

Peavey Architectural Acoustics

Audio Telex

(02) 647 1411

PZS 80 5 Channel, 4 zone, mixer amplifier. Each of the 4 zones has a 20 watt amp with 100v, 8 ohm output. Each input is assignable to any or all inputs. \$1825.00.

MA6150T 150 Watt moduler amplifier, 4.8 ohm, 100 volt outputs. Had dedicated aux input and will accept 6 plug in modules (3RU). \$1373.00 + modules.

WMA150 Wall mounted 150 watt moduler amplifier, 8 channels with overall 9 band EQ. In wall mountable, lockable cabinet. \$2013.00 + modules.

IPA300T 300 Watt booster amplifier, 4.8, 16 ohms, 100 volt output, SPS Protection, Subsonic filter (3RU) \$1612.00.

QSC Audio

A.R. Audio Engineering

(02) 299 3666

USA 370 185W/ch Stereo, 500W Mono, 3RU, 11Kg. The Cinema Standard installation amplifier. \$1095.00.

USA 850 425W/ch Stereo, 1100w Mono, 3RU, 15.4 Kg. Fan Cooled. The Cinema standard installation amplifier. \$1395.00

USA 1300 650W/ch. Stereo, 2000W Mono, 4RU, 24.5Kg. \$2150.00S

1100 70W/Ch Stereo, 180W Mono, 1RU, 7Kg. 2 Stereo Headphone Outs. \$1295.00.

Redback

Altronic Distributors

(09) 328 2199

A 2026/36

Redback Mixer Amp. 4 Mic 2 aux, phantom power. 100V and 4 - 16 ohm outputs. Vox switching, 24V DC bypass output. Optional chime board. Insert facility. 125W and 250W versions. 125W \$825.00, 250W \$999.00.

A 2024/34 Redback, Booster Amp. Low noise and distortion. 100V and 4 - 16 ohm outputs. 240V AC or 24V DC operation. 600 ohm balanced input and output. Thermal overload protection. 125W and 250W versions. 125W \$699.00, 250W \$899.00.

A 2003 Redback 40W PA Amp. 2 mic, 2 aux, bass, treble. PTT muting. Desk or rack mount, 240V AC or 24V DC operation. 100V and 4 - 16 ohm outputs. \$349.00.

Symetrix

Audio Telex

(02) 647 1411

420E Studio quality stereo power amplifier, 20 watts per channel into 8 ohms, 40 watts bridged into 8 ohms. Perfect for driving headphones (1RU). \$956.00.

Yamaha

Yamaha Music Australia

(03) 9699 2388

P2040 High performance economical 4-channel power amp. 4 Independent channels give 20 watts RMS into 8 ohm loads. Selectable 2ch mode provides stereo power amp which puts out 40w per ch into 8-ohm loads. Independent level controls on all 4 channels. Independent clip indicator LED's. Full circuit protection. \$799.00.

P4050 Four 50w power amp channels, switchable to 2ch or 3ch operation. Choice of input modes. Circuit protection systems. Variable speed forced air cooling. Calibrated input attenuators. Channel signal & clip indicators. Heavy duty barrier strip & balanced phone jack inputs. \$1995.00.

PC4002MP Professional high output power amp. Stereo operation of 430w/ch into 8 ohms or 700w/ch into 4 ohms. Selectable bridged mode gives 1400w into 8 ohms. THD < 0.005% at 215w/ch (8 ohms). Twin illuminated peak meters. Thermo-controlled silent fans. Twin power supplies and transformers. Protec-

tion circuits. Detented decibel-calibrated input attenuators. \$5395.00.

A100a Compact high powered power amp. In stereo, 50w/ch into 8 ohms. Low .2% THD from 20Hz - 20kHz. 2 Large illuminated power meters with read out in power and decibels. Clip indicators for each ch. Independent front-panel level controls. RCA-type & 1/4" phone jacks on each input. \$749.00.

TOURING AMPS

AB International

Production Audio Services

(03) 9415 1585

9620 1400wpc 4 ohms, Stereo, 3600wpc 4 ohms Bridged. Dual Fan Cooled 3RU Soft Clip Circuitry. 23Kg. 3 Year Limited Warranty. \$5865.00

9420A 850wpc 4 ohms Stereo, 1700wpc 4 ohms Bridged, Fan Cooled, 3RU Soft Clip Circuitry. 18Kg. 3 Year Limited Warranty. \$3775.00

9220A 590wpc 4 ohms, Stereo, 1125wpc 4 ohms, Bridged, Fan Cooled, 3RU Soft Clip Circuitry, 15.5Kg 3 Year Limited Warranty. \$3295.00

8120B Mono Bi-amplifier/Two Ch Amplifier, 800wpc 4 ohms, 1/2 Power Limiter for HF Channel. Internal Xover or Full Range operation. 2RU, 18Kg. \$3995.00.

AE Australia

AE Australia

(02) 568 2100

400M Heavy Duty, Mosfet technology, carry handles. Bridging Capabilities, Clip indicators, IEC, fused sockets, Output 200w RMS (4Ω), 125W RMS (8Ω) per channel Cannon Input & Output, Patching 22Hz - 100kHz, 2 Unit rack mount. \$1150.00

800M Heavy Duty, Mosfet technology, fan cooled clip indicators, carry handles, Cannon Input & Output. Output 400W RMS (4Ω), 250W RMS (8Ω) per channel. 22Hz-100kHz frequency response, IEC fused socket. 3 Unit rack mount. \$1750.00

Ampower

Amps Unlimited

(03) 9357 8580

AM 1500 150 Watts/channel @ 4 ohms. Bi-polar, Input level controls. Cool running. Weight 10kg, 2RU. \$825.00

AM 4000 200 Watts/channel @ 4 ohms. Mosfet. Input level controls. LED ramp output indicators. XLR in/out. Balanced, bridgeable 400 Watts @ 8 ohms. Weight 12 Kg, 2 RU. \$1299.00.

AM 8000 400 Watts/channel @ 4 ohms. Mosfet. Input level controls. LED ramp output indicators. XLR in/out. Balanced, fan cooled. Weight 18 Kg, 3 RU. \$1725.00

AM 15000 750 Watts/channel @ 4 ohms, 500 W/ch @ 8 ohms. Mosfet. Input level controls. LED ramp output indicators. XLR in/out Balanced, fan cooled. Weight 30Kg. 4 RU. \$2750.00.

Apogee Sound

ESA Audio

(03) 9562 4605

DA-800 The World's first purpose built Digitally Controlled Analog amplifier. Onboard Microprocessor & LCD Displays. Offers monitoring of Amp status with and without computer interface. 800 Watts per channel into 4 ohms. Suitable for Touring and permanent installations. \$4949.00

ARX

ARX Systems P/L

(03) 9555 7859

SX 3000 660W/8 ohms, 1000/4 ohms, 2000/Bridged 8 ohms. 2 RU, Dual XLR in Anti Clip Circuitry, 4 fans Bulk protection. \$3130.00

SX 1500 490W/8 ohms, 700/4 ohms, 1400/Bridged 8 ohms. 2 RU, Dual XLR in, Anti Clip Circuitry, 4 fans Bulk protection. \$2559.00.

SX 800 300W/8 ohms, 400/4 ohms, 800/Bridged 8 ohms. 2 RU, XLR and Jack in, Bulk protection, 2 fans. \$1973.00.

SX 500 200W/8 ohms, 270/4 ohms, 540/Bridged 8 ohms. 2 RU, XLR and Jack in, Bulk protection, 2 fans. \$1566.00.

Australian Monitor

AM Sales

(02) 319 7699

AM-1600II 3 Unit rugged custom alloy chassis. MOSFET Transistors, High efficiency toroidal mains transformer. Output power 800 watts/side at 4 ohm load (FTC) Bridged

>continued over

BUYERS GUIDE - Amplifiers (cont)

2200 watts. Quality without compromise. \$3398rrp
AM-1200 Similar construction to AM1600 offering versatility 2-3 or 4 channel configurations. Output power 2ch 800 watts/side - 3 channel 2 x 300 watt and 1 x 800 watt - 4 channel 4 x 300 watt. Quality with versatility. \$3398.00rrp
AM-2400 Touring Delight, Versatility PLUS AM's 2400 offers 6 functions in the one indestructible 3 unit custom alloy chassis. MOSFET Transistors. Some typical set ups: 2 x send foldback of 400 watt and Front of House 2 x 800 watt channels, or 3 x 800 watt or 1 x 1600 watt & 1 x 800 watt. Internal Limiters or cross overs. \$5203.00 rrp
1k2 2 Unit modular custom lightweight and reliable alloy chassis construction high performance MOSFET amplifiers. Optional plug in EQ, Limiter and X-over filter cards. 600 watt/side or 1400 watts bridged into 4 ohms. Weight 21.5kg. \$2751.00 rrp

Cerwin-Vega

Ashton Admor P/L
 (09) 478 3800
HED 60 Gain 28dB Power Continuous Avg. 8 Ohm 270 Watts, 4 ohm 425 Watt, Bridge Mono 8 ohms 750 Watt, THD 20-20kHz less than 0.1%. \$1434.00
HED 90 Gain 31dB Power Continuous Avg 8 Ohms 350W, 4 Ohms 590 Watts, 2 Ohms 775 Watts Bridged Mono 8 Ohms 925, 4 Ohms 1123. \$2275.00
HED 110 Gain 32.5dB Continuous Avg 8 ohms 500 watts, 4 ohms 775 watts, 2 ohms 1050 watts Bridged Mono 8 ohms 1200 watts 4 ohms 1500 watts. \$2906.00
HED 180 Three Channel 2 x Full Range 1 x Sub Woofer Continuous Power Full Range 225 Watts 8 Ω, 385 Watt 4Ω, Sub woofer 525 Watt 8Ω, 850 Watts 4Ω, 1125 2 Ω. \$3346.00

Crest Amplifiers

Jands Electronics
 (02) 516 3622
CA 9 2RU High Performance Touring Amplifier, 900 watts/ch. (4 ohms), 2 ohms capable, bridged output 2000 watts/4 ohms. Extensive protection facilities include thermal, DC, sub/ultrasonic, short circuit, IGM™ (Instantaneous Gain Modulation) and output protection, variable speed fans, XLR and 1/4" phono jack inputs, binding post outputs, 20kg. \$3895.00
CA 12 3RU High Performance Touring Amplifier,

1200 watts/ch. (4 ohms) 2 ohm capable, bridged output 2800 watts/4 ohms. Extensive protection facilities include thermal, DC, sub/ultrasonic, short circuit, IGM™ (Instantaneous Gain Modulation) and output protection, variable speed fans, XLR and 1/4" phono jack inputs, binding post outputs, 30kg. \$4795.00
8001 3RU Professional Series Touring Amplifier, 1200 Watts/ch. (4 ohms), 2 ohm capable, bridged output 2800 watts/4 ohms. Extensive protection facilities include clip limiting, thermal, DC, short circuit, IGM™, turn on/off transient, autoramp signal control, variable speed fans, octal sockets, Nexsys ready, XLR inputs, binding post outputs, 30kg. \$7495.00
9001 3RU Professional Series Touring Amplifier, 2050 watts/ch. (4 ohms), 2 ohm capable, bridged output 6000 watts/4 ohms. Extensive protection facilities include clip limiting, thermal, DC, short circuit, IGM™, turn on/off transient, autoramp signal control, variable speed fans, octal sockets, Nexsys ready, XLR inputs, binding post outputs, 49kg. \$8995.00

Fender

Fender Australia
 (02) 666 5077
SPL 6000 300w/Channel into 4 ohms, 2 rack spaces high, 600w bridged Mono into 8 ohms, 11.3kg weight, XLR + 1/4" Inputs, 2 speed fan, built-in limiter, protection circuitry, 3 year warranty. \$1499.00
SPL 9000 450w/Channel into 4 ohms, 900w Bridged Mono into 8 ohms, XLR + 1/4" Balanced Inputs, Extensive protection circuitry, 3 rack spaces high, 13.2kg weight, 2 speed fan, Peak LED indicators, 3 year warranty. \$1999.00
SPL M300 300w at 2 ohms, 3 way 20dB notch filtering, Delta Comp. protection circuitry, High + Low pass filters, 2 rack spaces high, 11.3kg weight, XLR + 1/4" Balanced inputs 3 year warranty. \$1999.00

JBL Amplifiers

Jands Electronics
 (02) 516 3622
MPX 300 3RU Amplifier, 300 watts/ch. (4 ohms) 2 ohm capable, bridged output 900 watts/ 4 ohms, Extensive protection facilities include thermal DC relay, sub/ultrasonic short/open circuit, current limiting and on/off muting, 2 speed fans, XLR, barrier strip and 1/4"

phono jack inputs, binding post outputs, 22kg. \$2495.00
MPX 1200 3 R U Amplifier, 1200 watts/ch. (4 ohms), 2 ohm capable, bridged output 3200 watts/4 ohms, Extensive protection facilities include thermal, DC relay, sub/ultrasonic clip limiting, short/open circuit, current limiting and on/off muting, variable speed fans, XLR, barrier strip and 1/4" phono jack inputs, binding post outputs, 33kg. \$5695.00
MPA 600 2RU Amplifier, 600 watts/ch. (4 ohms capable, bridged output 1200 watts/ 8 ohms, Extensive protection facilities include thermal, DC relay, sub/ultrasonic, clip limiting short/open circuit, current limiting and on/off muting, variable speed fans, XLR and barrier strip inputs, binding post and speakon outputs, optional input modules, 20kg. \$3995.00
MPA 1100 3 R U Amplifier, 1100 watts/ch. (4 ohms), 2 ohm capable, bridged output 2200 watts/ 8 ohms, Extensive protection facilities include thermal, DC relay, sub/ultrasonic, clip limiting, short/open circuit, current limiting and on/off muting, variable speed fans, XLR and barrier strip inputs, binding post and speakon outputs, optional input modules, 32kg. \$5995.00

Peavey Architectural Acoustics

Audio Telex
 (02) 647 4111
IPS150 Dual 75 watts per channel into 4, 8 or 16 ohms (Impedance selectable) Mono bridged 150 watts into 8 ohms, SPS protection (1RU). \$1095.00
IPS800 Dual 400 watts at 4 ohms, dual 240 watts at 8 ohms. Mono 800 watts bridged at 8 ohms. Fan cooled, SPS Protection (3 RU) \$1875.00
IP8-5C Dual 550 watts at 2 ohms, dual 425 watts at 4 ohms, dual 270 watts at 8 ohms. Mono 1100 watts bridged at 4 ohms. SPS Protection Fan cooled (3RU) \$1458.00
IPI-3K Dual 1000 watts at 2 ohms, dual 650 watts at 4 ohms, dual 400 watts at 8 ohms, Mono 2000 watts bridged at 4 ohms. SPS Protection Fan cooled (4RU) \$1914.00
Peavey
Australis Music Group
 (02) 698 4444
PV 8.5 C 425 W RMS @ 4 ohms; 550 W RMS @ 2

ohms (per channel); 850 W RMS @ 8 ohms; 1100 W RMS @ 4 ohms (bridged) Two-speed fan cooling; DDT compression; Slew rate: 20 V/microsecond, stereo mode, each channel; Frequency Response: 20Hz-20kHz; Total Harmonic Distortion: Less than 1% rated power; Hum and Noise : 100dB below rated power, unweighted. \$1299.00
PV 1.3K 650 W RMS @ 4 ohms: 1000W RMS @ 2 ohms (per channel), 1300W RMS @ 8 ohms; 2000W RMS @ 4 ohms (bridged) Two-speed fan cooling; DDT compression; Slew rate: 20 V/microsecond, stereo mode, each channel; Frequency Response: 20Hz-20kHz; Total Harmonic Distortion: Less than 1% rated power; Hum and Noise: 100dB below rated power, unweighted. \$1799.00
CS 1000 X 525 W RMS into 4 ohms; 750 W RMS into 2 ohms (per channel) 1050 W RMS into 8 ohms; 1500 W RMS into 4 ohms (bridged) DDT compression with LED indicators and defeat switch; Total Harmonic Distortion - Less than 0.03%; Two-speed fan cooling; Slew Rate: 40V/microsecond, stereo mode, each channel XLR input can be transformer balanced; Hum and Noise: 100dB below rated power, unweighted. \$2199.00
CS 1200 X 630 W RMS into 4 ohms; 900 W RMS into 2 ohms (per channel); 1260 W RMS into 8 ohms; 1800 W RMS into 4 ohms (bridged) DDT compression with LED indicators and defeat switch; Total Harmonic Distortion - Less than 0.03%; Two-speed fan cooling; Slew Rate: 40V/microsecond, stereo mode, each channel XLR input can be transformer balanced; Hum and Noise: 100dB below rated power, unweighted. \$2999.00

