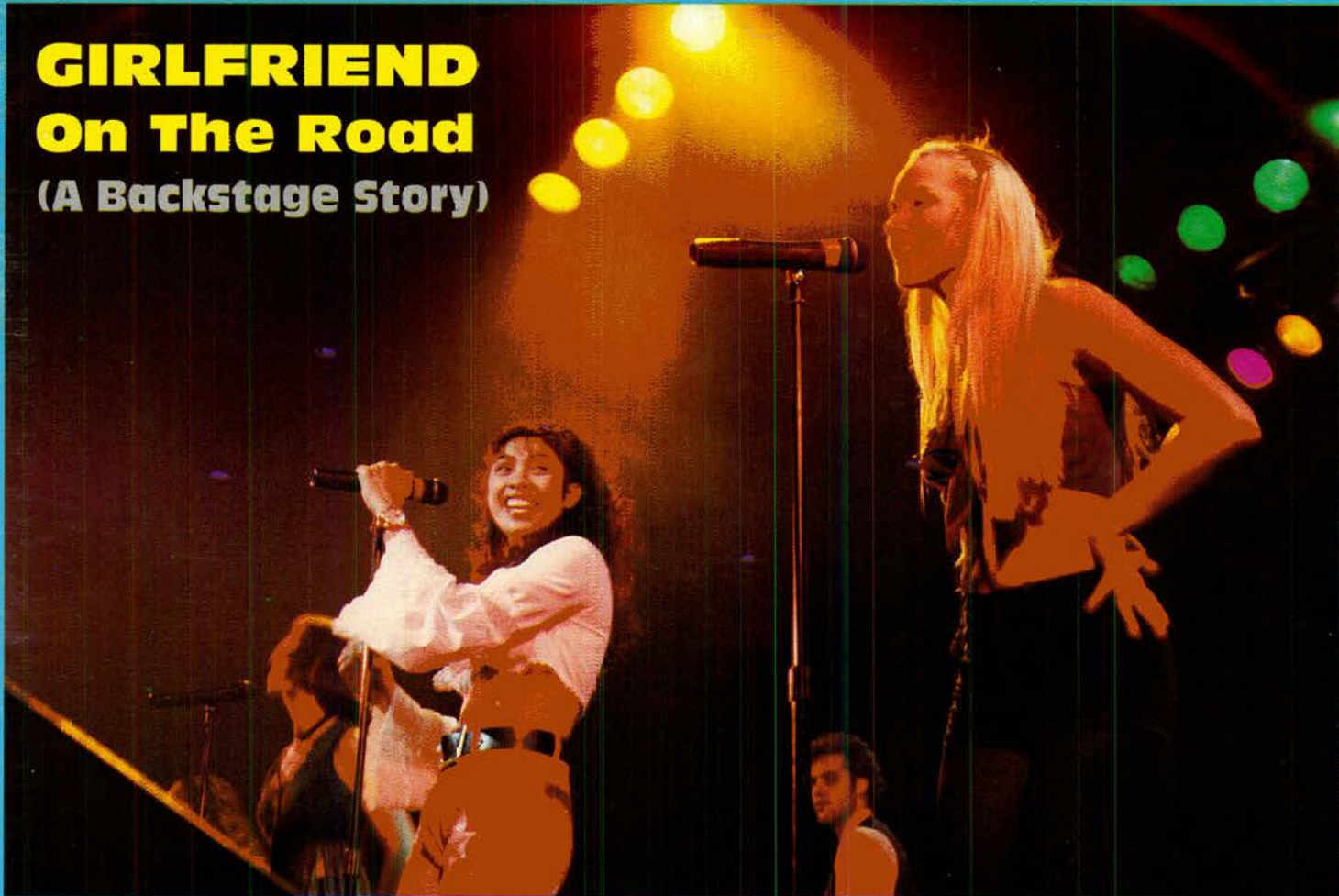


Connections

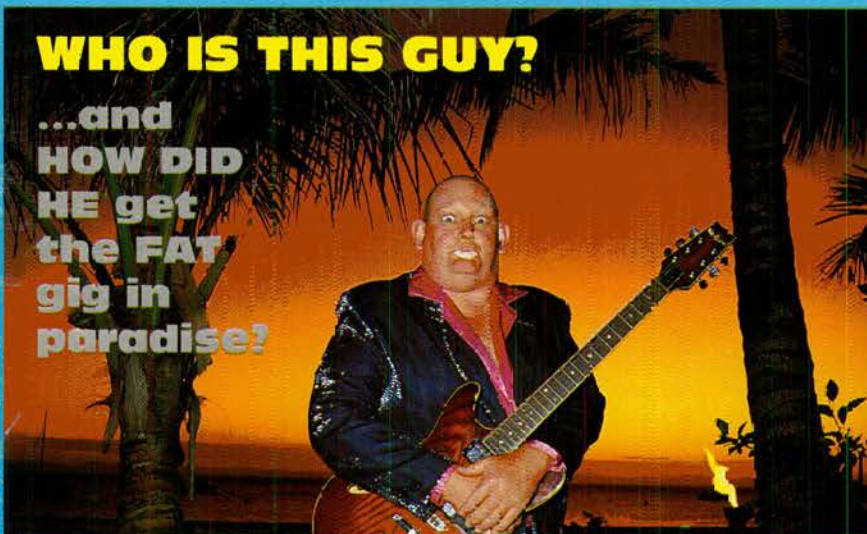
SOUND • LIGHTING • STUDIO • AV • MUSIC TECHNOLOGY • THEATRE • TOURING • SHOWBUSINESS

GIRLFRIEND On The Road (A Backstage Story)



WHO IS THIS GUY?

...and
**HOW DID
HE get
the FAT
gig in
paradise?**



ASIAN TRADE report

Venues & Showbiz

BUYERS GUIDE:

- Studio Consoles
- Moving Lights

Hot Shoe Shuffle:
Theatre Review

We raid PERTH

Religion, Sex, Bad
Humour and MIDI -
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Australia's only monthly digest of available product, complete with prices and features. This month we detail what's available in:

STUDIO MIXING CONSOLES

-from simple to Digital Moving Faders.

and:-

MOVING LIGHTS

-the hottest segment in the lighting market right now!

KEEP THIS MAGAZINE!

Starts page 78

Connections

Connections Magazine

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Publisher & Editor:

Julius Grafton.

Features writer:

Catriona Forcer.

Co-Publisher, Diplomat:

Caroline Grafton.

Showbiz Editor:

Jennifer Temm

Contributing writers:

Duncan Fry, Danny Dun,
Bob Armstrong, Richard
Mortimer, Dave Connor,
Bruce Waite & Dave Macken.

Advertising:

Caroline Grafton.

Graphic Art & Layout :

Josh Luo, Catriona Forcer

Advertising: (02) 876-3530.

Editorial: (02) 876-2612.

Faxes: (02) 876-5715.

All Mail:

P.O. Box 439, Epping
NSW 2121 Australia

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Editors Note

We're proud of this issue, because it marks the first time we've got to 92 pages - a really respectable lump of reading for your \$3.95. It's also half a year since Connections first appeared, and we've expanded the editorial budget - putting more into this issue. Over the page you'll see a major re-jig of the Update pages, now stretched out with much, much more in the way of industry news and product bites. Some cut down show reviews and interviews are there too, because the feedback says YOU want less long features, and STILL MORE variety. Despite the fact variety costs more money to produce, here it is please tell us what you think. We ALWAYS listen to feedback - even bad!

ASIAN TRADE.

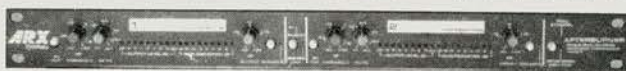
I think we are seeing the tip of this iceberg, and if we are a little more collective in communicating, there is a very real pool of opportunity just a few hours North. Caroline spent five days in Singapore last month, and reports from a tradeshow there. She also would like to thank Jands for allowing us to consolidate a pallet of our magazines with their air shipment from Sydney. The magazines were given away in a subscription promotion that also entailed a full page colour advert in the tradeshow guide - we are now reaping the benefits, with well over 100 Asian subscribers signing up - and it's very early days still! We are committed to increasing our reader base in Asia, and hope to carry more content from the region.

Published monthly except July & January. Feb, March, April, May and June/July combined, then Aug, Sept, Oct, Nov, Dec/January combined.

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Home & Studio Recording (UK), March 1993

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Meet the man of the moment, Duncan Fry - author of 'Live Sound Mixing', mega force behind Australia's own ARX, and Father Christmas at many ARX Christmas parties. Plus, witness the Official Weigh-in! See you there.

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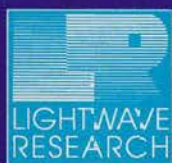
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SHOWBIZ

NEWS & UPDATE

SHADES OF SUZANNE VEGA



Vega's 99° Fahrenheit tour - much more light and shade.

It has been six years since Suzanne Vega last visited Australia on her Solitude Standing tour. Her latest tour, to promote the 99° Fahrenheit album, again uses the talents of lighting designer Steve Hall.

"The last tour was not so dynamic, now there is so much more light and shade in the music," he says.