QSC Audio

A.R. Audio Engineering
 (02) 299 3666
MX 2000a 650 w/ ch Stereo, 2000w Mono, 3RU, 24.5kg. One of the award winning MX Series Amplifiers from QSC. \$2895.00
MX 3000a 1200 w/ch Stereo, 3200W Mono, 3RU, 31 kg. Award winning Amplifier from the World's largest amplifier manufacturer \$3995.00
Powerlight 1.0 400w/ ch Stereo, 1000w Mono, 2RU, 8.2kg. Super Light-

weight Power Wave Switching Technology Amplifier. \$2295.00
Powerlight 1.8 700W/ ch Stereo, 1800W Mono, 2RU, 8.2kg. Super Lightweight Power Wave Switching Technology Amplifier. \$3395.00

Rane

Jands Electronics
 (02) 516 3622
MA 6S 3RU Multichannel Amplifier, 150 watts/ ch @ 4 ohms, 6 channels, bridgable to 3 channels, 300 watts @ 8 ohms, limiters on each channel 80 Hz HPF, varispeed fan, SOA (safe operating area protection), available with MT6 multichannel x-former output option and KDC-6 24V uninterruptible PSU adaptor kit, Euroblock in/out, 17.5kg. \$5295.00

Sony

Sony Australia
 (02) 887 6666
SRPP2070 70 Watts RMS/Channel, 4Ω, 150 Watts RMS 8Ω Bridged. Balanced XLR and Unbalanced RCA Inputs, switchable 0/10dB. Front panel gain controls and clip LEDs. 1 RU high. \$1745.00.
MUA200 200 Watts RMS/Channel, 4Ω, 400 Watts RMS 8Ω Bridged. Balanced XLR and unbalanced RCA inputs with loop thru. Calibrated attenuators, LED meters, Rack Mount, Fan cooling front to back. \$3624.00.
MUA400 400 Watts RMS/Channel, 4Ω, 800 Watts RMS 8Ω Bridged. Balanced XLR and unbalanced RCA inputs with loop thru. Calibrated attenuators, LED meters, Rack, Mount Fan cooling front to back. \$4966.00

Yamaha

Yamaha Music Australia
 (03) 9699 2388
H Series Amp High-powered efficient H7000 (750w), H5000 (500w), H3000 (350w) professional power amps. Approx. twice as efficient as conventional amps. Superior sound quality. Instant response to transients. Selectable stereo, bridged mono, dual mono modes for choice of power output. MediaLink compatible. Inbuilt circuit/power protection. Variable speed cooling fans. Calibrated input attenuators. Balanced XLR & phone jacks. H7000 \$5395.00, H5000 \$4295.00, H3000 \$3495.00.
P Series Amp P1500 (150w), P2500 (250w), P3500 (P350w) professional power amps. 20Hz-20kHz. THD<0.1%.

Selectable BTL mono mode for extra high power. Inbuilt circuit/power protection system to prevent damage to the amp & connected speakers. Thermo-controlled 2-speed cooling fan. Phone jack, XLR, barrier strip inputs. Detented input attenuators. Signal & clip indicators. P1500 \$1195.00, P2500 \$1595.00, P3500 \$1895.00.

Yorkville

Dynamic Music
 (02) 9939 1299
AP3400 750w (x2) @ 8 ohm, 1200w (x2) @ 4 ohm. 2400w @ 8 ohm Bridged. 2 Rack Spaces, 18kgs. All Audio pro amps feature full DC, load & thermal protection. 2 Year unconditional warranty. \$2995.00
AP3000 475w (x2) @ 8 ohm, 750w (x2) @ 4 ohm, 1200w (x2) @ 2 ohm, 2400w @ 4 ohm Bridged. 2 Rack Spaces, 18kgs. \$2895.00.
AP1200 250 (x2) @ 8 ohm, 400w (x2) @ 4 ohm, 600 (x2) @ 2 ohm, 1200w @ 4 ohm Bridged. 2 Rack Spaces, 16kgs. \$2395.00.
SR300 Studio Reference Amp. 75w (x2) @ 8ohm, 150w (x2) @ 4 ohm, 150w (x2) @ 2.7 ohm. Steel chassis makes it workable for the road or studio. Built in peak and average limiter. \$895.00.

ZPE

Arlcom Cinema System
 (03) 9720 5711
Series 4 - 200 120 + 120W into 4Ω 80 + 80W into 8 Ω Bal. inputs, Dual/Mono/Bridge switch. Turn on Delay, Full Protection Fan, 2RU, 9.5kg. \$895.00.
Series 4 - 400 200 + 200W into 4Ω, 135 + 135W into 8Ω Bal. inputs. Dual/Mono/Bridge Switch. Turn on Delay, Full Protection Fan, 2RU, 10kg. \$1649.00.
Series 4 - 1200 600 + 600W into 4Ω 400 + 400W into 8Ω Bal. Inputs. Dual/Mono/Bridge Switch. Turn on Delay. Full Protection Fan. 2RU 12kg. \$2310.00.

Next Month : Loudspeakers

Notes: 1. Only 4 representative models from each brand shown.
2. Sell price incl. tax

ARE YOU PROTECTED?



It happens. You're in the studio, the juices are flowing. You're just getting to the perfect mix... suddenly, your near-field monitors blow. Now you're facing downtime and an expensive repair because burned out voice coils are not usually covered under warranty.

Yorkville's SR-300 studio reference amplifier incorporates our proprietary Speaker Protection

Circuitry (SPC) to give your speakers 3-way insurance. The high pass filter protects against deadly sub-sonic oscillations while a limiter monitors both peak and average output. This protects against spikes and dangerously high sustained output signals. Of course, we can't guarantee you'll never blow your speakers, but the SR-300 will give them a fighting chance.

Yorkville SR-300 Studio Reference Amplifier



In the studio, or on the road...

- Silent, convection cooling with side-mounted heatsinks to keep heat away from the rear of the rack
- Heavy gauge steel chassis with reinforced rack mount ears
- Toroidal power supply for low induced hum
- Balanced 1/4" phone inputs
- Both 1/4" and push-terminal speaker outputs
- Clip, activity and limiter indicators
- 150 watts/ch. @ 4 ohms continuous avg. power (stable down to 2.7 ohms)
- Yorkville's unbeatable 2 year (EVEN IF YOU BREAK IT!) transferable warranty

Get protected with the Yorkville SR-300 studio reference amplifier.

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Write in Reader Service Number: 177

CLUBLAND

with **Natalie Apostolou**

SOUTHERN STYLE

Gekkos Landing is a unique mix of stunning restaurant, 3 bars and dance club in the funky vein. It is located in the style centre of North Adelaide, on the banks of the River.

Manager Nick Spa has used the best talent in Adelaide to create the Gekko's concept. The venue's focus on ultra style and clubbing sophistication, beckons an over 25's crowd with high expectations. The modernist decor was styled by Terence R. Feltus Architects, and evokes a tasteful club ambience, punctuated by dynamic views of the river and city.

Gekko's musical offerings are catered to a crowd of varied tastes, so expect to hear a wicked dose of contemporary dance, cool grooves and splashings of favourite classic tracks.

The group responsible for Gekko's, Adelaide's **Hotel Management Consultants** are launching two new clubs in the coming month. *The Stag* on Rundle Street promises to epitomise Adelaide's hipper cultural life. Situated on the corner of the cities style crossroads, it combines a stylish drinking haunt with a contemporary Moroccan eatery and club area upstairs. The Stag's wild food, hot jazz and vibed atmosphere opens late October.

The Planet, opening the middle of this month, is promising to deliver Adelaide's answer to innovative high style entertainment.

The complex situated at 77 Pirie Street, is



licensed with a capacity of 1800. Three cafe's (Planet Oz, Thai & Italian) and Planet Earth, an organic style cafe, can be found. A comprehensive wine bar is open from 10 am daily. Internet 'cyberstations' are situated throughout the venue and their gaming room Jupiters is downstairs.

Their eagerly awaited dance concept 'The Planetarium' opens Wednesday to Saturday. Heavily themed with new age/cyberspace motifs it features a sunken dance floor, VIP cocktail bar, pool tables and interactive games. The cream of Adelaide's dance culture is set to attack.

Sound and Lighting supplied by BSS Light & Sound Innovation. Ph (08) 352 8688

Sound

- 2 x Celestion SR1 Speaker Cabinets with brackets-to be hung from the ceiling
- 2 x BSS RCF 150 Sub-Bass cabinets
- 1 x Celestion SRC 1 Controller
- 1 x QSC USA1300 Power Amplifier-for Celestion Speakers
- 1 x QSC USA 1300 Power Amplifier-for BSS

RCF Sub-bass Speakers

- 1 x Alesis 3630 Compressor/limiter
- 1 x Alesis MEQ230 Dual 31 EQ
- 2 x Technics SL1200 Turntables w/Cartridges, stylis etc
- 1 x Denon DN2000F Dual CD player
- 1 x Sony TCW345 Double Cassette Deck
- 1 x Gemini PMX2001 DJ Mixer
- 1 x Redback Dynamic Microphone
- All cabling, mounting, hardware, racking and installation

Lighting

- 1 x Astroraggi centrepiece lighting effect
- 9 x single scanners- to be run in 3 groups of 3
- 2 x Disco strobes w/remote control
- 2 x Tas mini multipoint effect lights
- 1 x Leisure Lighting supanova effect lights
- 1 x NJD Logic 4004S 4 ch controller w/4Ch chaser
- 1 x Jem Fogger Mk3 smoke machine
- All cabling and installation

Video Equipment

- 2 x RCF LS4001 Video projectors
- 2 x 6' by 4' Screens
- 1 x Technics HD100 Stereo HiFi Video Recorder

DJ school

The profession of being a DJ is more competitive now than ever, with quality DJ's earning cult status, throughout Australia and being exported internationally.

The United DJ Mixing School has created a course for the budding disc spinning aesthete. The six week course offers an all-encompassing, hands on instruction to the business. The DJ instructors are a who's who of the club scene, including, ASK 90, Pee Wee, John Ferris, Paul Holden and Grant Trusslove. The course spans from basic equipment and musical training to Beat and CD mixing, scratching techniques, sampling and re-mixing with tours of a studio and radio station and a working knowledge of the record industry.

The school also operates as a DJ placement agency and offers private tuition.

Courses are held at **The Front Night Club** (Monday & Wednesday between 7 and 9pm) at 252 Pitt St. Cost: \$380 for 6 weeks. For booking and information contact:

The United DJ Mixing School

P.O. Box 262,
Greenacre 2190
Ph: 018 203344
Fax: 818 5170



pix: Dianne Lynch





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LBC&M ALC 0096

Write in Reader Service number: 101

THE BIG WET IN WOLLONGONG

Wollongong may be the notorious home to cultural exponents Tumbleweed, surf culture and uni hangers, but unknown to most, there is a niche for clubbing devotees at Splashes Nightclub. This hot spot located within The Novotel Northbeach Hotel opened in 1990, servicing the tourist sector but rapidly evolved into a den for local slick clubbers.

Due to managements quest for the best, promoter Calvin Koch of CJK Enterprises Pty Ltd and Mark Lang from Total Concept Productions were assigned to recreate the light-

- 1 x Yamaha Cassette Deck
- 1 x Audio Rack
- 1 x Yamaha Compressor Limiter
- 1 x Jands SR3000 Amplifier
- 2 x Jands 516 Amplifiers
- 1 x Rane AC22 Electronic Crossover
- 1 x Yamaha 2031 Graphic Equaliser
- 3 x JBL AD44 Mid-High Cabinets
- 2 x JBL AD50 Sub-Bass Cabinets
- 1 x Bose 102 Controller
- 16 x Bose Ceiling Speakers



ing layout using intelligent lighting and other lighting effects for a complete new look.

As Splashes is located opposite the beach in North Wollongong, it is blessed with a casual scenic atmosphere, complimented by a stylish yet casual vibe. The club is licensed for up to 500 patrons, featuring 2 levels with pool tables and leisure activities upstairs, dance floor and entertainment room downstairs.

Perhaps one of the clubs most impressive features is that over its three club nights, all sectors of the clubbing population are covered. Thursdays is the inimitable Uni night, Friday is 'Club 29', an extremely popular night for experienced clubbers, (a concept that most city clubs seem to overlook) and 'Fever' on Saturday pumping out the best of RnB, Funk, Soul and Energy.

Splashes at The Novotel NorthBeach
Production Designer; Tony Musico(Original Design 1990)
Product Design; Mark Lang (1995)

Audio

- 2 x Technics 1200 Turntables
- 2 x Stanton 500AL Cartridges
- 1 x Rane MP24 Disco Mixer
- 1 x Denon DN 2000F Compact Disc Player

Lighting

- 1 x Chrome Meroform Frame
- 1 x Clay Paky Astropider
- 1 x Alien Strobe Tube Controller
- 9 x Lights of Strobe Tubing
- 3 x Lampo Storm Troopers
- 64 x Pin Spots
- 1 x Mercury Control Board
- 16 x ET's
- 2 x Optikinetics Strobes
- 32 x Sections of Neon
- 8 x Tas Mini-Ultrascan Controller
- 2 x Tas Multi-points
- 1 x Dyalite Mini-Chaser
- 8 x Abstract Scatter Spots

Video

- 1x 6' x 4' Motorised Video Screen
- 1 x Panasonic PT 102Y Projector
- 6 x Video Monitors
- 6 x Pivotelli Brackets
- 2 x Panasonic F70 Video Cassette Recorders
- 1 x Dissolve Unit
- 1 x Samsung 13cm Monitor

*Splashes Nightclub/Novotel Northbeach
Cliff Road
North Wollongong NSW*

CLUBbing bits

Shock have released a Pee Wee Ferris compilation mix of **DJ's DownUnder Vol 1**.

The annual **Hookers and Deviates Ball** is on again this month. Featured as some kind of Melburnian ritual, the ball has been running for 16 years. This year, the dress up shenanigans overtake a four storey building, with a live band in one room, floor shows, techno room, mega video screens, a fully equipped s & m room, 20 private rooms, a bar and more. Organised by John Wilde, 11th Floor, 118 Queen St Melbourne Ph: 606 0730.

Brisbane's most happening live venue **The Roxy**, will be converted into an intergalactic dancescape on Saturday October 28. **Creation 3**, a massive dance party with the emphasis on surreal visuals and three rooms of futuristic mayhem.

EMI/Virgin are restructuring their dance division and are seeking contact from club promoters and DJ's for inclusion on their dance music priority list. Call Sascha Perera 015 521 288.

Drama at **Chasers** on Monday 18th of September, when a curious blaze broke out in the clubs office. Apparently their equipment was spared.

Inflations leader jailed ●●●●●●●●●●

The manager of Melbourne's Inflation nightclub, John Beecroft Allison, was jailed last month for two years. Beecroft, who also managed the Champion Hotel in Fitzroy, was sentenced for continuing business without disclosure of bankruptcy. Beecroft was declared bankrupt in 1990 after various failed business projects.

Hard Rock Sold ●●●●●●●●●●

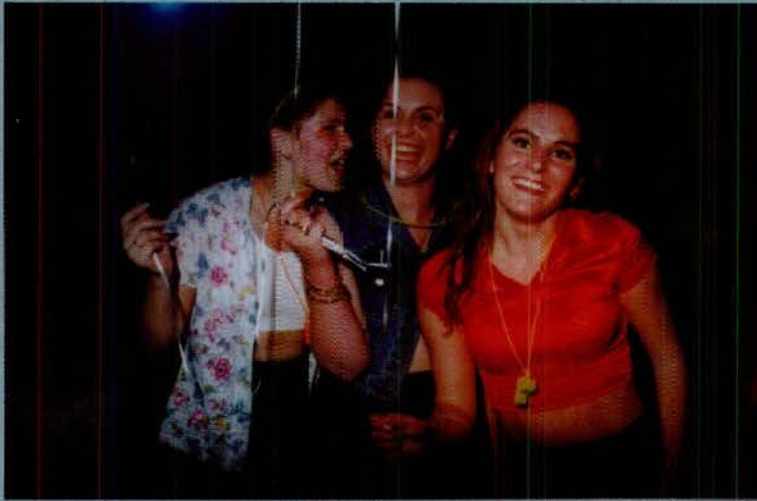
While Melbourne is buzzing with the imminent opening of their own Hard Rock caf, Sydney's has been sold at a loss. The buyers of the Crown Street establishment are the Oberoi's, an Indian hotel family. Reports claim that the Hard Rock suffered \$800,000 annual trading losses, despite \$9 million in annual sales revenue.

Shut Downs/ReVamps ●●●●●●●●●●

IT CAN'T BE TRUE. Legendary, (the word is an understatement), venue/hangout of sin Springfield has closed down. Not for its annual temporary closures-for good! It is apparently becoming a backpackers hostel.

Oxford street's **Spise**, has shut down its elite doors. The venue is being taken over by the Durey's(responsible for Hellfire/Axis etc).

Gilberts Hotel - Frequency



Opening Night at 'Frequency'

Gilbert's Hotel in Hornsby was re-opened in September after 9 months of extensive refurbishment.

The million dollar fit-out was furnished by Total Concept Productions.

The ambitious design was focused on producing an integrated entertainment venue. Featured is the multi level dance arena which is equipped for versatility, with guest DJ's, fashion events and performances by dance acts scheduled over the coming months. Adjoined to the main club room is a Chill Out Room, The Replay Bar with pool, pinball and Daytona and a Cafe and Brasserie which functions from 6am till extremely late.

Opening night was graced with the presence of DJ Pee Wee Ferris and DJ Task. Scheduled guest DJ appearances include John Ferris and Paul Holden, with a multitude of theme nights and tributes lined up. Gilbert's club nights offer an eclectic mix for everyone. Thursday nights have the best in dance and house. Friday's are LOST, featuring in-house DJ's Spide and Scott T spinning the best and worst of the 70's disco classics and 80's retro with a splash of Top 40. While Saturday's promise mayhem with DJ Dizzy and Ricksta and Dizzy Time. All club nights are licensed till 3am.

Les Jones Designs

Frequency Nightclub Equipment List

Audio

- 1 x Shure SM58 microphone
- 1 x Shure L Series diversity wireless microphone system
- 1 x Cloud DM1200 (10) channel stereo mixer
- 2 x Technics SL1200 stereo turntables (Stanton 500 equipped)
- 2 x Pioneer CDJ500 professional compact disc players

- 1 x Technics RS-TR373 dual stereo cassette player
- 1 x Yamaha Q2031A stereo 1/3 octave equaliser(FOH)
- 2 x Rane DC24 cross over/comp/limiters(FOH)
- 2 x Jands SR3300 stereo power amplifiers (FOH)
- 4 x JBL System 44 mic/high speakers(FOH)
- 2 x JBL System 80 sub bass speakers(FOH)
- 1 x Yamaha Q103111B stereo 15 band equaliser(Room Fill)
- 1 x Yamaha P1500 stereo power amplifier (Room fill)
- 4 x JBL Control 1 C full range speakers(Room fill)
- 1 x Audiotec K120 mono amplifier (Bistro)
- 4 x JBL Control 1AT full range speakers(Bistro)
- 1 x Technics SLPD667 multiplay compact disc player (Bistro)

Lighting

- 1 x Mercury low voltage controller
- 4 x Program System (4) channel switchpacks
- 1 x Program System (1500) watt Audio Strobe
- 4 Coemar Versatile lighting effects
- 4 x Program System Dynamic lighting effects
- 2 x Program System Panic lighting effects
- 16 x Program System Multibeams lighting effects
- 1 x Martin 2308 Roboscan controller
- 6 x Martin 812 Roboscan intelligent lights

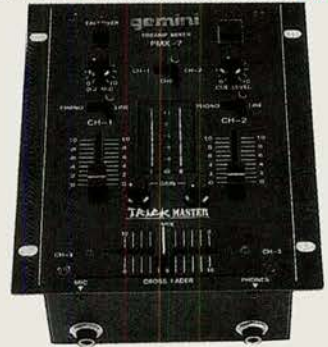
Video System

- 1 x Custom switching system
 - 2 x Panasonic HD70 hi fi VCR players
 - 1 x Akai (34cm) cue monitor
 - 16 Akai (51 cm) monitors
- Gilberts, 31 Station Street, Hornsby

gemini

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Write in reader service number 102

BANANAS

Banana's Nightclub/Miranda RSL Club Jungle fever has hit Sydney's south at Miranda RSL. October 6 is the launch date for the innovative format housed in the RSL auditorium.

A complete aesthetic and stylistic overhaul has transpired. The room itself has come a long way from its decade spent as home to cabaret shows and their in-house disco "Charlie's". Venue manager Stephen Cowan enlisted the assistance of Marc Christowski and Harry Della of Rock Circuit Promotions. The RCP team brought in their Banana concept, which had functioned effectively at Eastern Suburbs Leagues.

As the RSL venue begs a degree of flexibility for its varied patronage, Tim Eaton of Modern Miracle was brought in to rectify the design. The auditorium's fit out was adjusted to also function for the older members during the day and when the club was not in use. Tim utilised removable fluro banners with the Bananas design.

The night club opens every Friday and Saturday. House DJ, Arthur Stamos plays a mixed dance blend. Celebrity DJ's, podium dancers and laser shows are planned, with live bands featured every Saturday night.

Venue Manager: Stephen Cowan

Capacity: 900

Door Price: Free

Theme Nights/Specials: RCP/ Open from 8pm. Saturday Nights feature live bands -Margaret Urlich, One Hit Wonders, DIG.

Sound Design By: Rock Circuit/TCP

Lighting Design By: TCP

Total Concept Productions

AUDIO

4 x JBL System 44 cabinets

4 x JBL Brackets

2 x JBL Bass Bins

1 x Denon DN 2000F Dual Compact Disc Player

1 x Shure 58 Microphone

1 x Microphone Stand

1 x Yamaha 2031 Graphic Equaliser

1 x Yamaha Compressor Limiter

1 x Jancs SR 3000 Amplifier

1 x Jancs JX5 Electronic Cross-Over

Mood Lighting

20 x 4 FT ultra violet tubes with line light

2 x Blinders

2 x Martin Ministars

4 x Ultra-Violet Tubes to highlight the DJ box

2 x Par 56 Cans to highlight the DJ box

Lighting

1 x Discotheque Truss

32 x Pinspots

16 x Par 56 cans

1 x Mercury Control Board

5 x Load Drivers

1 x Astropider

2 x Multipoints

1 x Four head four flower system

4 x Versatiles

1 x TAS fog machine

12 x 120° scanners

Video System

12 x Sanyo 59cm monitors

12 x Pivottelli Brackets

2 x Sanyo Hi Fi video cassette recorders

1 x Hybrid 9 Dissolve Units

1 x 14" colour monitor

1 x Practel video distribution amplifier.

Bananas, 615 Kingsway, Miranda

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LIGHTING MONTHLY

October 1995

Edited by Catriona Forcer

LARGE SHOW OF AUSSIES AND KIWIS AT PLASA

Turn a corner at PLASA -the largest trade-show for our industry in the UK- and you'll find an Aussie or a Kiwi. The ease with which our manufacturers are accepted in the northworld is due to many years of slogging by those who represent our region there.

Selecon had a neat stand centre-hall, the NZ lantern maker reports serious sales into the UK, which is like shipping coal to Newcastle. Bytecraft, the stage electronics company from Melbourne had their PLASA debut with a large-ish stand at hall left. They had plenty of traffic for their Status and State scenery control systems, and their dimmers were on the adjoining stand of their UK distributor.

Jands are a PLASA feature, present on the huge stand of their northern hemisphere distributor, AC Lighting. Their Jands Hog consoles were up and running, and shipping. Director Paul Mulholland said backorders exceeded 120 units. He stated the former Jands amplifier manufacturing business had been wholly replaced with dimmer manufacturing in recent months.



The Jands Hog on the AC Lighting stand

ARX were represented by their UK distributor, and they are doing increasingly well in the north. They have now 19 staff at their expanded facility in Melbourne, with four dogs (K9) now resident. Visit and see what I mean! Showcraft were represented by CCT, with Lee Conlon on hand to assist. They also sell their DMX accessories to the world. LSC Electronics had a large stand in their own right, and were constantly busy with their Axiom and Atom lighting desks. Much interest was expressed in the timed fade ability of these consoles, making them friendly for moving lights.

Connections had a stand at PLASA too, and we were bowled over by the response. We shipped 1000 copies of our Contacts Yearbook in, and hired an Aussie-in-London, Emma

Jarvis to help out. We had ENTECH business, Connections advertising enquires, book orders (believe it, we had none with us, but shipped them when we got back) and sold subscriptions.

Aside from those exhibiting, plenty of locals were at PLASA to take in the offerings of over 250 exhibitors. Amongst the 10,000+ visitors we spotted dozens, if not almost 100 people from our part of the world.

• *Our call to arms for local manufacturers to form an export association is moving forward. At PLASA we all would have benefited from some common identity, branding and uniformity in advertising, if not preplanning. Even a small start is better than none at all, and the issue will be debated at a formal meeting at ENTECH '96. Connections plan to return to PLASA in 1996, and we would be happy to take a pivotal role in an association, being non competitive to all other local exporters such as those noted above.* ● **JG**

Cyberlight SV PLASA

American lighting manufacturer High End Systems have announced the latest addition to their line of Cyberlight automated luminaires. The Cyberlight SV automated luminaire, aimed at the TV market, retains the features of the regular Cyberlight but has a 69% reduction in overall noise level.

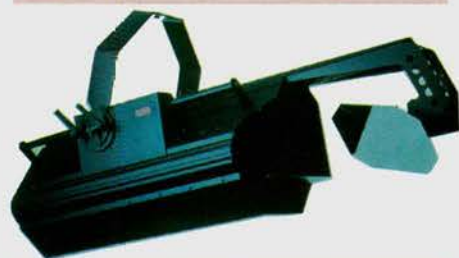
In addition to being quieter than the standard Cyberlight, the Cyberlight SV also features a homogenising filter located in the green slot on the colour wheel, and a full 3200° Kelvin colour corrector. Gobos in the Cyberlight SV will be identical to those in Cyberlight and Cyberlight CX, and will also sport all Lithopatterns high resolution glass gobos.

For further info call: GUVT 1800 773 187.



Cyberlight SV

PLASA PAL 1200



Martin's new automated framing spot is the PAL 1200, which stands for Profile Automated Luminaire. It uses a patented drive system synchronising a pair of stepper motors on each side of the frame to enable fully flexible control in any direction of the entire frame and fine adjustment to a resolution of 1mm. On top of this the whole framing device can be swivelled by up to 22.5° in any direction.

The PAL 1200 is based on the MSR 1200w lamp and Martin claim that a new and highly efficient profile-style optical system has made the light output even greater. The dimming shutter provides slow or fast fades down to full blackout.

The PAL 1200 has remote zoom from 13° to 23° with linked remote focus plus pan and tilt, via a large 20 x 30cm aluminium coated mirror. In addition to full colour mixing, there is a colour wheel normally carrying the three primary colours and a 5,600/3,200K colour temperature correction filter. There are four theatre standard, D-size, rotational gobos on board plus fully variable frost filter.

All of these functions are fully DMX512 implemented, which also enables the possibility of applying 16-bit resolution to the pan and tilt as well as elliptical tracking of the beam, and the full application of zoom and focus interaction. The digital address, is displayed on an illuminated panel adjacent to the head which, unless overridden, turns itself off 2 minutes after switch-on to avoid distracting the audience.

The black-finished construction of the body has power cables and data cables exiting close to the hanging bracket for ease of installation. The pan and tilt unit is detachable should you want to use the PAL 1200 as a stand-alone, fixed position, profile-framing spot.

For further info call: Show Technology (02)898 1111.

The Latest Technology from PLASA



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GREAT SOLUTIONS

Smaller, brighter, faster, smarter. Great leaps forward in entertainment technology are between the stops on the super-highway right now, so audio and lighting manufacturers alike refine rather than define. At PLASA 1995 the imperative was on making products more efficient.

Time spent programming large lighting rigs is under attack. As any LD will attest, plotting and programming often takes longer than time available, and of course in the case of a touring show requires extensive pre-production and early loadins. This costs serious money. Solutions are on the horizon.

Lighting guru Richard Pilbrow held a seminar where he combined three disparate elements into a working solution to every LD's prayer. WYBRON have had a system called 'Tracker' under development for more than three years. It uses three receivers spaced out through a lighting rig to provide 'X', 'Y' and 'Z' co-ordinates from a moving object on stage. That object can be a person, wearing a small transmitter. The system sends DMX commands to moving lights, which can then 'track' the transmitter around the stage. It is under continual refinement, and offers reasonable resolution. ie: the thing works sort of OK.

Flying Pigs have a software/hardware pack called WYSIWYG. They demo'ed this at EN-TECH, it is a DMX reading 'emulation' whereby you rough draw your stage on screen, position your moving lights, and then you can pre-programme your show on your laptop.

Combing these systems with an ETC console and remote control, Pilbrow proposed the Tracker be incorporated as an optional extra for lighting consoles, whereby instead of re-positioning each fixture by moving 'X', and 'Y' faders or a combination of each depending on the moving light, a designer just walks about

the stage wearing a Tracker, and records the movements required on the console! The potential for serious time saving is major, and the console manufacturers are all now thinking seriously about it. ●JG

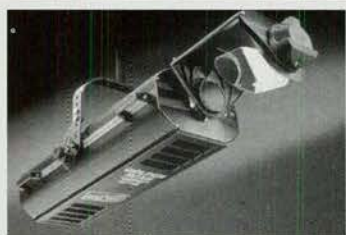
MINI ICON DESK

At PLASA LSD were showing their new Mini Icon desk, running linked to the software simulation programme Mac Icon. This shows the layout of the regular desk. Using the buttons on the Mini desk, all functions of the full size version can be accessed and manipulated via the various layers of the Mini.

LSD believe that the real beauty of the Mini will be for smaller more economically challenged shows that don't need the full size console.

For further info call: LSD +44 21 766 6400.

AVAILABLE FOR DEMO



Clay Paky's new scanner, the Golden Scan HPE, is now in Australia and available for demo (RRP \$15,599 inc tax) as is their new colour changer Combicolour 300 (RRP \$3299 inc tax). Call: Show Technology (02) 898 1111.

Making its debut in the UK at PLASA was the 230/240V version of ETC's Source Four high performance ellipsoidal spotlights. The 110V Source Four has become the industry standard in American lighting design and now, with over 75,000 units sold worldwide, it is one of the most popular lighting fixtures ever made.

The Source Four was developed around the HPL compact filament lamp and ETC claim that it produces up to 40% more light using 45% less energy by combining an efficient lamp with a cold mirror glass reflector. The Source Four 230/240V comes in beam angles from 50° down to the 10° and 5° fixtures, which feature a large diameter acrylic lens for maximum light transmission and are ideal for long throw front of house positions.