"The single biggest difference is that I'm now allowed to use a cracked oil machine. The smoke runs from the start of the opening act until the beginning of Suzanne's set, then I switch it off so there's a nice haze - you never actually see any smoke.

"Suzanne's music can lull you into a false sense of security and then suddenly it changes. Like all shows I do, I try to mirror what's happening musically."

Steve was amused by one review of the show in a provincial English newspaper that said the lights would not have looked out of place at a Genesis concert. Considering how simple his rig is, he says it would have looked 'like a pimple on a cow's bum'.

"The rig is very minimalistic and easy even with the colour changers and 27 Lekos, which in ratio to the rest of the lights is about 1:3. It's been up and focused in less than three hours before."

The stage is very bare with only a drum riser, and both Suzanne and the band are very static. This means there is no need for follow spots which Steve is pleased about as he doesn't like their glare. There is no front truss but instead, two 20ft upright trusses either side of the stage. Each has three Lekos on top with colourmags, two bars of six and one Leko at head height so that there is one each side for

Suzanne's centre position.

There is also one Leko on each of the band positions. At the back there is usually a 40ft truss although in the State Theatre they could only fit in a 30ft truss with 36 Pars (six colours on each position), another Leko on each position with colourmags, four Lekos with gobos, five 6x22s (one on each position) and 12 ACLs. On the floor there were six Pars, four Lekos with gobos and 12 ACLs. There should have been a PATT. 750 beam light (*shades of ancient history! -Ec*) behind Suzanne but Steve could not get hold of any here.

"I'm sure there must be a few knocking about in theatres somewhere" he complains. "I've substituted with a 650 watt Ray lamp which does the same job, if not so elegantly." □ **Catriona Forcer**

Product Bits

□ The CD Recordable market heats up with **MARANTZ** dropping the price of their model in the USA and here. Expect to pay well under \$10,000.

□ **LEXICON** are poised to appoint a new Australian distributor from several applicants as we go to press.

□ **HIGH END SYSTEMS** have revised the Trackspot, the new version will boast greater output with other revisions, and should be announced 'any minute'.

□ **ETONE** will debut new Aussie made 15" PA woofers designed by Richard Priddle - real soon now.

VENUES

► Sydney's Theatre Royal provided a thundering preview performance of *The Phantom Of The Opera* last month when a chandelier meant to fall during the performance - with the support of two crew members - developed a twisted support wire. The chandelier swung across the orchestra pit a couple of times before crashing down, uncaught, onto the stage.

A surprised audience had to leave the theatre while the \$50,000 chandelier was examined.

Openings

► After a year of speculation over its future Perth's cavernous Berlin Club on Roe Street is now unlikely to re-open until 1994, leaving the city with two decent live venues and one huge tax deduction.

► Rumours have reached our Connected ears about two new rooms opening in Melbourne. Both are being kept very hush hush but so far we've tracked one down to St Kilda and the other, to be called The Zoo, to South Melbourne. Both should open this month.

► Adelaide's Newmarket Hotel has added live acts three nights a week at Joplins, the bar adjoining the Heaven night club which opened last December. Bands and dance acts are being booked for Sunday, Monday and Tuesday nights in the new room and at press time upcoming shows included the Black Sorrows, Paul Kelly and Jellyfish.

You can find the Newmarket at 7 West Terrace, phone (08) 211 8533.

PRODUCTS

EV and the DC200 mic



At \$275 the MC200 is a neodymium bargain, according to the Mark IV people. It's got directional polar characteristics to resist feedback, and naturally it's best suited for vocals. The bass boost proximity effect is designed for close-up use, and it is reported the mids and highs cut through background noise. Neodymium alloy used in the magnet helps generate more output power, and the EV microphone boffins say the MC200 has inherently low self-noise. Details from Mark IV (02) 648-3455.

SHURE EC SERIES VHF

Shure's new EC Series VHF wireless microphones with digitally controlled frequency selection have just been released locally. The EC models were designed to exacting German performance specifications, which the Brothers say are tight and tough. Got that? Or you will be shot at dawn!

They say the new range includes Shure's Power Gain antenna, delivering up to 10dB more effective RF power to extend the handheld operating range. The microphone heads are easily interchangeable with Shure's classic SM58, SM87, Beta 58 and Beta 87 models, and standard frequencies provide maximum compatibility.

The full range suits virtually all handheld and lavalier applications. The optional WA404 Antenna/Power Distribution System with integrated power supply handles up to four receivers and eliminates the need for plug-in AC adaptors. Call Jands (02) 516 3622.

EVENTS

LX at AIMS 93

The Australian International Music Show will now include lighting exhibits from Martin, ClayPaky, Pulsar and Universal Lighting.

Martin will release new ROBO products at the show, to be held September 9 through 12 in Sydney's Darling Harbour exhibition centre. Clay Paky will stage a lightshow with over 50 Goldenscans in a 14 minute show in a specially built theatrette, run on Pulsar's Masterpiece controller.

Clay Paky importers L.A.V.A. say the show will run with limited numbers of tickets available from the LAVA stand at the show. Organisers V.R.F. Ltd say the inclusion of Lighting is a growing AIMS trend.

A1 Audio Trading

SYDNEY: The future of A1 Audio is unclear at press time, with several sources claiming that the company had closed its premises at Castle Hills in Sydney's west. The story had a crew from Richard Clapton's band arriving at the firm's premises to collect a rig to find the doors 'chained shut'. The hour of the day this occurred could not be verified. Upon calling the firm, the receptionist confirmed that yes, the firm had 'closed its doors', but it wasn't official yet. Calls to founder Chris Kennedy's mobile phone revealed it was not connected.

Late on July 28th Kennedy told us: "I am trading as usual". He said there was confusion with a booking made for Production to be supplied to Richard Clapton, where the crew had not confirmed and as such couldn't get a rig from the firm. "I am selling all the Turbo's and there will be changes after that", he said. Kennedy sounded buoyant, and quoted work in progress to support a view the firm was OK.

Established in 1988, by Lindsay Hall and Chris Kennedy, A1 shocked the audio industry with the takeover of a huge ex-Tasco touring system, originally brought to Australia by a second board listed public company in the mid 1980's.

The touring system comprised some 90 TMS-3 cabinets, with a second system made up of Martin RS1200 cabinets. Soundcraft Series 4 consoles were included, as were several hundred lights, cabling, umpteen concert wedges, amplifiers, and endless tonnes of equipment.

Several international tours were undertaken by A1 before the partnership of Hall and Kennedy split in 1991, with some assets of the firm then on-sold to Hall who today operates his own audio production firm from the Central Coast in NSW.

In the ensuing years Kennedy has sold off much of the firm's plant, including a Court system and TAC consoles acquired through a resale deal with a finance company, thought to be CBFC Ltd.

CBFC had apparently run out of patience with previous lessors of this system, which once was traded for hire from a company known as The Touring Plant. The Court system was under finance to interests associated with The Touring Plant, with an eventual payout figure from the sale of the equipment thought to realise \$60,000 short of CBFC's expectations according to sources.

A1 acted on behalf of CBFC in disposing of some of the system, but a small part of it was destroyed in a truck accident in 1992 whilst on out on an A1 tour.

Through the 90's A1 has won a lot of business against Revolver Audio and Jands. In recent times the firm supplied large systems for Dance Parties. Chris Kennedy also has a lot of connections which generate a lot of corporate work. □-J.G.

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VENUES

► The Australian Hotels Association's 1993 Awards for Excellence last month were won by Sydney's Bridge Hotel in Rozelle (Best Entertainment, Large Venue) and the Tilbury Hotel in Woolloomooloo (Best Entertainment, Small Venue), with Newtown's Sandringham Hotel receiving recognition for 13 years of promoting local bands and fostering local talent.

► The future of Sydney's Metro Theatre is in doubt after six months of operation.

Leon Fink's NGI Investments, which owns the site and business, went into receivership early last month. The Metro is now in the hands of receiver and manager Greg Kelly, of Price Waterhouse.

According to newspaper reports Kelly plans to keep the theatre and bar open for the time being while the venue is developed to fetch the possible price when it is eventually sold.

The theatre has had mixed fortunes since opening in January, with poor seasons for both *An Evening With Merv Hughes* and *Nonsense II*. The Sydney Dance Company's *Beauty And The Beast* had a successful run, and the current production of *The Official Tribute To The Blues Brothers Show* is shaping up well.

The new Dendy cinema also opened in the Metro building late last month and development plans include the opening of a restaurant or food outlet.

► After complete refurbishing Sydney's Eastwood Hotel has reopened for live bands on Fridays and Saturday nights.

The 600-capacity venue features flash new computer-controlled video disco gear and is located at 115 Rowe Street. Bookings are being handled by Peak Promotions on (02) 804 6188.

► The Hotel Pacific on Marine Parade in Southport on the Gold Coast locked in a series of unplugged concerts on Saturday nights late last month. Live shows have also been added up the road at Her Majesty's, at the Brisbane Hilton, on Fridays.

Contact Australian & International Artists for bookings on (075) 915 888.

Strong Spotlight

STRONG have a new 1000/1600 watt Zenon Super Trouper with built in switch mode power supply. They say it offers incredible punch and optical clarity via its cold metal reflector, and it only weighs 100kg. Length is 1.43 metres. It looks like serious stuff!

Typical light output at 61 metres is 179.20 foot candles or 1928 lux in new-speak. At 61 metres the unit is capable of producing a circle of light from just 800mm wide, out to 6.7 metres. Strong have confirmed a half power switch is available on request. Priced at around \$17,000, and distributed by Selecon through Aussie dealerships, or call 64-9-360-1718.



Product Bits

□ **MBT** make the **Professional Assistant Lamp**, which provides enough bright lights for DJ's and professional users. The light is attached to a 12" flexible tube for placement. The BNC connector attaches to most consoles. Retail \$49.95 from Australian Audio Supplies (018) 432-910.

□ **Sound Tech's** new **PANORAMIC** mixer is shipping, according to Alex Bolt from the Electric Factory. The Panoramic was first seen at NAMM early this year, and has created a lot of interest. It has some novel features, not the least being an active subwoofer output. It'll come in 4 and 8 bus versions, from 16 - 32 channels.

□ **OSRAM** hope to have approval soon from High End Systems/Lightwave Research for use of their lamp in the Intellibeam 700. Until then, the warranty state of the fixture if using the Osram lamp is unclear, according to Osram distributors Wotan Lamps. We at Connections can't understand how a lamp of the same specification as the original could make a fig of difference to the warranty ... but....

□ **NADY** have a new one, the 551VR is a two channel portable wireless video microphone system, operating in the hardy VHF spectrum. It's suited to video use and cancels out Camcorder hum. Details from official NADY importers, Production Audio Services: (03) 852-0900 or (02) 954-4927.

Shure Sub Mini



The new WL93 provides a clear, low distortion 50Hz to 20 kHz of sound, say the Brothers Shure.

The 9.4mm x 5.8mm x 3.8mm electret condenser mic can be connected directly to all Shure body-pack transmitters. Details: Jands, Ph (02) 516 3622

► The Eastern Suburbs Leagues Club launches the new Banana's night club on August 7. The 1500-capacity room will feature bands, guest DJs and dance acts on Saturday nights. Rock Circuit Promotions are booking the venue, in Spring Street, Bondi Junction, and can be contacted on (02) 331 7666.

MOVES

► Perth booking agent Altered State (previously Central Nervous Systems) has shifted from the city's east to gloriously decorated new offices already dubbed The Purple Palace at 355 Guildford Road in Bayswater. Phone (09) 370 3122; fax: (09) 272 5079.

► Bushwacker frontman Dobe Newton has been appointed general manager of the Victorian Rock Foundation after heading up the WA Music Industry Association for the last two years. He says his main responsibility will be to manage the 12-day Melbourne Music Festival, the largest contemporary music fest, in February.



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A SOUND APPROACH TO FOOD

Catriona Forcer finds that catering for the stars is no piece of cake

More Than A Morsel has kept the music, entertainment and film industries well-fed since 1989. Co-founder Brian Lizotte believes the catering company's success is due to its commitment to versatility as well as a sound approach to nutrition.

On June 1, More Than A Morsel obtained the contract to do all the backstage catering at the Sydney Entertainment Centre, expanding and redecorating the backstage dining area to create a cafe/restaurant ambiance.

"We stay away from the bain-marie idea to try to give a personal touch," Brian says. "The crew's job is to make sure the show is the same every night so the only variety they can get is with the catering. If they are stressed out, you've got to take them away from it for that half hour they are eating.

"The way you serve can sometimes be more important than the food. We do a lot of theme nights, especially if we're with them for a period of time.

"Rock and roll catering is really a labour of love because the budgets aren't there to really charge out and make the profit like a restaurant might do. It's mainly due to the amount of labour involved in getting the gig where it is.

"The company's mobility is largely due to our custom-equipped catering truck. This roadcase on wheels means total location catering for indoor and outdoor venues and special events is possible. During the Guns 'N' Roses concert in Sydney we prepared 1000 meals in four days in the middle of nowhere."

Brian is used to unusual requests on the rider, like Aerosmith insisting on M&Ms - but no green ones. When the Red Hot Chili Peppers were here recently it was Brian's job to ensure they had fresh Fruit Of The Loom underpants to wear onstage, which were thrown into the audience every night (glad I was at the back).

Morsel are famous for their chocolate chip cookies and Brian has had to send special boxes to people including John Farnham.

"What keeps me going is when the guys say we are the best caterers they've ever had," Brian says. "These are guys who have travelled for years all over the place. We've had artists like Billy Joel in the kitchen asking for recipes.

"Last week we did Sandra Bernhardt at the State Theatre. At the gig in Melbourne before she had stormed out of the catering saying it was shit. She had someone go get her Atlantic salmon steaks with steamed vegetables, so at short notice I changed all the menus and went shopping at the fish markets.

She said it was fantastic and at the end of the night she kissed me.

"Catering has a lot to do with people's attitudes. As soon as they walk into the dressing room and see that someone's gone to a little extra trouble to look after them, they really appreciate it.

"We also promote healthy living with fruit juices that they can mix themselves and things like vials of Royal Jelly and herbal remedies for the throat."

Brian's biggest nightmare is running out of food.

"It's difficult to gauge the amount of people you have to feed," he says. "When you're in the middle of nowhere and 10 more people turn up, you have to feed them. You have to always be prepared. Once we did a live-to-air MTV event for Icehouse and we were told to feed 40 and it turned into 75. It was tight but we did it."

During the 18 days Paul McCartney and his family stayed in Sydney, Morsel catered for their food at home with a special vegan chef. Linda McCartney was so impressed with the food she gave Brian a cookbook signed, 'Go veggie, you bugger'.

Not all artists have been so easy going. Brian found Morrissey to be the most frustrating: "He didn't eat anything bar egg on toast, chips and beans. That was his daily diet. I even rang other caterers to find out if there was anything I could tempt him with. He wouldn't talk directly to me, only through his minder, even if he was next to me.

"Frank Sinatra was very finicky. He had his own Campbells canned chicken soup travel with him that had to be mixed with Evian water and served in Royal Doulton china. All he ate of our food was a half a tuna sandwich but I don't take it personally.

"Bob Dylan didn't want anything but on the last night, the food smelt so enticing wafting through to his dressing room that he finally came out and shocked everyone by ordering one of our curries. If you can do that then you have won."



Profile

Aerosmith insisted on M&Ms - but no green ones. When the Red Hot Chili Peppers were here it was Brian's job to ensure they had fresh Fruit Of The Loom underpants to wear onstage...

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PRODUCTS

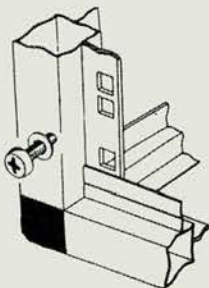
SAE for 3M, Soundtracs

The Sydney based international organisation SAE (School of Audio Engineering) has become somewhat of a purchasing force of late, with several major deals announced. 3M Tapes will become sole suppliers of cassette & multitrack tape to all SAE colleges. This agreement was signed during the AES exhibition, held in Berlin recently.

SAE has entered into an agreement with Soundtracs for the supply of three 'JADE' fully automated consoles, for Amsterdam, Kuala Lumpur and Hamburg, which are all categorised as mid-range studios. In high-range studios, SAE have added a further three Neve VR consoles to the 10 on order, the new three are to be fitted with 'Flying Faders' automation.

Finally, SAE has purchased 10 complete Soundtools II systems to be used in various colleges.

Rack Off, or zip it



Zip Rack is the name of a 19 inch knock down frame equipment rack system from Autotron Australia. Electronic systems everywhere abide by the 19 inch standard, and Autotron say they have airborne, seaborne and remote

site customers for their racking.

What you get is twelve lengths of extrusion - four top, four bottom and four vertical rails. The vertical rails, of course, have square clip-in nut holes. You choose a height to suit you, and assemble yourself with black ABS plastic corner connectors. For added strength, the firm says you can optionally drill and rivet into a second protrusion. Sizes range from 6RU to 40RU, depth from 36cm to 54cm. Prices start at \$95 plus tax. Call John Ewenson, Autotron (03) 729-7255.

DOLBY DSTL selling here

DOLBY LABORATORIES new DSTL Digital Studio-Transmitter Link has been sold to a number of Australian radio stations by local distributor Syntec International. 3MP, 2SM and 4KQ have all ordered the system, 4KQ a repeater as well.

Dolby say that subject to local approval, they will ship a new 4 channel Dolby DSTL later this year. It conveys four programme channels and two RS-232 data channels in a bandwidth of little more than 400 kHz. It makes use of the same digital audio coding and RF technologies as are employed in the existing 2-channel Dolby DSTL system. Using the 4 channel system a single studio can, for instance, convey separate stereo programming to two sites - and two transmitters.

Dolby has also recently introduced optional "hot standby" units for the DSTL. The new HS1 and HS2 units enable a second Dolby DSTL system to be used as an automatic back-up, minimising signal interruptions as a result of equipment failure.