The Source FourPAR utilises a 575w HPL lamp and ETC claim that it delivers more light than conventional 1000w PAR64s as well as a smooth, even field. Changing beam angles is simply a matter of snapping in one of five lenses. The Source FourPAR is aimed for theatrical and interior design use and is not really a Par for rock'n'roll type shows. Source Four lamps will be available from Jands towards the end of the year. For further info call: Mike Tanner at Jands (02) 516 3622.



The Source FourPAR

SOLO Followspots

- Solo 2K 2000W or 1000W CSI/CID
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Solo 2K Followspot



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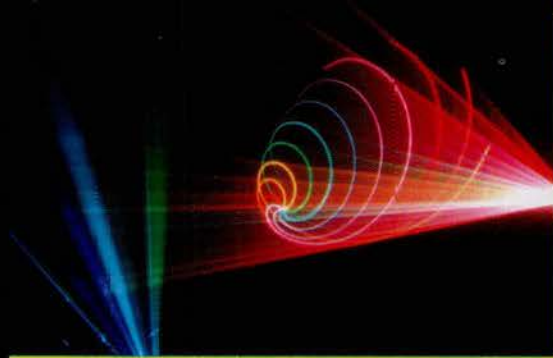
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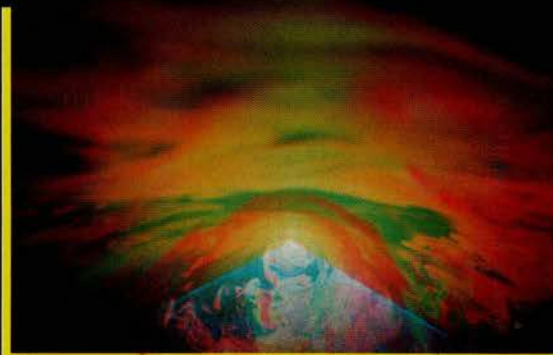


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E-Mail: info@technofear.com.au

For Lasernet® Write in reader service number 175



PLASA

BYTECRAFT at PLASA

Designing and building modern computerised flying systems is a snap for Melbourne firm Bytecraft. Selling them is slightly harder, not due to lack of desire or customers, but more due to the complexity of the large building process.

In London to show their wares at the PLASA trade show, Bytecraft have several European contracts where their systems are in contention, according to engineering director Ted



Ted Fregon and John Montgomery

Fregon. The difficulty arises in establishing who to align with.

Large scale theatre contracts may entail dealing with a builder, or engineering contractor, consultant, or all of the above. Often

several groups will tender a large job, and Bytecraft need to gain a view as to which consortium is most likely to win the job. Part of this process, quite distinct from establish-



The Status

ing that their State or Status systems are configured for the tender, is also to broker a payment scheme. Funding very large contracts is an essential aspect, and no two deals are alike.

It is a measure of the firm's success that its reasonably sizeable stand was well trafficked during PLASA, and that their recognition factor was reasonably high. Bytecraft were represented by Ted Fregon, John Montgomery, Durham Richie and Patrick Bravard. ●JG

THE LX MONTHLY NEWS

Wheeler Effect

The Martin Wheeler is a new centerpiece effect based on a central bright 300w halogen lamp from which four directional beams are created. Through the units surrounding lens systems, the beams are directed via a colour changing system onto four-faceted, revolving mirror drums.

The colour changer contains four dichroic filters and alternates between colour and white light for added effect and also features audio activation via the in-built mic. Retail is normally \$995 inc tax but has a special introductory price of only \$795.

For further info call: Show Technology (02) 898 1111.



Lowel Sheds New Light

THE NEW LOWEL FREN-L 650

THE SMOOTHEST, SHARPEST, FOCUSSING FRESNEL ON THE MARKET.

650W and 500W

The Fren-L 650 is compatible with Lowel's extensive range of lighting accessories.



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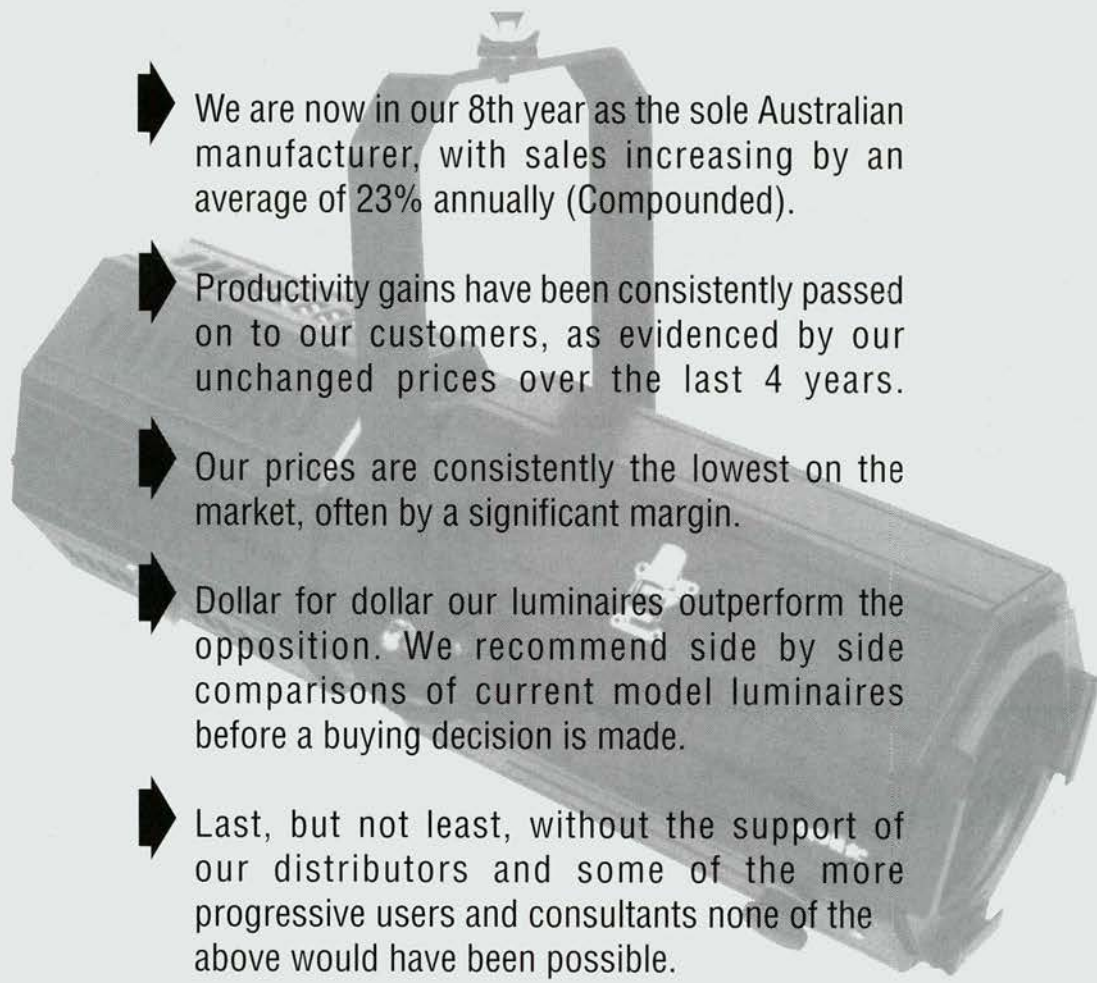
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- ▶ Last, but not least, without the support of our distributors and some of the more progressive users and consultants none of the above would have been possible.

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Northern Sound & Vision (NSW Nth.Coast)	Tel (066) 85 7577	Fax (066) 85 8244

VIC

Lightmoves P.E.S. (Melbourne)	Tel (03) 9819 4566	Fax (03) 9819 5463
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Nova Production Supplies (Canberra)	Tel (06) 239 2722	Fax (06) 239 2723
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Entertainment Services (Brisbane)	Tel (07) 3881 3233	Fax (07) 3881 3122
Entertainment Lighting Supplies (Gold Coast)	Tel (07) 5593 5105	Fax (07) 5593 5161
Theatre Equipment Supplies (Brisbane)	Tel (07) 3881 3911	Fax (07) 3881 3801
Behind The Scenes (Brisbane)	Tel (07) 3285 5722	Fax (07) 3285 1977

SA

BSS Light & Sound (Adelaide)	Tel (08) 352 8688	Fax (08) 234 5504
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JENNY MORRIS

Cat Forcer talks to LD Rory Collis

Damn mobile phones. It's pretty disconcerting to be having a conversation with someone only to find they are on the toilet. I decided to let Rory Collis, LD for *Jenny Morris*, call me back.

For years Marty Bateman worked as Jenny Morris' LD and Rory credits him as being his mentor. Marty himself has been in 'the industry' for twelve years working for bands such as *Spy V Spy* and *The Choirboys*. He also does a lot of corporate work which has been useful the last couple of years as the touring scene has been a bit slack.

"Originally with Jenny, we wanted to get a set that looked like a TV studio," said Rory. "Big open lights on stands making them part of the stage rather than hiding them like you do with most lighting. We were going to use six TV monitors, hooked up to a video, around the stage. We ended up dropping that idea because it would have been so hard to transport the TVs and it cost so much to get a pilot video made to run on the screens whilst the show was on. It would have cost us something like \$4,000 for a 50 minute tape, to get it edited and to be of the quality needed for everyone to see it."

Originally Marty used 5K De Sisti fresnel type lights on stands but he found they were giving too much buzz on the PA. Although he says they looked the best, he decided to change to 3K six light-Molefays which the Colourset colour changers also fitted.

"The show still looked basically the same but with a different shape lights behind them," said Marty. "The lights were on the TV stands and I had a front wash, a mid wash and, what I call, an auditorium wash. This sits at the back in between the three risers for the backline, keyboard, percussion and drums. When we do a huge show I make it look like a *Hey, Hey It's Saturday* scene and put truss up at the back in the set. There aren't actually any lights in it, it's just two squares which go up for the lights on stands to fit in. When I change a colour it is very obvious. I keep it low at the beginning of the show building up to the end and when I get the scrollers scrolling on the penultimate song, it looks really huge with the room totally lit up. At most venues there's enough light there to colour the back wall."

It was planned to have very little effect in the show, just all solid colours, but Marty found there wasn't enough going on onstage so he added 12 profiles from behind with gobos.

"It needed a bit more back lighting for another dimension," he said.

The tour was the East Coast and country with no capital cities as yet. In Queensland they covered 6,000 km in two weeks which

Rory describes as the 'run from hell'.

"We finished a show in Tweed Heads on Sunday morning at 1.30 am and we loaded in at 1.30pm Monday in Cairns," said Rory. "That's 2,000km in 36 hours. I still had time to sleep for 9 hours before the show. We had a 12 ton truck for the gear, a Tarago for the band and a Tarago for the crew.

"We then had the run that went Cairns-Townsville-Gladstone-Brisbane-Maroochydore in one week. We had the usual problems in North Queensland with power supply not being consistent. They'll tell you an outlet is rated at 45 amps but that would be when everything else in the place is switched off. Depending on what electrician has done what, they add little bits in here and there. You'll be going along fine and then you'll blow a fuse on just one phase of your dimmer rack because that's drawing too much, there might be a cooker or something added into that phase which no one's told anyone else about. It's always the same problems in Queensland because the buildings are so old and no one rewired them when they added 3 phase."

Rory was at least relieved he didn't set any places on fire this time. It was on a Choirboys tour that he last did that.

"It was in Townsville and the power rating was so wrong we ended up melting the main power from the pole to the building," admitted Rory. "The main circuit was just drawing too much, caught on fire and then the paint caught on fire. Consequently the show was shut down!"

Hire was mainly from Revolver who sub-hired the stands and colour changers from Chameleon. Control was a Jands 48 channel Event plus, although Rory only used half of it, and Colourset controller for the colour changers.

PLASA

Wholehog 2 (Son of Hog)

After being shown in prototype form at PLASA 94 and having taken quite a time to complete, the Wholehog 2 was finally launched at PLASA 95.



The Wholehog 2 is smaller than the earlier version, a mere 26in wide by 23in deep, and is designed to handle theatre, television and concerts.

The first thing one notices about the Hog 2 is the distinctive touch sensitive screens on the fascia. These simplify programming, dispensing with endless key presses and confusing menu layers although it's not obligatory to use the screens for programming.

A further two outboard screens can be added to Hog 2 and all four can be configured to give you the feedback information you require in the format you desire.

The desk is now in full production
For further info call: Flying Pig Systems
Ltd +44 181 579 5655.

Bits

- A new member of staff has joined the **Show Technology** team. David Kelly responded to the ad in Connections and was the lucky applicant for the Storeperson's position, beating 25 others for the job. David fills the position left vacant by Dean Burge who has been promoted to Importing and Systems Manager.
- Coemar de Sisti report the sale of a new **TAS** searchlight **Bersaglio** to Top End Sounds (NT), as well as loads of **Intel Control** dimming for Stage and Studio (NSW) for a nationwide refit in a retail chain.
- The PA People (Vic) have installed **Coemar Testa** followspots into an installation.

- Clearlight Shows (Vic) are re-stocking their hire with **De Sisti Duccio** groundrows.
- **Blakes Pyro's** are approved for use in SA through BSS and are now shipping.
For further info call: CDA (03) 9467 8666.
- After a number of conferences and demonstrations (including a scale model demo), the lighting of the new, taller, Victorian Arts Centre Spire will be by **Barry Webb & Associates** and **Bytecraft Pty Ltd**. There will be a number of different combinations of effects, including some state-of-the-art equipment, and Lighting buffs will be able to amuse themselves figuring out how the effects were achieved.
For further info call: Bytecraft (03) 9587 2555.



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ABSTRACT

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Write in Reader Service Number: 120

Thanks to advanced technical development the Futurescan 3 has been designed using a low voltage 250w/24v long established lamp. Giving optimum output and extreme lamp life. Futurescan has two power settings allowing the user to further increase lamp life or reduce colour temperature of the beam.

High resolution motors give beautifully smooth movement of the 90% degree tilt and 180 degree pan mirror, using Stepper motors to create rapid colour change and precise selection of its separate Gobo patterns. Cross fade has also been achieved maximizing the Futurescans ability to colour wash.

The optical clarity is one of the finest features of the Futurescan 3, and probably the best within its category. Powerful optics ensure beam definition is constant throughout the entire projection.

The exterior of the Futurescan 3 will impress even the more discerning interior designer or architect. The compact design features aluminium extruded body panels and designer protective end caps displaying all technical data.

RESISTANCE IS POWERLESS

SPECIFICATIONS

Lamp Type	250w/24v A1 - 223/M33
AC Voltage	EEC 230/240/250v - 50/60hz US 110/120/130v - 50hz
Power Consumption	270va. 1.2amp @ 230v
Motorised Colours	White + 7 Dichroic Filters
Motorised Gobos	Open + 7 Gobo Patterns
Tilt Movement	High Resolution @ 90 degrees
Pan Movement	High Resolution @ 180 degrees

Remote Controlled Via DMX	Lamp On/Off
Cooling	*DMX 4 M/S Max 64 Channels
Input	High Flow DC Fan
External Casing	3 Pin XLR (In/Through)
Mounting	Aluminium/Moulded End Caps
Dimensions	3mm Bar With Locking Adjust
Weight	(L x W x H) 480 x 260 x 195mm
Shipping Dimensions	10 Kilo
Packed Weight	(L x W x H) 540 x 410 x 300mm
	12 Kilo

POWERFUL FUTU

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PATTER

open



dot tunnel



slash



segment



triangle



tunnel



bubbles



stars



SCANNERS

F U T U R E S C A N III M 3 3



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*DMX CONTROLLED OR MUSIC TRIGGERED

LOW MAINTENANCE RUNNING COST

MOTORISED COLOUR PALETTE AND SEPARATE GOBO SELECT

FUTURESCAN III M33



CELCO EXPLORE THE LIMITS



New on the Celco stand was the Explorer EPX, a console designed from a clean sheet yet expanding on the tried and tested formula of the Celco Pathfinder. It offers 120 channels and a host of features including: Colour SVGA Monitor Display of Channel Output; Memory Preview; Sequence Preview; Speed clock and Overview; Stack Crossfade Status; Cue Name, Number and Time Fade detail and Cue Legends to correspond with the console's 12 Cue Faders. Stack Maker and Chase Maker features will reduce programming time

Celco have utilised some of the Explorer technology and incorporated it in new versions of the Pathfinder and Navigator. These products now also share the EPX affix and become Pathfinder EPX and Navigator EPX. Upgrade packages are available for existing us-

ers. Also available is the Aviator EPX which features 512 control channels, a comprehensive theatre and concert playback section and a Moving Lamp Library.