Dolby say the DSTL system has been engineered from the outset for hot standby operation - in view of the importance to all broadcasters of remaining On The Air. Syntec International are your Dolby contacts. (02) 417-4700 or (03) 481-6000.

ROSS Major Mixer

The ROSS RCS-2482 mixing console arrives in September, with a target retail price of \$5,299 - for 28 channels. The console is feature rich, with 8 auxiliary sends, and 8 returns. The channel configuration has 20 mono mic/line channels, each with four band EQ that has dual sweep ranges. Four stereo channels each have fixed 3 band EQ, and all channels can route to any/all subgroups, and/or main outputs.

The console is designed with connectors on the top of the console, like Soundcraft's Spirit, and comes with XLR outputs for the four subgroups and the left/right main mix. Ross have split the Phantom power switching as well, two switches allow Phantom power to be sent to channels 1 - 10 or 11 - 20.

Info from Peter Shillito at C.M.I. (03) 315-2244

▶ Pettaras brothers Steve, Theo and Nick celebrated Pettaras Print's fourth move in four years in fine style last month. About 150 designers, promoters and advertising and record company folk turned up for the launch party at the latest Alexandria premises with the 13-piece What Is Hip providing the night's entertainment.

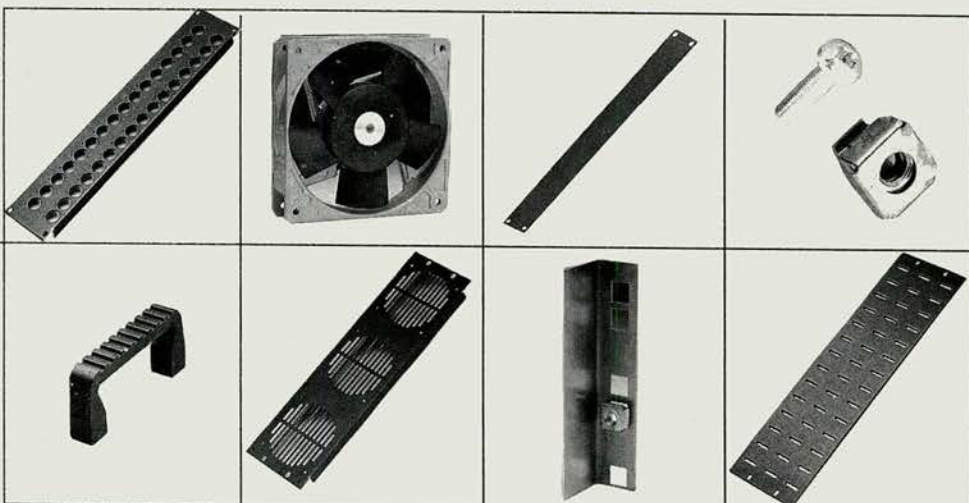
The upgraded facility boasts a total of five presses including a six-colour press capable of printing posters up to 1260mm x 890mm with accurate detail and special colours such as pastels and fluorescents. Other services include design and printing of point-of-sale, press kits, brochures, presentation folders and magazines.

Pettaras Print are now at 17 Ralph Street in Alexandria; phone (02) 313 4000, fax (02) 313 4004.

▶ Oz 'N' Enz Publicity directors Wendy Boyes-Hunter and Laurence Boswell have parted ways following the international success of Boswell's syndicated radio program The Big Backyard, produced with Mark Dodshon and Steven Hindes.

The 30-minute weekly Australian music program now airs through 700 stations in countries including Denmark, France, Singapore, Switzerland, Canada and the US. It is tipped to start up in Australia for the first time next month on the Triple M network.

Meanwhile Boyes-Hunter is keeping herself stressed managing and touring the Cruel Sea and will also be handling publicity for the Big Day Out shows in January. The 1994 tour is expected to go to Brisbane and Auckland, and possibly also Japan. She can now be contacted at 157 Reservoir Street, Surry Hills, 2010; phone (02) 281 4562.



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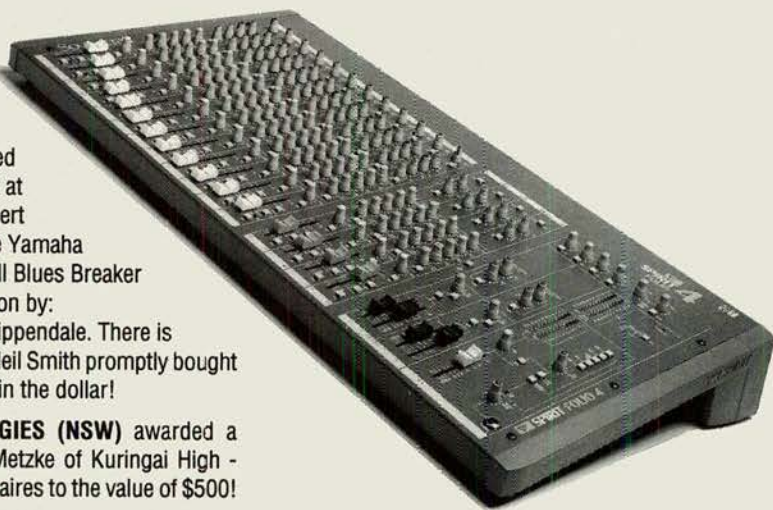
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Winners!

ROCK & ROLL MUSIC pulled the big prizes out of the hat at presstime, and: *D.B. Concert Sound of Geelong WON the Yamaha SPX 990, while the Marshall Blues Breaker 50 watt combo amp was won by:

* Ben Nightingale, from Chippendale. There is no truth to the rumour that Neil Smith promptly bought these devices back for 25c in the dollar!

LIGHTMOVES TECHNOLOGIES (NSW) awarded a lucky door prize to John Metzke of Kuringai High - John collected Teatro luminaires to the value of \$500!



MOVED!

◆ **PENN Fabrication**, to: 43 - 45 Johnston St, Port Melbourne. Phone (03) 646-7222.

◆ **Concert Lighting Systems (CLS)**, to: 282 Normanby Road, Port Melbourne. Phone (03) 646-8444.

◆ **Nessel Hire** have moved & joined forces with New Factory Sound. New address: 75 - 85 York St, South Melbourne, phone (03) 690-8344.

◆ **Audio Visual Designs (AVD)**, are mid move to 51 Ramsay Street, Haberfield. Call (02) 716-0211.

Folio Four

Pictured above is Soundcraft's surprise baby, Spirit Folio Four. With 12 mono and four stereo input channels, the little 4 bus mixer is slated for release at AIMS 93 according to Jands Performance Range manager, Jeff 'Gutter' Bolt, cousin of Alex Bolt.

Folio Four comes as a surprise because it wasn't expected - but there it is, above. With three band EQ that boasts a mid sweep and a 100hz filter, it's got features. The expected retail is less than \$4k, provided Jands' current policy of selling lots of lighting consoles into the UK continues. They hedge currency against this. Details call them: (02) 516-3622.

TOUR NEWS

► **Flop of the month** goes to Vienna's much-censored death metallists **Pungent Stench**. A Connections spy at the band's gigs at Perth's 500-capacity Club Original said only 200 punters turned up on the first night and 120 on the second. The band was "as boring as all get out" and were blown away by local speed metal support Allegiance.

The venue's management had hoped to milk Pungent Stench's blood, pus and gore reputation to its fullest but a hoped-for door-stop style confrontational interview by the Hinch program fell through. The news crew must have been busy washing their hair.

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Sex, Drugs, Rock and Religion

Spy v Spy are mid soundcheck when frontman Craig Bloxham recognises the balding fart standing in the mixing area.

"Julius Grafton! Haven't seen you for 10 years... Since we used your PA!" he shouts. The soundcheck at the Jet Club is over, we gather at the desk - the pre-gig meeting place - for a spirited discussion that turns - spiritual. Not as in the bottle type, either.

I'm actually here to talk sound with the crew, who are keen to show off some fairly unique devices, but first I exchange a few pleasantries with the band who, I've recently been aghast to discover, are of the Pentacostal faith. No longer the happy pissed drug addicts I knew in 1983, these guys are now happy blissed book addicts - in the nicest sense.

I'm certain this has nothing to do with the story but Craig and the boys aren't backwards about coming forward on the subject so I relay this here. In fact, the Spy guys are just downright happy to tell of their collective conversion, which occurred in someone's swimming pool as a baptism where you emerge speaking in toungues. Serious stuff, Marmaduke.

I ask the band about the business side of the not-so-private Christian conversion. Didn't it create a larger audience? In the same breath I hasten to add the band does good business anyway. The line of punters waiting outside in the rain testify to this.

"We actually tell people not to come", drummer Mark Cuffe says introspectively. The line of discussion turns to sex, groupies, scantily clad women on TV and the present pub environment. It seems the true believers are not at home here, and it's best for the band to do its work and for those of their faith stay away and do theirs. Sex and groupies? Not before marriage, the guys tell me.

"We say to the girls: 'You want us to touch your bodies - we will. With faith' - then we get down on our knees before them!"

I love the rock and industry. Because of the people you meet. □ Julius Grafton.

TOUR NEWS

▶ Another failure that has only recently come to light is last November's Beach Boys tour.

Perth City Council claims the tour lost more than \$1 million, according to the Sun Herald. The council leased Sydney-based Prophet Promotions the land for the show and has accepted an offer of \$5,000 in hiring fees. The original minimum agreed payment was \$10,000.

▶ The big winners at the moment are the reformed Seekers. After a cynical response to the tour by the country's music press the Seekers played 60 shows to crowds totalling 100,000 and are booked in for another half dozen gigs in Melbourne and Brisbane this month before jetting off to New Zealand for a 23-show tour. Staff at Michael Coppel Presents are expected to be smiling for some time.

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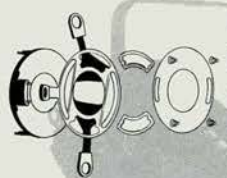


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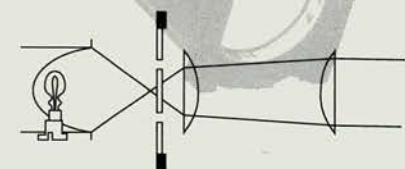
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SPC1200 - And what others have to say - leading British lighting designer and educator Francis Reid in a June issue of "The Stage"

"- applying the sort of lateral thinking that makes their latest PC spot the current world leader in beam quality."



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MW Sound = quiet efficiency



Marty Welsh (centre), in front of Mitec console. Sound engineer Steve Reece is right, with Spy's Craig Bloxham, is on the left.

Marty Welsh operates MW Sound, a quietly run value packed small private sound firm hired by Spy V. Spy when touring Eastern States. The bard are louder than hell on stage- Marty reckons the only band louder he's worked with is Judge Mercy.

FOH engineer Steve Reece must mix house sound above the blistering stage level. I recall AC/DC's sound engineer Robbie McGrath describing their stage sound as 'a wave' that hits the sound desk at about 118dB. Steve surfs a similar wave, ably assisted by plenty of noisegates, used to shut the front vocal and drum mics when not in use. The gates are actually on the mixing console channels, a feature of the German built Mitec console. Compressor limiters are there too! Steve hired the desk from Grafons Sound.

"I think what's changed in 10 years is the foldback is bigger than the PA used to be" reflects Spy's bassist and vocalist, Craig Bloxham. Drumfill, for example, comprises two complete separate systems - it's true to say the kick drum from hell will fatten your kidneys. If you have hair it will be blown back, away from the source of the sound. Because it's coming from two sides, you'll end up with a unique hairstyle!

The drumfill is awesome enough but the crummer needs more. Two LP (low profile) foldback wedges lurk at the rear of the riser so the lucky skinsman is getting three whole sends (separate mixes) and the ensemble is cooking.

"I did a tour with Ian Gillan a while ago," says Marty, "and the rider said '4k foldback'. Afterwards the guys got me to write down every component - they couldn't believe how much they had!" Either side of stage is another three-way stack - not unlike the drumfill. Marty has been a Cerwin Vega fan since forever and the American loudspeaker manufacturer's 18" woofer is the bass device of choice at MW Sound. The sidefill is, again, greatly excessive from the perspective of those not used to Very Loud Bands. This band are made up of bass, drums and guitar so the player's obviously have the Spinal Tap syndrome. The Marshalls go to 11.

Sorting out foldback is Grant Pudig. "It's a Polish

name," he tells me. The almost museum piece Midas monitor desk still delivers the chops, testimony to the UK manufacturer's resilience. Witness the resurgence of the brand here with the XL-3, possibly the finest concert console available in its category.

The moving parts of the MW Sound PA have been revised somewhat since we last encountered an example. Marty has designed a midrange box that replaces his previous Rcy Bins, so named due to some tenuous link with Roy Clair of the famous American sound firm Clair Bros. Marty's new Mid-Bin is similarly loaded with a pair of JBL E120 12" speakers but has some phase plug affair hidden away inside the trapezoidal design. These mid bins sit atop a bunch of Double D Cerwin Vega subwoofers, which are the most kidney rattling bottom end for the least size. Put another way, the Double D has the most advantageous Size-to-Power (STP) ratio of any bass box ever invented - we think.

MW Sound also has a similar specification 'B Rig', Marty has been trading since about 1972, and is based in Gladesville in Sydney's North/West. An affiliation with Lightworks in Perth means a complete touring package, including truck and crew, is offered.

Marty's PA Tips

□ Marty uses Phase Linear amplifiers throughout his systems, serviced by **Glen Wheeler**. "I tell the crew to let them warmup, then cool down before tuning off", Marty explains. Provided they are kept clean of dust buildup, the amps are reasonably reliable. They are still favoured by Marty for their sound- and power.

□ New to MW Sound are PTM EQ28M third octave equalisers, which Marty is quite enthusiastic about. PTM MLX-4 crossovers are also in use, replacing the previous Sound Developments units.

□ Beating dreaded speaker failure is as simple as **fusing** the loudspeaker cabinets. Bass cab's are fused at 7 amps, mids at 5 amps. It works, says Marty!

TOUR NEWS

► After a typically massive capital city run with the Moscow Circus, Edgley Ventures (previously Michael Edgley International) are working on an Australian regional tour for the troupe next year. Others in the pipeline for 1994 include Bill Cosby, Mikhail Gorbachev and Torville and Dean.

► Frontier Touring has announced coming national tours by Living Colour in Sydney on September 16 and Bon Jovi in October.

► Michael Coppel Presents are bringing in the Spin Doctors from the US for three shows: Brisbane's Festival Hall on September 15, the Hordern Pavilion in Sydney on September 16 and Melbourne's Palais Theatre on September 18. The Sharp provide the Oz support. Tina Turner is also scheduled for a national Entertainment Centre tour in October.

► WA's Musicians Union has taken on the big guns in concert promotion with a mass meeting of union and non-union musos representing 40 WA bands. Motions carried included support for the traditional "one for one" supports by Australian musicians for overseas acts, minimum rates of pay and industrial action against promoters and overseas musicians who fail to comply.

The meeting follows grave concern over the increasing number of major acts - Metallica being the most recent - touring Australia without local supports.

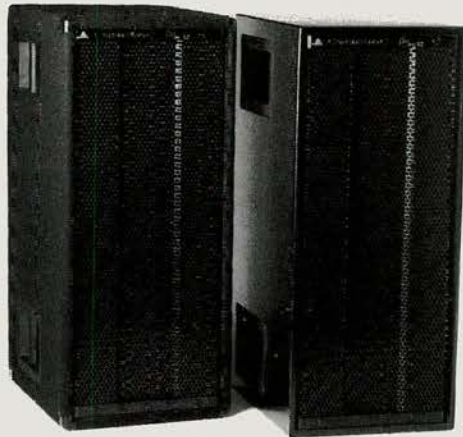
► Michael Coppel Presents' plans to bring U2 to Australia in November/December are being delayed by managers of the Sydney Cricket Ground. "Pop stars" Madonna and Michael Jackson, both due here around the same time, have been okayed but the SCG is concerned about the Irish "rock band".

The battle between Frontier Touring and Paul Dainty Corporation to bring Maddy out here, meanwhile, has pushed her performance fee to a rumoured \$10 million.

PRODUCTS

QMX for A.M.

Following the success of the QMX double 15, (100 sold so far) Australian Monitor debut the QMX Double 12. (Pictured, right) On axis peak SPL of 135dB from a 48 x 59 x 98cm box 'aint bad, the AM'ers say the horn has a swivel feature for stacking vertically or horizontally. Details from A.M. : (02) 816-3544.



Diafora

Ashton Admore in Perth have the ColourArt colour changer, with 2 - 16 colours, end-to-end in 1.5 seconds. DMX drives it, built in France. Call them, (09) 478-3800 for more data.



Cerwin Vega News

Good news for fans of Cerwin Vega, the American loudspeaker manufacturer renowned for thunderous bass. Ashton Admore are the new Australian agents, Call them on (09) 478-3800 and say 'good!'

Mighty Valve is Back!

Microtech Gefell have released the UM-92S tube condenser mic, with the classic M7 capsule. Southbank Trading will tell you more: (03) 699-7809.

Digitech Storming

Since adding Digitech to their portfolio of products, C.M.I. have been lucky insofar the American firm has added new product almost every month. The TSR-24 is a fully programmable and hardware/software expandable reverb/effects unit. The static/dynamic instruction set computer is unique to Digitech. TSR-24 sells for \$1,929, and should be a hit at the forthcoming AES and AIMS tradeshow. It looks not unlike stablemate DHP-55 (below). Also new is the Vocalist II, a rackmount companion to the now almost famous VHM-5 vocal processor/harmoniser. Details from C.M.I. (03) 315-2244.



Cat Forcer

BITS & PIECES

└ It's that time of year in Europe when every band and his dog are playing the summer festival circuit. The festivals have strange 'folky' names such as Fleadh, Roskilde and Glastonbury and usually last about three days. Most are in Northern Europe and consequently often become a mud bath and of course there are never enough toilets.

Bands on the circuit this year include Midnight Oil, Living Colour and The Cult. Whether the Cult will come to Australia is doubtful since when they toured here a few years back they trashed their backline every night resulting in an estimated \$35,000 amount of damage. Those naughty rock stars.