The Celco Video M9, which introduces the concept of DMX controlled video wall splitters, made it's UK debut at PLASA.

For further info call: Celco +44 (0) 1322 282292

ROSCO 1600 MODEL FOG MACHINE + INTERFACE

The new Rosco 1600 model fog machine can output fog from whisps to large, propelled billows to suit nearly every application. It has a panel which serves as a remote or on board control and a compressed air port for cleaning and for special effects.

The litre bottle of fog fluid is neatly encased in a well at the rear of the machine and the new aluminium pump housing makes the equipment more rugged and enables the 1600 to generate higher outputs of fog.

An optional DMX module allows the operator to control the on/off functions as well as the volume from a DMX lighting control board.

Power requirements are 240v/7.5 amps and maximum fluid consumption is 2.5 litres per hour. Warm up time is approx 8 minutes.

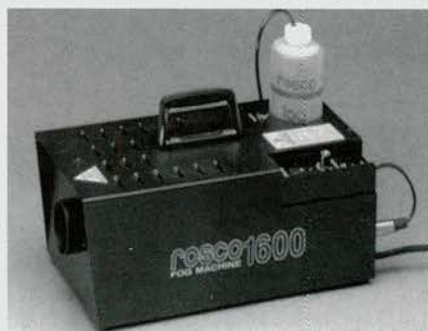
Price \$1400 plus tax.

Also new to Rosco is the Rosco DMX Interface which has been designed to control the complete range of standard fog machines through industry standard DMX lighting consoles. The Interface will allow volume control of the models 1500/1600/4500 and straight forward on/off control of the model 1000.

The unit draws its power from the fog machine in the same manner as a standard or Super remote module.

The Rosco DMX Interface is addressable to any DMX channel via (8 way) dip switch settings using the binary code system. There is a second set of dip switches (5 way) that can be used to set the output volume so that the output can be limited and then controlled on the DMX console. Price \$395 plus tax.

For further information call: Rosco (02) 9906 6262.



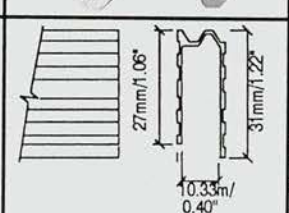
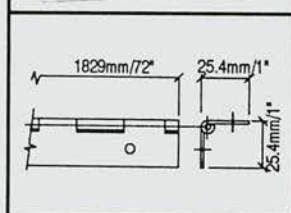
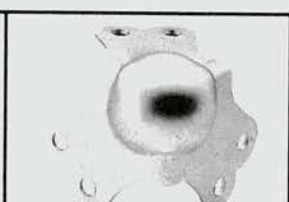
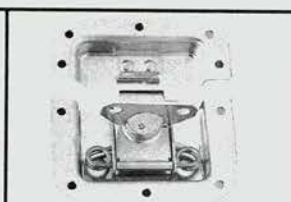
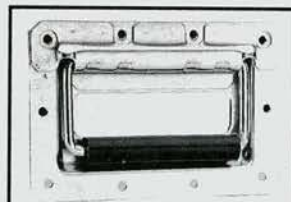
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The Key from *litestructures*



Litestructures launched *The Key* which they claim is the strongest and fastest connection system for trussing available today. It has no male or female components as both connector bosses are the same. The system is ultra quick and you need no bolts! The universal connector bosses are fitted into the ends of the truss

sections or corners. The two truss sections are then easily connected. A key is then engaged to remove any deflection. For added security a safety pin is engaged in a hole in the casting. Sales Manager Frances shows us how, above. For further info call: *Litestructures* +44 (0) 1924 240800.

New from ADJ

New from ADJ, the **Dynamic** is a laser-simulator type effect which uses a 240v 650w halogen lamp. A pin beam is moved via a fast mirror which tricks the eye into seeing solid lines of light. Normally \$995 inc tax, the **Dynamic** has a special introductory price of \$795 inc tax.

Also new from ADJ is the **Sunflower** which utilises a cheap yet powerful 12v 100w lamp. It has dichroic colours, is fan cooled and made of aluminium extrusion. Retails for \$249 inc tax.

For further info call: *Show Technology* (02) 898 1111.

Bits

● **AVL** of Melbourne have supplied LAVA with 8 x Roboscan Pro 1220, 4 of which were the fully blown CMY colour mixing units. Adam Nevzat, LAVA's managing director, put these units along with another 8 x Roboscan Pro 518's and a 3032 PC control package into the *Hardware Dance Party* at the Victorian Dock where he also used his newly acquired EV Manifold system. Ph: (03) 9349 2347.

● The *University of Southern Queensland's Faculty of Arts* recently chose to gear up with a range of **Selecons** new equipment including 1200w 12-28 Condensor and 18-34 Ellipsoidal Profiles. Several Acclaim 650w zooms also form the package supplied by Noel Martin of Performance Lighting Australia.

● **JEM** Heavy Foggers have been purchased by

Pollards, Illusions, and Dream World as well as ZR41E's. Sydney's *Lean on Me Productions* have taken ZR41E's. *Stagecraft* in Perth have supplied a JEM Roadie to the Leederville Hotel. The smaller JEM machines like the Fogger Mk3, ZR20 and Showfogger broke all previous sales records for JEM's Australian distributor, Show Technology, for September out-selling the previous best-selling month by 300%.



Eleven = One

A rewrite for scrollers in our industry, the truly affordable Acclaim Stage 1 Scroller for the Selecon Acclaim range and most other 500/650w luminaires. The technology which helps make such hit shows as *Cats*, *Miss Saigon* etc. is now available at a price which makes it affordable to most, including the Ekatahuna Amateur Theatre Society!

For full details contact your Selecon distributor.

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VIC LSC Ph: 0-3-9561 5255 Three Arts Ph: 0-3-9818 0397 CLS Ph: 0-3-9646 8444
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TAS KW McCulloch (Hobart) Ph: 002-286373 KW McCulloch (Launceston) Ph: 003-431 034
Selecon New Zealand Ltd. 26 Putiki Street, Grey Lynn, Auckland, Ph: 64-9-360 1718, Fax: 64-9-360 1719.

SELECON



2 for Show Technology

Show Technology have announced that they will be representing **Kupo Co Ltd** professional lighting fixtures for the entire Australian market. Kupo is well known in the market for making Par Cans and accessories but have recently expanded their range to include Mini Strips, Blinders and clamps as well as supposedly being the first manufacturer to introduce a Par 20 and Par 30 - Par Cans that use lamps of the same name.



Kupo Par Cans

The Par 20 and Par 30 lamp is a halogen lamp with similar characteristics to a standard MR16 dichroic, but instead of operating at 12v they operate at 240v eliminating the need for transformers.

A complete range of Pars are available as well as accessories including barndoors for everything from Par 16 through to Par 64.

The Kupo brand name should not be confused with the company name 'Kupo Australia' which is a wholesale business selling a similar product line which is not manufactured by Kupo.

Show Technology will also be representing the Italian effects lighting manufacturer **Studio Due** who specialise in the niche product area.



One effect from the Stratos

Fixtures available will include the **Stratos** an intelligent moving head light (as opposed to moving mirror). It is available with 700MSR lamp with 12-bit high resolution accuracy for smooth pan, tilt, colour and gobo change. Show Technology claim that the Stratos, which is DMX512 compatible, is the first moving head system available in Australia. It is expected to retail at \$12,500 ex tax.

The **Spaceflower** is a 3000w Xenon outdoor search light effect. It has 0-10v control, can operate from a standard 15A, 240v outlet and the maximum throw is 7km. Also available is a lesser powered version called the **Magnum** which has a 1500w lamp.

The **Predator** is a moving head lighting effect utilising the 575 HMI lamp. It can produce both high-powered moonflower and flat line effects due to an internal beam shaping module. A colour wheel gives an option of 5 dichroic colours plus white and a shutter allows a strobe effect - all controllable via DMX512. The Predator is expected to retail at \$4,990 ex tax.

For further info call: Show Technology (02) 898 1111.

4:1 studio

The pre-production studio 4:1 has opened in Cologne, Germany, and it offers the equipment and the necessary infrastructure for real-time simulation of stage situations, show and marketing events - but in a scale of 1:4.

Founder of the idea was British LD Patrick Woodroffe (Rolling Stones, Simply Red, Tina Turner) who had a similar studio in London for 3 years. Artists such as Sting, Dire Straits and AC/DC were accommodated.

The new 4:1 scale design studio in Germany is developed inside the studio complex of the Magic Media Company. Real production elements are available in quarter scale: a complete lighting system including trusses, follow spots, effects units, colour scrollers, floods, ellipsoids etc.; musical instruments including a complete 4:1 band, their props, costumes and decoration elements. For control, light-



Wilfried Schiefer & Patrick Woodroffe at 4:1

ing system products of MA, Avolites, Strand and Avab are available.

A video system gives the possibility to check the installed stage for camera suitability or the documentation of the simulation for the client.

For further info call: +49 2233 595 680.

PLASA

CCT Debut Sub Kilo LX - with dimmer

CCT are well and truly back from places slightly darker, after a stumble earlier this decade which saw Don Hindle regain control of his company from a rogue bank. Don't ever forget that a bank, any bank, can't try to wreck a good company with little excuse. Looking across CCT's busy PLASA display one could be forgiven for doubting the long established lantern firm had ever paused, such was the interest.

On looking closer it was a radical new product that was causing all the fuss. **FREE-DOM** is a range of 575w profile spots, which offer the option of an integral dimmer module which is to our knowledge the first such thing on a working lantern. DMX makes this possible, now you need only feed direct mains to a bar full of these lanterns, and daisy chain a DMX control cable to each light.



This is another nail in the coffin of 'the dimmer room' or 'the dimmer rack', whereby miles of cables route to one place where only those with knowledge dare to venture. Moving lights and colour changing luminaires all do not require an external dimmer, and now the way is clear for lanterns to reject the rack too.

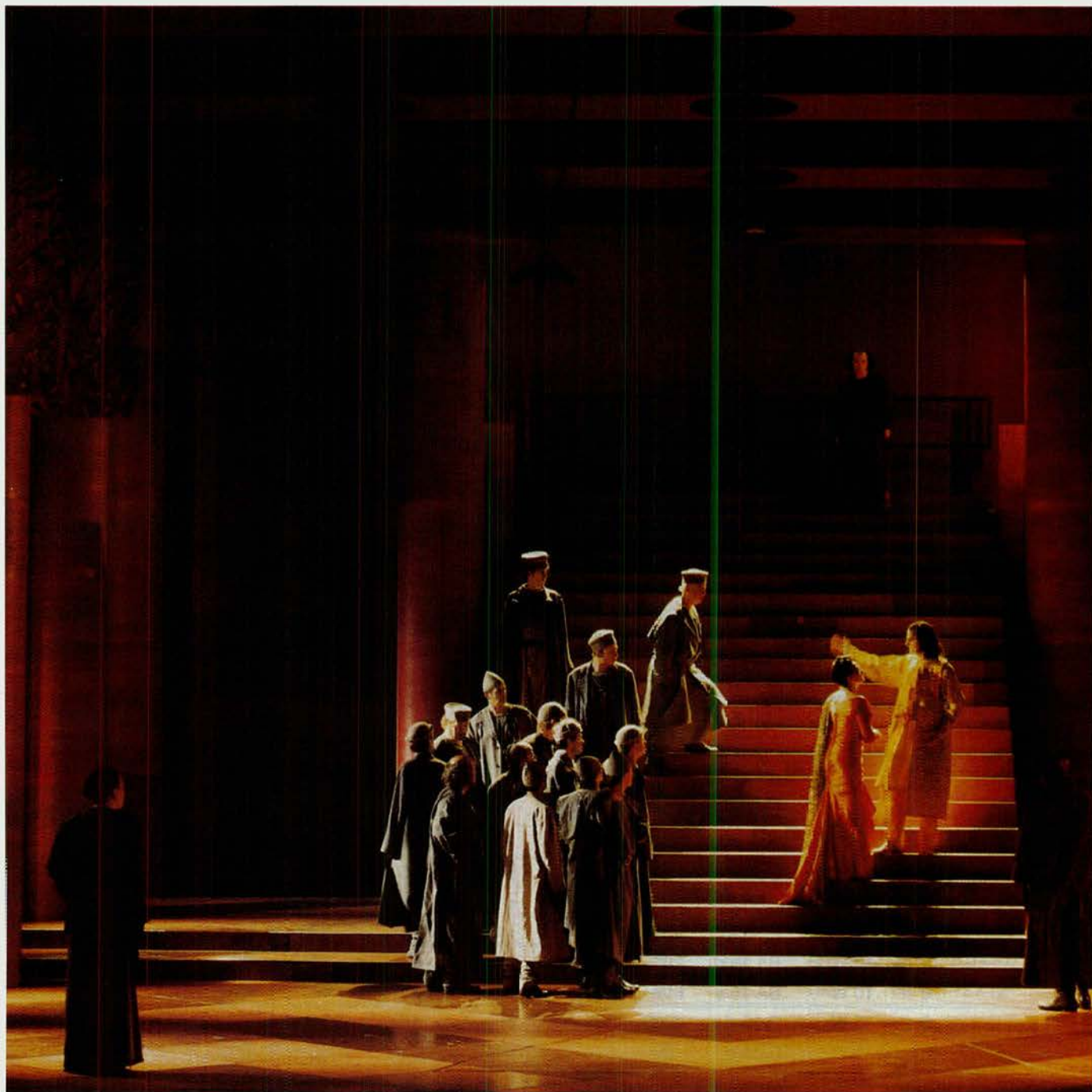
GE have produced a 230/240v and a 115/120v axial lamp which has made this fixture possible, which gives output closer to what you'd expect from a 1.2kw unit, albeit at around 400 hours life. Lamp cost is said to be related to life, however.

The Freedom lens tube comes in various varieties, fixed spread of 20°, 30°, 40° and 50°, and also two variable spread options of 16° to 32° or 28° to 58°. All tubes are interchangeable. Best of all, the lens tube may be rotated in arbitrary increments. This is way cool for easy adjustment of shutters, or gate access if the light is on a boom or perch.

Check the oil and water? A door pops open on the lens tube, allowing you to clean the lens. This is a very neat feature indeed. Freedom has the looks and a cursory play with the very prototype units on display indicates that if the lamp source lives up to supply, cost and performance targets then this will be a very successful product. ●JG

THE ART OF LIGHT

Stage Lighting



OSRAM HMI®

Theatres, opera houses and other show business venues have long been dazzled by the new possibilities of stage lighting on offer. OSRAM HMI® lamps are being used alongside incandescent lamps to interesting effect; they are also being installed in foot spotlights to cast glittering pools of light on the performers, and in large projects to create powerful lighting effects. Success is based on innovation and OSRAM, as the leading supplier of specialty lamps, has innovative technologies at hand. For your nearest OSRAM distributor and lighting specialist call 02 - 481 8399.

TECHNOLOGY BROUGHT TO LIGHT **OSRAM**



The K2 from Optikinetics

PLASA

For 25 years Optikinetics have been internationally renowned for their creative effects, projectors and Trilite structural systems within the lighting and exhibition industries. At PLASA they launched a new generation of projectors led by the innovative K2.