└ The aforementioned Living Colour will be playing here sometime in September after a successful tour of Europe. Tour Manager/Lighting Designer Rick Downey used to be in the spotlight himself as the drummer with the 70's and 80's group Blue Oyster Cult. Apparently he is very sympathetic to lighting drummers (why?) and has been using a par rig with Intellabeams.

└ Those heavily hyped teen-dream popsters who have been making the big time in the UK Suede have cancelled their planned Australian tour. Apparently the reason being due to the band's belief in an obscure astrophysicist's theory that the world is about to enter a period of continual night. What a great excuse!

└ There are some real sport and rock'n'roll alliances coming up this spring. Tina Turner will be playing a sporting event as her 'What's Love Got To Do With It?' world tour graces our shores. Following that, Michael Jackson finally reaches Australia and he will be performing at November's Australian Grand Prix in Adelaide.



DUNK CLINIC AT ANYTHING AUDIO

'I'm Duncan, I'm 6'2" tall and I like Lasagne' Now you can have him poached, fried or grilled, at the Anything Audio LIVE SOUND MIXING CLINIC. Yup, Saturday 28th August, 12 - 3pm is the time.

PLACE: 256 Victoria Road, Gladesville.

WIN: Enter the contest to guess Duncan's weight and you could win an ARX Afterburner! Use the form on PAGE 4 of this issue.

AES MEMBERS

'INDIFFERENT' AT DCC DEMO

The NSW chapter of the AES held a product demonstration last month in Sydney, where Marantz demoed their Digital Compact cassette machine. Comparing the DCC to CD produced a definite consensus that you could certainly pick which was which. The 30 strong audience were polled by your writer, to find most lukewarm to the new technology. The most common remark was 'Why?' - and most said they would prefer to their listening.

AUX 2

INSIDER NEWS for THE SOUND & LIGHTING BIZ

Installation king John Clinton, AKA 'The Beard' has fallen on tough times, with a company that he operates through, Daindan Pty Ltd being placed into the hands of a receiver. Word has it \$300k is the shortfall in this firms operations, Clinton had bad times a decade previously with Live Music Systems, a firm based in East Sydney which also expired. Back to motor racing, John.

Baby time, Yamaha musical boffin Peter Logan and partner Vicki have had twin twin 2 2 girls girls - gasp gasp - Hannah and Kate join the family, to make 3 girls! Like at Connections. Ergg!

....and Greg and Allison Kean (from Lots Of Watts) have Lots Of Sparks with the arrival of one Tahlia Kean, the little girl is the first in their family. Congrats everyone above!

BACK from Dallas and Vari*Lite is Andy and Judy Meldrum, the Andy now works at the high tech LSC in Melbourne, behind locked doors where much secret R & D is underway

David Martin has been confirmed as murdered, because Thames Valley Police charged an associate of his, one Colin JAMES (aged 49) with his murder. No body has been recovered. Thames Valley Police wish to hear from you if you had dealings with Martin before his death. If you have any genuine theorys on the matter, contact Deputy Supt D. Blair, fax: 296-394-786. No time wasting.

It's 1993, so Terry Goodhew has a new job. Last seen working for G.U.V.T. in Sydney.

Get this- Dutch health authorities have asked Amsterdam's hash touting 'coffee shops' to take space cake off the menu. It seems several British Pensioners were hospitalised with paranoid psychosis recently after unwittingly ordering the offending cake!

Heart stopping crime just before publication when 'drug addict lesbian prostitutes' stole secret notes, work in progress, phone book and thousands of husband Rick's tools from Catriona Forcer's residence. Great surprise the following day when the Police rounded up the above (officially) tagged criminals, and recovered the goods. One lucky Catriona & Rick.

More Crime, this time notorious rock publicist Phil Tripp and partner Lisa Treen took the trouble to have convicted two brothers, Jack & Thomas Mak - charged and convicted with three counts of assault. The incident occurred when Tripp spotted the brothers flogging allegedly illicit T-Shirts in Tamworth during the country music festival. The Mak's took darkly to Tripp taking photo's of their bogus merchandise, and a scuffle broke out whereby Jack Mak assaulted a council parking meter with his head. Tripp and Treen travelled to Tamworth in July to see the brothers have The Book thrown at them by magistrate Bissett. Tripp acts for ACME, the big merchandisers, in a war against bootleg merchandise. ACME it seems are winning for now.

Chuggie loads truck-! Yup, it happened when the Blazing Saddles were booked for an 'unplugged' show at The Gig in Brisbane. Some misunderstanding regarding the level of production arose during setup, when Michael Chugg arrived just before the gig he sorted it out - and helped load the excess into the truck!

Chris Blanch has left Megatone Hire in Sydney, gone bush. Andrew Haddad has joined Australian DJ Supply Co, they also have Andrew Haddad signed up as Perth agent, call (018) 162-582.

Michael Hewitt is now NSW Hire Manager at Premier Lighting, after Darryn Fox went freelance as an effects and LX technician. Contact Darryn on 962-9000, pager number 132-351.

Graeme Boucher, ex Amber, is now Victorian state manager for Syntec International.

Gary Anderson is new at Southbank Trading as export manager, the firm is hellbent on selling local gear O/S, and would like to talk if you have exportable products. Call (03) 699-7809.

MC

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PRODUCTS

Compulite for CDA

Coemar DeSisti Australia are rightly proud that they now distribute Compulite's range of control desks here in Australia. The Animator (pictured) is available to control 24 - 72 moving lights, there are 160 of these already working around the world. Animator is unique in offering the Intellabeam protocol output, as well as multiple DMX. It was a hit at LDI '92 last year, and has some neat features. Details from Peter Kemp at C.D.A. (03) 467-8666.



Venues

Capitol Underway

SYDNEY: Work began last month on the Capitol Theatre after a ten year hiatus. Not believing it, we despatched Jennifer Term to the site, and the picture below actually confirms there is action at the station. Sydney City Council almost let the magnificent building fall over by neglect.

Developer Ipoh Gardens signed a 99-year lease on the \$32 million heritage property late last year. A spokesman for the company said restoration would be complete by January 1995. The theatre's stage will be expanded and the venue will seat 2,100. 1995 is the target completion date. Fingers crossed!



GAYTONE Sound & Vision, the cream cheese of Brisbane's audio visual community has won a MICE award from The Meeting Industry Association of Australia. Geoff Gay says the award proves a job done by Gaytone is always a job well done. After 24 years in business, they must be OK!

BITS

- Australian DJ Supply Co are now exclusive distributors of ORION disco mixers - the Promix 10S has an eight second sampler onboard! It sells for a very reasonable \$699 retail.
- Also from Aust. DJ Supply Co is the Scatterspot, a static moonflower type effect with a 12v 50w lamp.
 - and then there is the WILDSTAR, which is a scanning Moonflower type effect. Details: (02) 564-2277.
 - YES Y1 Fog Machine is new for Universal Lighting & Audio Pty Ltd. It is built in the UK, and has a thumping great 5 year warranty, with 700 feet per minute output. Call (075) 290-688.
- TASCAM announce a new range of Professional Cassette Decks. The 122MKIII sells for \$1,780, while stablemate 112 MKII sells for \$1,040, and the 112MKII(b): \$1,145. Details from Teac Australia, (03) 646-1733.



Events

Regional innovators (more wanted!)

* **ADELAIDE:** BSS Light & Sound Innovation invite you to a trade night on Tuesday 10th August, and a Public night Wednesday 11th, both start at 8pm and are at Theatre 62. Call (08) 352-8688 for details.

Tradeshows: Australia

- * AES, this month: Aug. 24 - 26, Melbourne.
- * AIMS '93 next month, Sept. 9 - 12.

Tradeshows: Global

- * PLASA, London Sep. 12 - 15.
- * International Music Expo NZ, 18 - 21 sept.
- * Pro Vision & Sound NZ, 5 - 7 October.
- * AES New York, October 7 - 10.
- * SMPTE Los Angeles, Oct 30 - Nov 2.
- * LDI '93, Orlando, Nov. 13 - 15.
- * Comdex, Las Vegas, Nov. 15 - 19.
- * NAMM, Anaheim Jan 21 - 24, 1994
- * AES Amsterdam, Feb 27 - Mar 2, 1994
- * Pro Audio, Light & Music, Beijing May 16-21, '94
- * Pro Audio & Light Asia, July 6 - 8, 1994
- * Connections, Pacific, October 1994
- * AES 97th, San Francisco Nov 10 - 13, 1994.

Cat Forcer

└ It looks like Pink Floyd (yawn) may be starting their next world tour here early next year. Their previous shows have always elicited comments about fantastic stages and lighting design from 'those in the industry'. As before Marc Brickman will be the LD following his success with Paul McCartney. Marc told me it might be his last tour design as he wants to concentrate on other projects such as film.

└ Peter Gabriel has been touring through Europe with a rather 'rave' inspired lighting design by French/Canadian Alain Laute. The rig includes Tigerscans and Superscans with control shared by an Avo Diamond and the Wholehog lighting desk yet to be seen here in Australia.