Jonathan Ciddor of Lightmoves Technologies, Sydney, with Neil Rice, Optikinetics Sales Manager

Aimed at the advertising and display markets, the K2's features include a precision die-cast aluminium body, computer optimised optical design with dichroic filter to prolong gobo image life and a 2000 hour MSD200 metal halide lamp. Lightweight electronic lamp ballast provides rapid start up, dimming to 30%

full lamp life and universal voltage operation. There's a dual-ducted forced airflow cooling system and separate Plug-in Modules offer DMX, Shutter/Dimming, Hour Meter, Sound Animation or Universal Interface options.

An Open Architecture Projection Gate and retractable mounting, to support front of lens accessories, provide the freedom to create unique effects. There's an audio visual quality triple element 85mm focussing lens plus a wide variety of other lenses available. There are new earthed 12v accessory sockets to comply with European Union regulations although it still accepts plugs from old style effects units. For further info call: Lightmoves Technologies (02) 560 0000.



The K2 Projector

Bits

● Sydney based **DMC Lighting & Sound** have just completed an enormous amount of sales this month, first selling 8 x Martin Roboscan PRO218's and 16 x GENI Shimmers to *Temptations* and then winning a major sale of 32 x Martin Robocolour PRO218, 8 x Clay Paky Golden Scan 3s, 1 x Scanc Commander, 2 x Robocolour 1's and a laser and sound system to *Heaven* nightclub in Adelaide.

● **DF-50 Diffusion Foggers** continue to fill the market with sales to Showcorp and to Skypak (QLD).

● Entertainment Warehouse (Vic) in their role as a **TAS** preferred dealer are stocking and selling a large variety of the new effects from TAS including Mini Ultrascan 2's, Duettos, as well as the new Leisure Lighting Scan 250's. Call: CDA (03) 9467 8666.

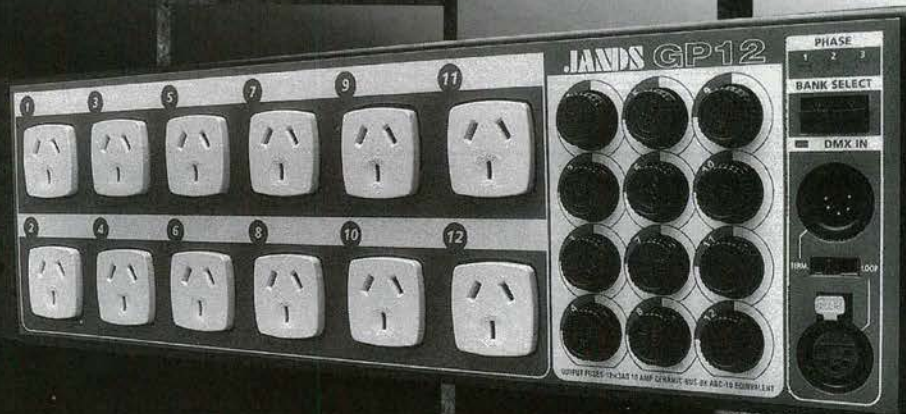
● Noel Martin has supplied and installed a swag of new **Selecon** and **Jands** gear to Jondaryan Shire Civic Centre, a 500 seat venue situated in Oakley, QLD. Equipment includes Selecons Performer 2500w follow spot, 18/34 1200w zooms, 7" PC1200s, Compact 6 1200w fresnels, Cyc 800's, Jands par cans, a Jands ESP24 and Roadpak dimmers, EZICOM talkback and curtains.

DIGITALLY CONTROLLED DIMMER RACK

- 12 x 2.4 kW
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- DMX Out Termination Switch
- Touring Use & Installations
- 2m Power Cable & Plug
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Write in Reader Service Number: 117



Two New Products from Compulite

Compulite's new CompuCAD package was introduced at PLASA. This enables the designer to draw a simulated venue with stage, set and rig plan, into which lighting fixtures are placed. Then groups, preset focuses, colours, patch and cues can be constructed off-line (the whole show can be plotted on PC if necessary) without having to set up the control system. Full graphic images are provided for the stage and the show can subsequently be downloaded to

the console by Ethernet or an RS232 link.

Also launched was the new Photon lighting control desk from Compulite which is capable of controlling up to 120 channels and 48 colour scrollers, with built-in colour change software. There is one dipless automatic/manual crossfade playback, and 20 automatic/timed multifunction controllers - each capable of playing back up to 20 chases simultaneously as well as lighting states.

new Martin Dealer and Martin Dealer Conference and Training Seminar

Show Technology have announced a new Martin Professional dealer for Victoria, CC's Stage & Studio run by well known industry identity Roger Clapton.

CC's Stage & Studio will be holding a Martin Trade Night at their South Melbourne showroom (538 City Rd) on Tuesday, 10th October. Call Roger on (03) 9532 0488 for more details.

Late October will see the inaugural Martin Dealer Conference held at Show Technology. International Sales Manager, Troels Volver and technical whizz-kid Peter Skytte-Christoffersen will be there to help with the event.

The two day, dealer only conference will cover everything from company profiles to

product presentations, sales and technical tips.

The Dealer Conference will be followed by a Training Seminar featuring the Martin 3032 PC-based controller. This seminar will be open to everybody and will be run by Peter Skytte-Christoffersen with help from the Show Technology technical team. A chance to get hands-on experience in programming and controlling lighting using this software program as well as being able to 'pick the brains' of the experts. The Seminar is scheduled for Tuesday, 24th October and will be followed by a Trade/Open Night.

For further info call: Show Technology (02) 898 1111.

ASHGEL

Ashton Admor have spent the last twenty years trying to come up with a colour filter which has at least the qualities of the famous brands but encompasses all of their colour range. Now they believe they have done it with Ashgel.

Available in all Lee and Rosco's colours, the price is \$18.30 per sheet inc tax/\$158.60 per roll inc tax.

For further info call: Ashton Admor (09) 478 3800.

Bits

● BSS have installed a Coemar Samurai and ShowCAD into a suburban lounge room in Adelaide....private party every night?

● Software sales for CDA continue to grow with sales of ShowCAD systems to Clifton Productions and BSS Adelaide; Stardraw 3D packages to Clifton Productions and Black Express; MacLux Pro to Entertainment Lighting Supplies and the Victorian College of the Arts; and Lightplot Design Suites to Premier. Call CDA (03) 9467 8666.

● BJA in Perth has sold 4 x Clay Paky Miniscans and a Masterpiece 108 to Connections Nightclub (good name). Call (09) 399 3654.

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WET WET WET



Cat Forcer looks at the lights and staging

Although still seeking an audience here in Australia, *Wet Wet Wet* are phenomenally successful in the UK and Europe. In fact they are the third highest selling 'singles' act after *The Beatles* and *Abba*. Their recent UK tour attracted a lot of attention due to its stunning and innovative staging.

Initially the tour was to be called *All Around and In The Crowd* because the band were going to perform 'in the round'. This idea was eventually scraped and a two stage approach was decided on. Not an entirely original idea, we saw *Bryan Adams* do the same here last year, but the idea of a joining catwalk which would be flown in certainly was.

"That way the band still performed some of the show in the round," said Dougie Souness, Tour Manager. "At the same time *Take That* were looking at the idea of a catwalk thrust with a podium at the end. That wasn't exactly the approach we were looking for, we wanted a twin catwalk system which took the band from Stage 1 out towards the bleachers, diagonally, before kicking in diagonally again to Stage 2."

After performing for an hour or so on the main stage, the catwalk would be lowered and the band would walk across it to do a couple of acoustic numbers on the satellite stage. Later the drummer and keyboard player would be lifted up, via pneumatic scissor lifts, onto the riser so the band could perform full numbers also. The catwalk was constructed by Total Fabrications.

Dougie Souness knew that local authorities and venues would be very concerned at the prospect of hanging nearly 40 tonnes of catwalk from 70 points, which would then be lowered to 15ft above the audience. But Dougie is a sharp man and he had thoroughly done his homework. With a team of production personnel he visited every single venue on the tour to meet with the management and technical staff, as well as local authorities, fire officers and in some places even the police turned up.

"Before I did that, rumours had got about and local authorities were ringing up saying they had heard a few funny stories about the

band running over the audience whilst playing and so on" laughed Dougie. "It obviously conjures up all sorts of images and peoples imaginations start to run wild. I thought the best way to combat this was to visit every single venue."

Dougie was very thorough when it came to all safety aspects even ensuring Marti Pellow had his microphone strapped to his wrists in case he dropped it and injured someone in the audience. There were strap locks on the guitars so they also couldn't come away from the players and fall on the audience.

Security problems had to be thought of - what if the catwalk system failed, how would they get the band back to the main stage?

"The band have never toured here or Asia before," said Dougie. "It's very expensive especially as we're only doing one nights here and there. It's a lot of money for us but the band decided to invest money in it. We're not bringing the original stage set but we're putting on a good show. We'll make money in Australia but when you add in the other places like South Africa and Asia, it becomes not very cost effective. It's all a building process and the next time we come here, hopefully we'll do two nights."

The lighting tally for the UK tour had over 750 pars and 72 Icons, an amount that had to be lowered for Australia.

"Basically I've got three trusses, 24 Icons and some Detaflashes," said Martin Nicholas, lighting designer. "It works all right. We got

all the gear from the PA People and they've been really good (the Icons came from Bytecraft). The main effect is the large cyclorama back on which we do a lot of rotating gobo work with the Icons. There are a lot of psychedelic backdrop looks and chromakey looks



The catwalk built by Total Fabrications

like you get on TV. The Icons are brilliant for that because they are so vivid in colour.

"Mark Cuniffe is operating the Icons. You can put all the generic and DMX stuff through the Icon desk but I just don't like the feel of it. There's no soul in the desk, it's designed for moving lights not turning pars on and off. I prefer to run the show with an Avo or a Celco. I chose Celco out here because I can get a Celco Gold anywhere."

After this leg of the tour, which goes to Japan, South East Asia, and Dubai, the crew and band go back into rehearsals for another UK tour.

"We've got a completely new show," said Martin. "Bigger and better. Like I said, I really like the backdrop work you can do with Icons so I've gone for three triangular trusses in the air with screens in, a narrow 80ft screen and two parallelograms. It looks a bit like a square Hollywood Bowl with a roof at 45°. Every area

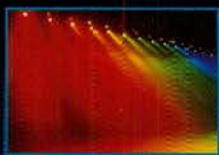
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Wet Wet Wet (continued)

has its own personalised screen and there'll be 60 Icons and some VL6's."

Although Martin had so far enjoyed the Australian tour he couldn't understand the audiences sitting down through the show. He suspected that in the past they had been educated by Security to do so.

"Canberra was very strange," he confided. "It was full of accountants with their teenage daughters (I told him they were probably politicians and not their daughters). It was a pity we couldn't bring the catwalk out here. It really stretched physical limits of the venues. We were on the weight limits of all of them - we had about 39.5 tonnes and the limit is usually 40-42 tonnes. It was great and the kids went nuts. They could look up Marti's trouser leg if they wanted because the flooring was grilling."

Martin was a bit put out by the fact that there was seating at the SEC as he prefers the



Dougie Souness, Tour Manager

audience to have space to dance.

"The seating here isn't even fixed down to the floor," he commented. "That would never be allowed at Wembley Arena, London. Every seat should be fixed to the ground because if you do get a rush to the front, they get tipped over. Not with *Wet Wet Wet*, but someone like Pantera, they come up and you can throw them as well!"

Martin, who by the way is a grandfather, has been LD for a myriad of Heavy Metal bands including *Black Sabbath*, *Iron Maiden*, *Robert Plant*, *Jimmy Page*, and *UFO*. Before that he did bands like *Gary Glitter*, *Sweet*, *Mud* and *Suzi Quatro*. He really liked being an LD for heavy metal bands as they would spend their last penny on lights, pyros and backdrops.

"They had money to spend and I love big

rigs," he told me. "I don't need a 1000 par cans now with the Icons although I also had nearly 800 pars in the UK. But a lot of them were in the catwalk, pointed upwards to under light the band, and on the satellite stage. I've got ten truss mounted spot lights here."

From 1979 to 1984 Martin lived in Sydney mainly working for Black Sabbath. One gig that Martin fondly remembers from his time in Australia is playing Silverwater Maximum Security Prison for Women on New Years Eve with *Midnight Oil*.

"It really didn't matter where you lived in the world," he said. "The band lived all over the world as did the crew. I did the lights for *Midnight Oil* for nearly two years as well as *Swanee* and *Dee Minor Dischords*. I did a lot with Jands and CLS in Melbourne who were more hooked up with equipment I was familiar with. I'm not mad about Jands equipment, they still use a lot of steel trussing and I think their dimmers are very slow with no attack in them, a problem I've been complaining about for the past three days. But there's nothing I can do, it's just the way their electronics are set up - not very fast."

Martin had also been arguing all afternoon with the venue staff at the SEC to turn off the air conditioning.

"I can understand if it's over 80°F but it's hardly midsummer, is it?" he grumbled. "I've got them to agree to turn it off when the support band go on and leave it off to the end of the show. That gives the crackers an hour. It's not a heavy metal show, I just want it misty for the Icons and beam work. It makes so much difference. You don't need lots of it, just a haze."

Gary Van Egmond was the promoter responsible for bringing the Wets to Australia and the Tour Director Neil Croker spoke to me about the tour.

"This is our third tour of the year after *James Taylor* and the combined tour of *Foreigner* and *The Doobie Brothers*," he said. "Yes, that was the tour where the truck blew up and there's a black mark somewhere on the Nullarbor where that happened. That was terrible especially as it was the first day of the tour!"

Now Dougie Souness said I was to ask Neil what it was like to work with a load of 'fucking miserable Scotsmen'. Always one to oblige, I did.

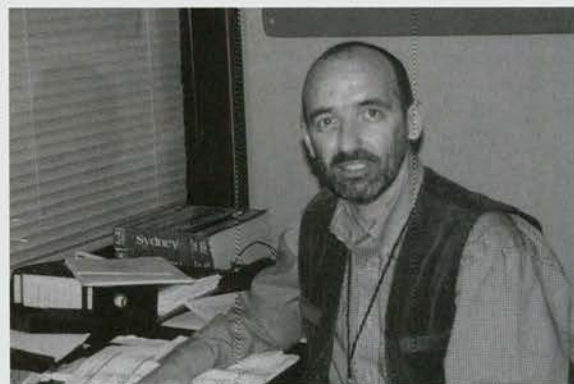
"I think the Scottish reputation of good drinkers and party people is probably true!" he replied. "But they've been a lot of fun. The hardest thing is understanding the accent especially when everybody is excited."

"This is the second tour this year we've worked with The PA People and they've provided good service. We try to give everybody

in the market place a chance to quote on the tour and then provide the details to the band. They decide which configuration from the suppliers they are most happy with."

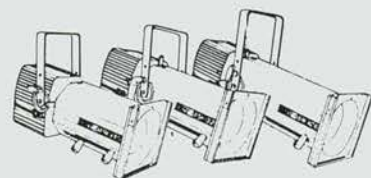
I asked Neil how confident he had been on ticket sales as the Wets are not that well known in Australia and New Zealand.

"It's really a development tour for them and



Neil Croker, Tour Director

hopefully for us the start of a relationship," he answered. "Having said that I think they've been hugely successful so far and the promotion they've had has given the population a feel as to what a live act they are. They are an outstanding live act."



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LX terminology

Dan Cole unravels some mysteries

We've been leafing through our growing library of technical reference titles, and thought we'd share some mysterious and not so mysterious lighting terminology.

This month's terms come from Richard K. Ferncase's *Film and Video Lighting Terms and Concepts*.

key light

The primary light source in a scene, one which represents the motivating light source and establishes the perceived direction and character of the light. A traditional starting point for key light placement for *close-ups* is about 45 degrees left or right from the camera and from 30 to 45 degrees above the floor. The *cinematographer* will more often put it elsewhere, however, depending on the mood and location of the scene.

Another rule of thumb dictates that the key light should come from outside the actor's look. In other words, if the actor is looking off-camera (usually the case in narrative films), the key should come from the other side of his line of sight so that he is looking between the key light and the camera.

grip

A stagehand responsible for many tasks on a set. A grip may carry and set up equipment, *props*, and scenery, lay *dolly tracks*, and push the *dolly* during shooting. Grips usually do most of the *rigging* of light support equipment, mounting of the cameras, and stand by to ensure the safety of such equipment. Though grips are often jack-of-all trades, some do specialise in certain tasks, especially those related to camera dollies and rigging. On union productions the grips are not allowed to touch *lamps* or electrical instruments or cables,

which are the responsibility of the *electrical crew*. *The grip usually wears a bandanna and carries a knife.*

film noir

A style of cinematography emphasising the use of night-time photography, high-contrast lighting, deep shadows, and oblique angles to create feelings of dread and anxiety. Film noir originates in American crime and mystery films of the 1940s.

donut

A large washer placed over a *lamp* or projector lens, used to *stop down* the light and focus rays into a tighter beam; also, a collar that fits around the barrel of a lens to prevent *flares* from the light that reflects back from the *matte box*.

circle of confusion

The diameter of the smallest point of light focussed on the *film plane* or *video target*. Rays of light from any point before infinity must converge at a point farther behind the lens than the *focal plane* and always from circular patches. The smaller those circles, the less blur of confusion, and the sharper the image. Proper focussing ensures that the circles of confusion are as small as possible.

gray card

An 8" x 10" card with one *matte gray* side and one white surface. The gray side reflects 18 percent of the light striking it, representing an average of all reflective *values*, while the white side reflects approximately 90 percent of the light that strikes it. It is often used to take light readings using a *reflected light meter*.

• from *Film and Video Lighting Terms and Concepts* by Richard K. Ferncase, Focal Press, 1995.

PLASA

The Linebacker from Zero 88



Zero 88 launched their Linebacker, a lighting control system which combines four separate functions:

- a comprehensive back up system to any manufacturers DMX lighting console
- a 60 cue memory lighting desk in its own right
- a comprehensive sequencer
- a DMX anc cable tester

Apparently Linebacker is equally at home as a universal rental tool, or as an inexpensive main board DMX back up. It will interface to any lighting console that has DMX512 outputs and, claim Zero 88, it always transmits 'clean' DMX data. Alternatively it can run anything from a school play to a sequence of scenes in an exhibition, or even to control colour scrollers.

For further info call: Zero 88 +44 (0)1727 833271.

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new products from PLASA for ULA

Several new products from PLASA are to be stocked by Universal Lighting & Audio including **Twister 3** from **Abstract** which has the following features: 16 pure dichroic colours; 16 bicolour; full rotating dish to create moonflower effect; sound to light auto colour changing; mega output via 12v 100w dichroic lamp and is priced at \$549.00.



Also from **Abstract** is the **UFO Centrepiece** which features: 4 rotating gladiator barrels; 7 dichroic colours plus white; sound to light operation with auto colour changing; lamp source M33 24v 250w lamp; fan forced cooled and is priced at \$1199.00.

The **Pro Futurescan 3R** was also released and features: 7 dichroic colours plus white; 4 rotating gobos; 1 fixed gobo which is interchangeable; HQI 150w discharge lamp with a 6000hr lamp life; strobing 7 times per second; DMX512 with XLR in/out data connections; adjustable focus with twin lens configuration and a recommended retail price of approximately \$1899.

The **Futurescan 2 & 3 DMX Controller** now has four times memory capabilities offering 24 chases, 24 pre programmes, 192 scenes, 120 steps per each of the 24 chases; full joystick X & Y movement controller; midi in and



out; all programming can now be saved internally onto an Eprom chip which can then be removed and transferred any time. Now with increased memory, you can run a whole nights light show without repeating a scene.

ULA recently acquired the agency for **Lightomation/Light Processor** products including the **Touch Sensor 16**. This 16 channel lighting controller works on the touch sensor method where you can latch (turn on) or flash each channel by simply touching the key. Ideal for use with four Lightomation 0-10v mini packs. RRP \$649.



Also from Lightomation/Light Processor comes the **Power Station**, a full DMX driven intelligent dimming and switching power pack. It features: 2000w per channel capacity; single or 3 phase installation; selectable DMX start address; DMX front panel status display; individually fused per channel; wall or rack mountable; 3 DMX fail modes. The RRP is to be advised.

Finally there is the **Slide 6**, a simple 6 chan-

nel fader desk with flash buttons underneath each channel. It has 0-10v control voltage and the RRP is approximately \$199.

Le Maitre released the DMX512 controller for the Le Maitre G300. The DMX512 controller can be operated by any DMX512 control desk with no interfaces required. The DMX controller has a DMX fail mode, in the event of DMX failure the machine can still be operated by on board controls. So now you can order the machine by DMX control or 0-10v.

Meteor, the USA manufacturer, launched the **Omni** which is a midi cued DMX controller capable of numerous applications. Some of the features include: 256 DMX output channels; 240 scenes; 48 chases of up to 64 steps in each; real time recording; can control scrollers, dimmer packs, strobes, fog machines and any DMX lighting fixture; RS232 port for uploading data to Microsoft Windows programme; joystick controller of X & Y movement and is priced at \$3000.

For further info call: ULA (07) 5532 9922.



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So, if you are still using expensive, heavy and power-hungry cimmers, still fiddling about with cellotape and gel strings, and still lugging around Par Cans powered via permanently tangled wiring looms, then take a look at the new Robocolour PRO400 - you'll never look back

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CCT LIGHTING

Distributor: Rosco Australia, Ph: (02) 9906 6262, Contact: Ian Baseby, Country of Manufacture: UK.

Z0607 FS Minuette 6>10°

650w unit with 150mm front lens coupled with condenser optics, for small venues, schools and clubs. Built-in iris and blackout. Friction balancing side and rear handles. \$995 ex tax.

Z00TY 17 SIL 11>26°

Turbo 1.2K with built in iris and blackout. easy and fast lamp change. Hand operated colour changer accessory. \$1420.

Z00JS SIL 10°

10° CSI, CID, MSR discharge follow spot including ballast. \$6500.

STRONG

Distributor: Herkes, Ph: (02) 319 3133, Contact: Wayne Kellett, Country of Manufacture: USA.

ROADIE

3,046,550Cd truss spot, 3.5-9° zoom, HTI 400 lamp, 7 amp built in ballast and 6 colour mag, 930mm long, iris, dimmer shutter, pattern holder, stand. 1000 lux @ 53m. \$10,000.

SUPER TROOPER

12,517,372Cd FOH 1200-2000w Xenon spot, short, medium & long throw, linked zoom, 6 colour mag, dimmer shutter, dowser, iris, cutter, stand. 1000 lux @ 70-110m. \$17,000.

SUPER TROOPER II (new)

13,239,435Cd 2000w Xenon FOH 4.5-13° spot, linked zoom, 6 colour mag, dimmer shutter, dowser iris, cutter stand. 1000 lux @ 112m. \$19,000.

GLADIATOR III

21,498,915Cd 3000w Xenon Arena 3.5-11° spot, linked zoom, 6 colour mag, dimmer shutter, dowser, iris, cutter, stand. 1000 lux @ 141m. \$25,000.

SELECON

Distributor: Herkes, Ph: (02) 319 3133, Contact: Wayne Kellett, Country of Manufacture: New Zealand.

CHORUS 1200

310,000Cd drama spot 9-16°, T/29 1200w lamp, 4 colour mag, blackout iris, remote dimmer, pattern holder. 1000 lux @ 16m. \$1250.

PERFORMER QUARTZ

520,200Cd drama spot 8-14°, CP91 2500w Tungsten, linked zoom, 6 colour mag, fader, iris, dowser. 1000 lux @ 57m. \$2510.

PERFORMER MSR Short Throw

1,512,900Cd truss/FOH spot 8-14°, Axial 1200w MSR, 7 amps running, elapsed time metre, linked zoom, 6 colour mag, half power mode, fader, iris, dowser. 1000 lux @ 39m. \$5450.

PERFORMER MSR

3,335,175Cd Arena/FOH spot 5-9°, Axial 1200w MSR, 7 amps running, elapsed time metre,

linked zoom, 6 colour mag, half power mode, fader, iris, dowser. 1000 lux @ 57m. \$5450.

STRAND LIGHTING

Distributor: Bytecraft, Ph: (03) 587 2555, Contact: Durham Ritchie, Country of Manufacture: UK.

SOLO 2K 2000W

9°-15° beam spread for large theatres, TV studios. Iris diaphragm with blackout front and rear sights. 6 colour magazine available as accessory. \$2369.

SOLO CSI/CID 1000W

Features as for SOLO 2K but takes CSI or CID 1000w lamp. Separate ballast, switchable to stand by, half and full power. Mechanical dimming shutter available as accessory. \$4343.

CANTATA FS 1200W

11°-26° beam spread for schools, clubs and smaller theatres. Iris diaphragm with blackout. Smooth tilt adjustment, handles for accurate control. \$1283.

PANI

Distributor: Bytecraft, Ph: (03) 587 2555, Contact: Durham Ritchie, Country of Manufacture: Austria.

HMV 1202 Daylight

Beam angle of 7.4° or 12.6°. For theatre or TV. 1200w/HMI lamp. Partially elliptical pure aluminium mirror. Replacement diaphragm insert, combining iris with blackout and gobo effect holder. \$POA.

S.G.M.

Distributor: Ashton Admor Pty Ltd, Ph: (09) 479 3800, Contact: John Culverhouse, Country of Manufacture: Italy.

NEWTON 1200

Twin condenser HMI, 8 dichroic colours, colour changer, 2 tone beams, rainbow plus blackout shutter instant strobe 0.5-12 fps, dimmer 100% -0% control, sliders and buttons plus external DMX512. \$7658.

PROLITE

Distributor: Prolite, Ph: (076) 327312, Contact: -, Country of Manufacture: Australia.

PR12-FS/1.2K

1200w unit, fan cooled and includes integral colour magazine, stand and delivery. \$1220.

PR12-FS/2K

2000w unit (same size as 1.2K), fan cooled and includes integral colour magazine, stand and delivery. \$1410.

PR22-FS/2K

2000w unit (new model released Aug 95), slim line profile, fan cooled and includes integral colour magazine, stand and delivery. \$1560.

LYCIAN

Distributor: Jands, Ph: (02) 516 3622, Contact:

Mike Tanner, Country of Manufacture: USA.

1290 XLT

2kW Xenon long throw follow spot with integral ballast, mid-mount colour magazine, left or right hand operation, folding stand and lamp inc. Suitable for throws up to 500ft. \$22,130.

1266

400w HTI follow spot with integral ballast, colour magazine supplied c/w stand and lamp. Unique zoom action allows single handed operation. Suitable for throws up to 200ft. \$11,880.

1272

1.2kW MSR H/R follow spot with integral colour magazine and ballast. Ideal for FOH or bridges. \$11,800.

1236 CLUBSPOT

Popular entry level follow spot features built in colour changer, gel pak + stand. The Clubspot uses a low voltage lamp powered by an internal transformer with an output higher than most 1kW units. \$1855.

COEMAR

Distributor: Coemar De Sisti Australia, Ph: (03) 9467 8666, Contact: Peter Kemp, Country of Manufacture: Italy.

TESTA 1000/1200

Beam angle 7°-13°, 7m-25m working distance, 5 colour magazine option, smooth iris, 17kg weight, easy lamp replacement, c/w lamp. \$1875.

TESTA 2000

Beam angle 5.5°-12°, 15m-35m working distance, 5 colour magazine option, smooth iris, separate dimming shutter, 20.5kg weight, easy lamp replacement, c/w lamp. \$2900.

TESTA 1200MSR

Beam angle 6°-11.5°, 20m-50m working distance, 5 colour magazine option, smooth iris, separate dimming shutter, 18.2kg weight, 17.1kg ballast, easy lamp replacement, sandy mode. \$3900.

TESTA 2500SHA

Beam angle 7°-13.5°, 20m-70m working distance, 4 colour magazine option, smooth iris, mechanical louvred dimmer, 41.3kg weight, 28kg ballast, easy lamp replacement, sandy mode. \$9900.

TAS

Distributor: Coemar De Sisti Australia, Ph: (03) 9467 8666, Contact: Peter Kemp, Country of Manufacture: Italy.

INSE 1000/2000

Beam angle 8°-22°, 8m-23m working distance, 4 colour magazine option, smooth iris, 12.8kg weight, easy lamp replacement, convection cooled - completely silent. \$1100.

INSE 1200MSR

Beam angle 8°-22°, 15m-40m working distance, 4 colour magazine option, smooth iris, 13.4kg weight, 13.2kg ballast, easy lamp replacement, mechanical louvred dimmer option. \$2100.



**BUYERS GUIDE - FOLLOW SPOTS
(cont)**

CLAY PAKY

Distributor: Show Technology, Ph: (62) 898 1111, Contact: Emmanuel Ziino, Country of Manufacture: Italy.

SHADOW 'BASIC'

Basic model of 'intelligent' follow spot. Choice of HMI575 or HMI1200 lamp, normal (11°-25°) or wide angle (24°-16°) lens. 5-25m working distance, external focussing control on front lens, built in control panel allows control of following with sliders: colour selection, colour wheel rotation, iris diameter + more. HMI575 \$5559/ HMI1200 \$6059.

SHADOW Q5-LT Intelligent Follow Spot

Totally electronic, long throw follow spot. Standard lens (3°-48°) plus built in wide angle (7°-35°) lens. 5-25m working distance. HMI1200 long-life lamp + has elapsed time metre for lamp life. Graduated scale on mounting bracket for precise positioning. Can be controlled from easy to use built-in control panel or via control desk (0-10v, Rs232 or DMX512). External focussing knob on rear panel with graduated scale and pointer. \$10,999.

SHADOW Q5-ST Intelligent Follow Spot

Totally electronic, short throw follow spot. Standard objective lens (11°-25°) with optional wide angle (24°-16°) version. 5-25m working distance. HMI1200 long-life lamp + has elapsed time metre for lamp life. Graduated scale on mounting bracket allows precise positioning. Can be controlled from easy to use built-in control panel or via control desk (0-10v, RS232 or DMX512). External focussing control on front lens. \$10,999.

Note: All vendors have much more than the (maximum) four products illustrated here.

**Buyers Guide on the Internet:
Next.COM.AU, find us in 'Magazines'.**

**Next months Buyers Guide:
Fog Machines**

PLASA

**new from
VARI*LITE**

VL6 Wide Angle Lens

The VL6 is now available with a wide angle lens providing a 45° beam spread with a maximum gobo image size of 37° although it is housed in a plastic barrel no deeper than the standard lens. Changing to or from the wide angle lens has apparently been designed to be a simple procedure.

The new UPM100 for total moving light control

For the first time, the Vari*lite Artisan control consoles can be used to drive a wide range of other types of automated lighting fixtures.

The new UPM100 interface unit, and accompanying plug-in 'Personality Module', developed by Vari*lite Inc this year, provide fully featured programming and operation via DMX512 from any Artisan Plus, mini-Artisan Plus or mini-Artisan 2 control console for most other widely-used brands of moving light fixtures.

VL5B Debut

Lighting designers in theatre and TV were quick to explore the creative potential of the VL5, and their feedback and suggestions inspired a new, optional version with a theatrical colour set of rich dichroic tints and pastels. The product of a year of consultation and development, the VL5B wash luminaire, physically identical to the VL5, provides a wealth of subtle shades including pinks and lavenders, and a full range of cool blues.

The list of colours was selected by polling theatrical and television as well as concert designers, and in a test exercise the new filter set scored 'match' or 'near match' on 29 out of the 37 colours chosen as a representative sample of colour filters used world-wide.

For further info call: Vari*lite Australia (02) 317 5200.

PLASA

R O S C O

Rosco, a name long associated with colour in many contexts, have expanded their plastic based range of colours and filters to go into the field of dichroics, entering a joint venture with Spectrum Imaging Laboratories of Austin, Texas.

Rosco's dichroic glass filters are designed for applications where permanent high transmission colour filter is required, and where plastic filters would be inappropriate. The process of making a dichroic involves a dielectric thin film which is vacuum deposited on a glass substrate to create a selective filter. Very little energy is absorbed, and the filter is virtually indestructible - never burning out or fading.