MEDIA REVUE

► The first round of the battle of the street directories has been taken out by Phil Tripp's Immedia! with the publication of the 11th Australian Music Industry Directory in the middle of July.

The edition is the largest yet and features an increased Asian contacts section in the back along with the usual listings for artists, booking agents, promoters, management, medi, record companies and the like. Immedia! also plans to publish updates which will be sent to all listed companies and individuals in September and mid-March.

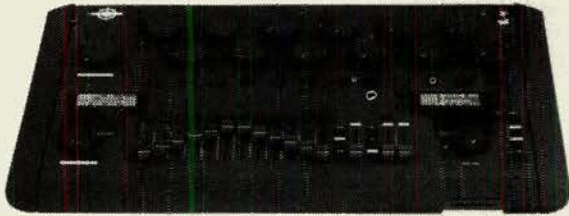
The directory is available for \$10 from Immedia! in Chippendale, the Music Industry Associations in Adelaide, Brisbane and Perth and the Victorian Rock Foundation. To obtain copies by mail order, send a \$15 cheque to Immedia!, 3 Rose Street, Chippendale, NSW 2008.

► At presstime the new 'Australasian Music Business Index' a challenge to the Australasian Music Industry Directory (Phil Tripp's directory, see above item) - had not yet made an appearance. The receptionist on the contact number provided on listing forms (coincidentally the same number as *On The Street*) assured us it would be available by the end of

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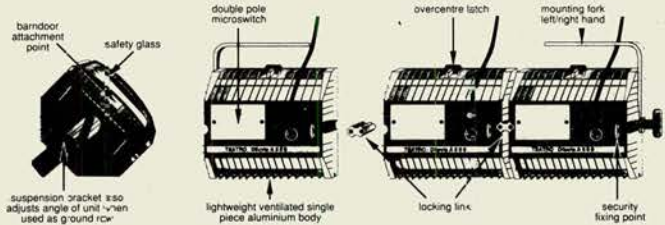


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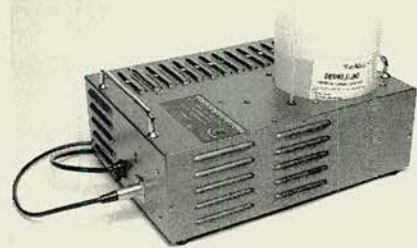
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Statues & Flames: Oils Burn



Catriona Forcer spoke to lighting designer Nick Elvin at the start of Midnight Oil's *Earth and Sun and Moon* world tour.

"We've been lucky enough to have a few set up days on this tour," said Nick Elvin, lighting designer for Midnight Oil's current world trek to promote their new album *Earth and Sun and Moon*.

"I started planning this show a few months ago when the band were recording - I used to go down there to talk to them and some weird and wonderful ideas came out of it.

"We got these Easter Island statues made up 12ft high with a 4ft x 4ft base and painted white. We have two stage left, one centre stage and one on stage right leaning over. I light them with a few par cans with colour changers on them and they look great."

The rig is an unusual asymmetrical shape with 222 Par Cans, 14 four-cell Cyc Lites (1000 watt), five 8-lite Molefays c/w ACL, four 8-lite Molefays c/w DWE, eight 5K Fresnels, 23 6/12 Lekos and four Molefay Duets c/w ACL.

The Colourchangers comprised 46 par 64 Colormags (six to fit 6/12 lekos), nine Molemags and eight Minimags with two control desks. Nick also had Jands build him what he calls Megamole 8-liters which have Par 64s in them instead of 36s, which he loves. Followspots were four Lycian HTI 400 (top mounted). Effects included two Oil Crackers and four Fans, two of which were mounted on the truss. Control was an Avo QM500 90 way as well as a Celco 30 way. All lighting equipment in Australia was supplied by Jands.

"We've also got a 35mm movie projector out the front," added Nick. "It had footage of flames which were used to open the show - the house lights would

go out, the reveal would come up, the flames would shoot up and the band would walk on amongst them.

"At the end of the show, just before the encore, the flames would happen again and they'd walk off. In one song, *Outbreak of Love*, we project a kaleidoscope effect with very little lighting, just a little side floor light and followspots."

Before the tour Midnight Oil played a few warm up gigs at Tweed Heads using Vari*lites but they were later dropped. The band members decided they weren't warm enough and "made them look like Tom Jones".

"I was disappointed because I had some VL5s booked to do the tour as I think they look great," Nick said.

"The band like to feel the heat from the lamps, they react to that, and no heat comes out of the Vari*lites. They're a great lamp if you've got time to program but with Midnight Oil you never get that time."

AUSTRALIAN TOUR PARTY

Manager:	Gary Morris
Tour Manager:	Willie Macinnes
Production Manager:	Michael Lippold
Stage Manager:	Howard Freeman
Sound Engineer:	'Ossie' John Vassey
Monitor Engineer:	Kevin Farrant
Lighting Designer:	Nick Elvin
Slide Projector:	Peter Howard
Jands Lights:	Robert Kelly, Nicky Koumos, Kyle Ludgate, Kylie Morris, Wyn Milsom, Pat Richardson, Matts Frankel.
Jands Sound:	



John 'Ossie' Vassey, sound engineer (far left) and Nick Elvin, L.D.

July. This is after it was promised in April - rule #1 in publishing: never promise something you can't deliver.

► Then there is the just released 1993 Sonics Yearbook - as all but the colourblind would have noticed, judging from the lurid cover.

This is a 260 page listing (down from 348 pages last year) of mainly products. It was, until this year, also fairly strong in People & Services listings, but has reduced this section from 110 pages last year to just 41 pages this year. This is the area that the Phil Tripp directory covers (almost all 240 pages of it), so market forces are at work, perhaps?

Sonics Yearbook sells for \$12.50 (NZ \$18) in Newsagents.

► New Sydney-based entertainment magazine *Footlight* made its debut last month with 76 pages of interviews, reviews and an entertainment guide covering music, films, exhibitions, night clubs, theatre, travel and sports.

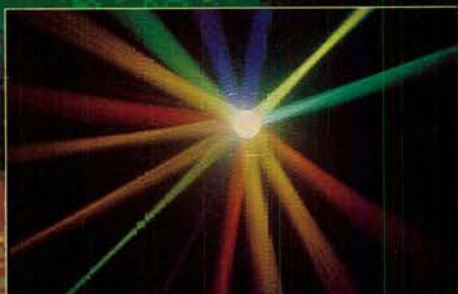
The glossy A4 format mag caters particularly to visitors and mature readers and families rather than punters. Contact people are editor Rosemary Small, who comes from a business and trade publishing background, and advertising reps Wendy Hodges and Mark Dryden. Phone (02) 997 1500, fax (02) 997 7198.

► *Rolling Stone v Juice*, round 5. *RS*: 100 pages, 16.5 pages advertising, cover pic of Whitney Houston (clothed). *Juice*: 116 pages, 21.25 pages advertising, cover pic of Frente!'s Angie Hart (naked).

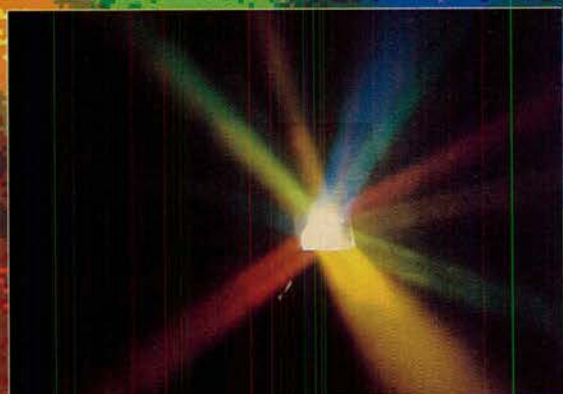
Round 6. *RS*: 100 pages, 19.25 pages advertising, cover pic of INXS (clothed, but Died Pretty's Ron Peno is nude inside). *Juice*: 116 pages, 29.5 pages advertising, cover pic of Terence Trent D'Arby (nude).

Tells you something about sex and sales, hmmm? *Connections* will be next to enter the fray with full-frontals of its editor placed enticingly throughout the mag... (*Editors note: The overtly feminist 'new push' in our office has gone too far. How these people manage to infiltrate this organisation is now the subject of an official enquiry. What next Shiela Yates for editor?*)

► Possibly related is the enthusiasm for S&M throughout the media with recent features and picture spreads on Australian and overseas clubs seen recently throughout the street press, in *Rolling Stone* and on tel-



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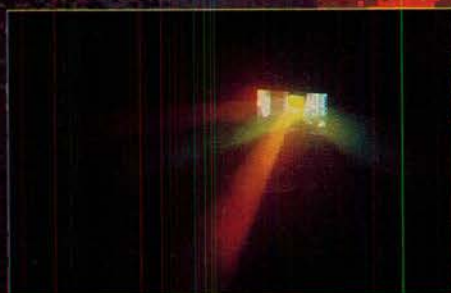
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Technical Workshops

TECHNICAL WORKSHOPS are now the exclusive service agent for Syntec International in Melbourne. Syntec's General manager Rob Findlay, advises the firm has expanded an existing service agreement with Technical Workshops to now cover the full

range of Syntec Products, including Bryston, DBX, Eventide, Fostex, ITC, Orban, Revox, Sennhieser, Studer and Tannoy. Technical Workshops contact: Jeff Knight, 10 Mavron Street, Ashwood. Phone (03) 807-7117.