New products for the television studio include a reversible blue/yellow chroma key floor which is 1.6m wide and available in a 30m bolt. There's also a Front White plastic projection screen which is 3m wide - ideal for close up shots or audio visual work. Rosco offers a making up service for larger screens and the material is also available for purchase by the metre.

Rosco Flexbond is a flexible scenic glue which dries to a clear, hard, yet pliable coating. Flexbond can be used with many porous and non-porous materials including fabrics, plastics, foams, wood and even Ethafoam. It can be thinned with water, tinted with universal tints or Rosco paints and used as an additive to give added flexibility to other coats such as plaster or clay.

Also new from Rosco is the availability of Tough Prime in black as well as white, in 1 litre or 5 litre pails. There is also Roscoflamex P50 a flame retardant paint additive to make the flame proofing of props and scenery easier. For further info call: Rosco +44 (0) 71 580 6334.

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Lecturer Andy Ciddor guides us through

The Lighting Course at the Western Australian Academy of Performing Arts

Student Intake

Students are drawn from all ages, educational backgrounds and geographic locations. In any year the majority of the 10 students taken will be from regional centres or outside WA. and in the last few years we have had students from SE Asia and Southern Africa.



Lighting Students Scott Meyza, Kylie Pethybridge, Dene Jones and Linda Haywood during a practical session in Lighting Studio

Educationally, there is no requirement for completion of year 12, as entry involves completion of a set project and an interview. Preference is given to those with life experience and a performance background. A typical intake will include post year 12 high school students, university and TAFE graduates and others who have finally decided to follow their hearts and give in to the desire to take up lighting as a vocation. Ages at commencement for 1995 span 17 to 39 and previous occupations range from student to check-out operator to Tandy store manager and lighting rig owner/operator.

Doing the Course

The course involves three years of hard slog: firstly, at acquiring a theoretical knowledge of the job, and then finding out how to use that knowledge in production. The Academy produces over 20 shows a year: musicals, opera, drama, comedy, contemporary and classical dance, jazz concerts and a couple of tours, and toss in some performance art and an installation or two for variety. As part of the television training programme the Academy co-produces a telemovie with NEW channel 10; this year's production "For We Are Young And Free" will be broadcast locally in December with the possibility of a subsequent national screening. Students design, rig and operate this overwhelming body of work as part of the six week teaching cycle of the course.

This entails five weeks of pre-production and classes. In the sixth week formal classes are suspended for the production week of up to four or five simultaneous shows. Classes then resume whilst the productions are performing

at night and pre-production for the next round of productions commences. All students are assigned roles as lighting designer, head electrician, board operator, rigging crew, floor crew, spot operators as part of their course work.

In their third year, all students are required to be seconded to industry in the areas that they intend to pursue after graduation. Students are attached to companies, venues, productions, events or individuals. One student is currently working with LD Rick Fisher in the UK, another has recently been attached to a production house specialising in corporate presentations; others have been attached to such venues as the Victorian Arts Centre, the Sydney Opera House and the Royal Shakespeare Company's Stratford operations. Attachments on feature films, television series and television production studios are preferred by those whose interests are outside the live performance field.

Graduates & Employment

Full graduate employment. No graduate who is seeking work in the industry is unemployed.

Most students work freelance during the second and third years of their studies, to the extent that WAAPA students form the core of



Andy Ciddor attempts to make something happen on the Academy's beta test Jands Hog 250 desk whilst students look on in disbelief at his audacity.

lighting casuals in Perth. The industry often gets into crew shortages when Academy productions are in progress.

WAAPA alumni hold down the head electrician positions in all Perth theatres and the vast majority of the crews in these venues.

Graduates may be found as film gaffers and bestboys, venue technicians, television lighting directors, lighting designers, production managers, tour managers, hire managers, etc.

Teaching Facilities

Lighting Studio

Lighting teaching laboratory with fixed-height flexible pipe grid, cyclorama wall, and black drapes. 60 circuits. M-24 and AMC 60 control desks. 24 x Powerpack 5k and 20 x JTM 2k

dimmers. Two of everything luminaires.

Television Studio

Teaching studio with motorised lighting bars, 3 industrial TV cameras, 60 circuits, 24 x Power pack 5k and 24 x Strand Pack 2k dimmers. Ac-



Dene Jones at the patch panel of the Academy Theatre

tion 48 control desk. Castor, Polaris, Arturo, Antares and RH Barton, and DeSisti luminaires.

Production Facilities

Academy Theatre:

200 - 300 seats. Proscenium with fly tower and pit, convertible (regularly) to in-the-round,

transverse stage, end stage, thrust and any other format our set design students come up with. Fixed grid over auditorium, counter-weighted flying over stage area.

460 Circuits. Dimmers: 48 x Bytesize, 40 x JTM 2k, 36 x IDS 5k, 4 x Ultra (= 1 Sydney Opera House module) Dimmaster softpatching and fault monitoring. Felix rigger's remote.

Control Desk/s : Selected from WAAPA's collection. Luminaires: Drawn from WAAPA's pool.

Acting Studio: 40-75 seats. Black box studio. Fixed grid. 30 circuits. Dimmers: 50 x JTM 2k Control Desk/s : Selected from WAAPA's collection. Luminaires: Drawn from WAAPA's pool.

RSC (former Road Safety Council Hall) 40-60 seats. Ugly Public Hall - now painted black (2.4m ceiling) Fixed Lighting Bars. Dimmers: 3 x MiniPack 2k. Control Desk/s: Leftovers from WAAPA's collection. Luminaires: Leftovers from WAAPA's pool.

Control Desks: 2 x Tempus M24 (120 channels), Even: 48+, Showmaster 36, AMC 60, Jands Hog 250, DMC, Tempus 2G, SP 40/2, 2 x Ariel Centon 24, SMC and 3/4 of Junior 8.

Luminaires: Patt 23, 123, 45, 223, 743, 764, 60, 137, 813, 803, 814 T-64 and T-84. Codas and Nocturnes. Prelude: Fresnels and Zoom Profiles. Harmony: Fresnels, PCs, Zoom Profiles. Quartzcolour: Pollux, Iris 1&3, Mini-Brutes, Redheads Cadenza: Fresnels. Selecon: Fresnels, Zoom Profiles, Mini-Fresnels CCT: Silhouette 30 & 15. High End: Trackspots. Teatro: Tracto Zoom Profiles. Prolite: Fresnels and Zoom Profiles. Colortran: Zoom Lekos. Kliegl: Lekos. Par 64 & Par 56 and other assorted bits and pieces.

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THE PA PAGE

The Importance of being NEAT

Part Three in a series, by Michael Orland.

Now that I have an established regular page in a national magazine, I often feel it might be irresponsible to abuse the modicum of power that goes with such a privilege by making arrogant sweeping statements which may alienate beginners or affront the more well established. Fortunately, these feelings pass. So look, mate, if you can't solder properly, you shouldn't be running a P.A.

Even if you go and do something really dumb like paying someone to make your microphone leads in the first place, sooner or later you're going to have to maintain them. With enough use/abuse any mike lead will fatigue, usually near the end what plugs into the mic, causing crackles, drop outs, and poor transference of phantom power. The only cure is to snip at a safe length past the weak spot and reconnect your XLR. Sometimes fatigue has nothing to do with maintenance. There I was at one gig, messing around with inserts, desk channels, multicore channels and microphones, trying to work out why I'd lost lead vocal halfway through the set. It turned out the drummer had hit his crash cymbal which had toppled on it's stand. The stage guy had reset it before anyone noticed, but failed to spot that it had neatly severed a mike lead in the process.

And then there was this big venue which had re-opened after extensive refurbishment and had a licensee who insisted all FOH multicores had to be pulled through a conduit under the dance floor via a rope/pulley system. Which would have worked OK I guess if the system had been made using plastic stormwater pipe. Which he couldn't have had because somehow the multicores would snag and reappear with connectors torn off.

All experienced crew have similar stories. So what are you gonna do? Run back to the probably very uninterested guy who made your leads for you, crying that you need them repaired for tonight's gig? Learn to solder. Some may feel that with the new and constantly expanding range of solderless connectors becoming available, that

such skills are unnecessary or even redundant. Well, I've had a good look at these connectors, and if you want my opinion (hell, even if you don't, who's writing this anyway?) they look like a great idea to keep as emergency spares in your toolbox as quick fixes, but I'm unconvinced of their long term reliability. They're probably better than a bad solder connection but can't be as good as a good one. Call me sceptical, call me cynical, just don't call me during the Simpsons. But I digress.

Good soldering is a skill based on the right equipment and acquired techniques. The right temperature iron is essential and it's unlikely that you're going to find such an iron in any \$20 bargain bins. If you wish to base your income on the cables you make, then be prepared to invest at least \$150 on the right temperature controlled iron. These come in two types; mechanical and electronic.

The former relies on the fact that the tip expands when hot, triggering a switch which controls power. The most popular of this type is the Weller. The latter is a good deal more complex but has the advantage of a dial enabling you to select the appropriate temperature range without changing tips.

Always have a wet sponge next to the iron. Start each job by giving the heated iron a quick wipe. Get into the habit of wiping the iron's tip before and after each connection. The flux within the solder that is necessary for lifting impurities from the item to be soldered, helping the solder "take", will leave a corrosive residue if left unwiped. This residue will degrade the next joint and deteriorate the iron's tip.

Enough foreplay. Let's make a mike lead. Carefully strip back the outer insulation about an inch or so. If this insulation is a stretchy rubbery type that can be pulled back to expose more innards, then do so until it feels tightish. Unpick all the exposed braid, straightening and detangling as you do. Twist the braid tight almost, but not quite, to the point where it

meets the inner cores, fig. 1. Strip the tips of the inner cores.

Next apply solder. This is the tricky part. Not really. Wipe iron. Apply a touch of solder to its tip. Apply tip to braid for just a second and then feed in solder. As much as needed to, not just coat the twisted braid, but actually saturate it, almost but not quite to the area where it meets the inner cores, maintaining flexibility at this point. This coating/saturating is called "tinning". Snip the tinned braid to about half the length of the inner cores. Then tin the insides of your XLR's pins. Hold each core against pins 2 and



fig 1



fig 2

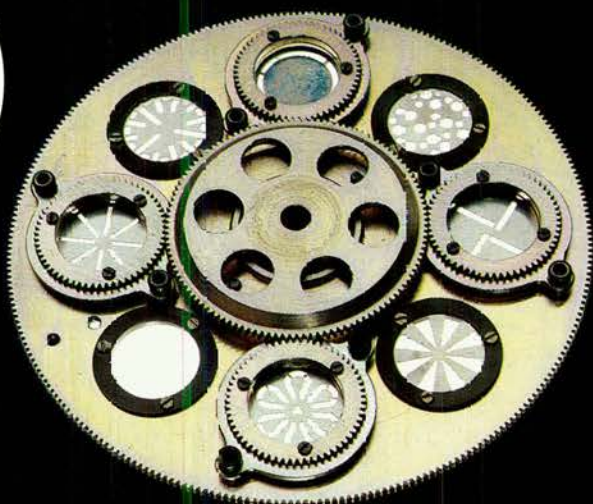
3 and apply just enough heat and solder for the solder already on the wire and pins to meld. Timing is crucial to a good joint, which will look shiny. A bad solder joint looks frosty and soon becomes a poor/intermittent connection known as a "dry joint". The tinned braid should be pulled down and soldered, anchoring the cable whilst allowing slack on the inner cores, fig.2. Allow to cool and if possible pull a little of the outer insulation back over the braid/cores junction.

Never apply untinned wire to an untinned connector and solder. This is how musos make leads. This is also why out of the half dozen leads in their gig bags, they only consider one reliable (usually the tailor made). Treat the health warnings on solder rolls seriously. Always scrub your fingers after handling solder. Although not scientifically established, I know in my heart of hearts that years of ignoring these warnings is responsible for the domestic blindness I'm currently experiencing. (*Honey, I can't find my keys!! Oh Michael, for Heaven's sake they're on the table right in front of you!*)

Like I've said before, the more you do it, the better you get!

Michael runs The Public Address Co in Sydney, call (02) 799-7219.

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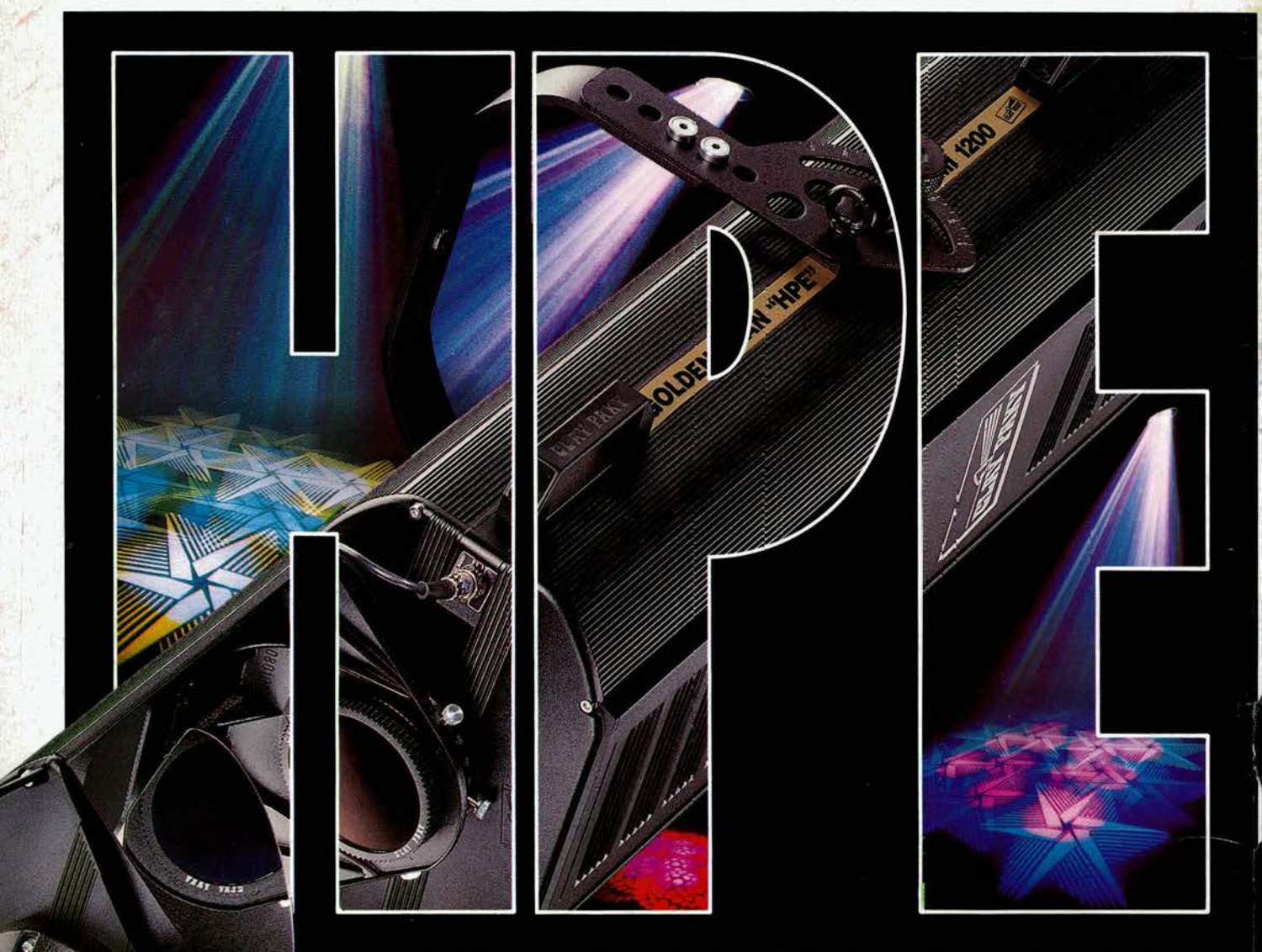
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