Mackie Designs & the OTTO

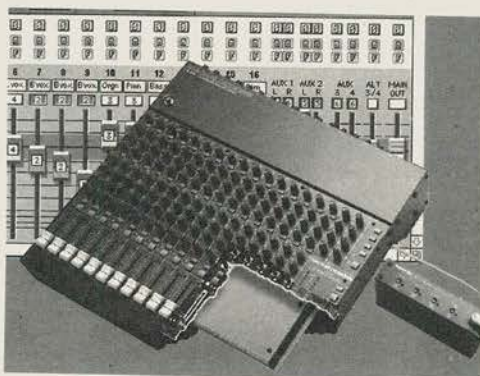
MACKIE DESIGNS, the upstart American mixing console manufacturer, announces the OTTO-1604 MIDI Automation add-on for the CR-1604 mixer. Australian Audio Supplies are the Australian distributors for Mackie, who have claimed a respectable market share in the small mixer segment here.

The OTTO-1604 retrofit adds automation to any existing CR-1604. It provides real time fader and muting control of 28 mixer parameters including inputs, main outputs and AUX returns. OTTO consists of an internal gain cell board and an internal junction box with MIDI IN, OUT and THRU sockets.

OTTO-1604 functions with PC, Mac, Atari or Amiga sequencing programs that support graphic faders. Also included is OTTOmix Mac mixer software which emulates the graphic look of the CR-1604 mixer and allows such additional functions as control of up to

48 channels, unlimited subgroups and pre-programmed fades.

\$2295 retail, details from Australian Audio Supplies (018) 432-910.



evision.

The publicity hasn't warmed the venues' hearts towards the Fourth Estate. however. Sydney's Hellfire Club held a 'Fuck The Media' party a couple of weeks ago and invited all punters to come along and flog all journalists, publishers and distributors for crimes against freedom. Funny. no one asked us along.

▶ Good news for all those fans of Christie Eliezer's vitriolic (? -Ed) *Swipe* column in *Juke*: it's been redesigned and can now be read without developing a migraine by the time you're halfway down the first column.

▶ Meanwhile, *Juke* management are pondering solutions to the inroads the street press has made against the long established weekly tabloid. Is a relaunch imminent - or worse? Watch this space.....

▶ Melbourne's *Beat* magazine has lost one of its newest writers after he asserts they told him to sell enough ads to support his editorial copy. Nothing like integrity eh?

▶ While on the subject, Sydney's *On*

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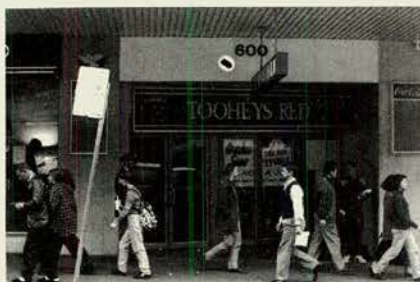
Venues

New Tivoli Opening

SYDNEY: "It'll be a crossover between a concert venue and a night club," explains Patrick Corrigan of the New Tivoli due to open later this month, Liquor Licensing permitting.

Located on the old Maxi's site opposite the Hoyts complex in George Street, the room will initially be licensed for 600 with a large stage and dance area. It will operate around the clock Monday to Saturday, and until midnight on Sundays.

Corrigan says he hopes to create a much-needed focal point for the music industry in the inner-city. Planned nights include live acts early in the week with Tooheys-sponsored new music nights on Tuesdays for happening young bands. Thursdays and Fridays



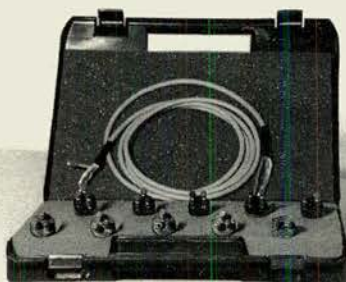
will begin with early shows for the suit and shoulder-pad set followed by bands and DJs till late.

The room is being set up to showcase live acts with state-of-the-art lighting and sound - "but it's not done out in brass and marble", Corrigan promises.

Bookings are being handled by Dave Norman Communications and Patrick Corrigan on (02) 283 2121. Keep your eyes out for flyers announcing the week-long opening celebration.

Jennifer Temm

PRODUCTS



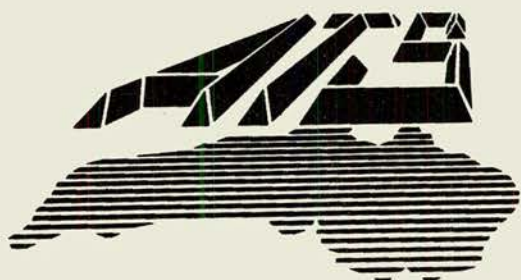
□ From Audio Services Corporation comes Bodge Plugs - THE answer for doin' de bodgey - just push a wire into the spring loaded terminals on the variety of connectors - including XLR, RCA, BNC etc - and make a bodgey! Call A.S.C. on (02) 901-4455 for details!

The Street has appointed the advertising manager Heather Kitson to the position of managing editor in a move calculated to make all but the most crassly commercial cringe. Kitson takes over from Jessica Adams who will continue to contribute stories to the magazine.

We phoned *OTS* for a chronology of editors but after 14 years of changes it seems no one but publisher Noel Crabbe, who didn't return our call, can remember all those who have been at the helm. One editor Crabbe is probably trying hard to forget is Scott Howlett who departed *OTS* abruptly. Howlett, who contributed more recently to *Sonics*, has also popped up in his former stomping ground of Perth. Howlett has regained the managing editorship of *X-Press Magazine* after a fallout between previous editor Jennifer Temm and publisher Joe Cipriani.

► Still on *OTS* and we've been all over the magazine's recent mastheads with a magnifying glass in search of those amazing CAB audited circulation figures but they seem to have disappeared...

► Jennifer Temm



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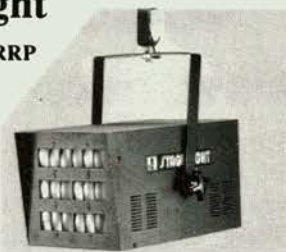


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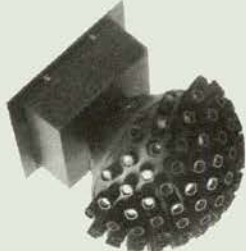
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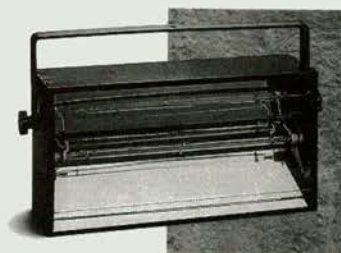
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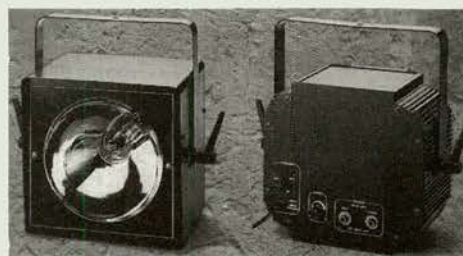
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MIDNIGHT SHIFT



Sydney's renowned Midnight Shift celebrates its 12th birthday this year.

World famous for its lighting and audio systems, the Midnight Shift has gained its reputation for tightly choreographed shows by using some of Sydney's best DJs and lighting operators. Only one DJ and LX operator work per shift, from 11pm till dawn, so naturally a musical affiliation occurs and thus a great show.

The entire installation is owned by Midnight Shift with the occasional supplementary hire for a special event. Lighting designer Bill Jansen regularly changes effects either by replacement or repositioning and totally re-designs the rig every three months or so. Bill tells us "this gives a different look and feel for the punters".

A heavy maintenance schedule is adhered to during this strip down time. Rental provided by Megatone Hire with purchases supplied by the Australian D. Supply Co.

OWNER:

MANAGERS:

LIGHTING DESIGNER:

LIGHTING OPERATORS:

SOUND DESIGN:

MAIN DJs:

DECOR/INTERIOR DESIGN:

TYPICAL DOOR CHARGE:

LIVE ENTERTAINMENT:

Midnight Shift thank Phillips for the photographs.

Terry Patterson

George Chipchase, Bill

Trot, Paul Williams

Bill Jansen

Bill Jansen,

Charlie Evans,

Lance Douglass*

V-Audio

Paul Goodyear, Rob

Davis, Lance Douglass,

Dean Essing

Brad Goldsworthy

Wed \$4, Thur \$4,

Fri \$6, Sat \$10.

Production show on

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*(*Lance is the creator of MULTISCAN Software which, run on a PC, is capable of controlling together various Intelligent Lighting including: Golden Scan II & III, Roboscans, Intellabeams, Samurais, Trackspots and Miniscans)*

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1 * Theatrelight Showmaster 24 Channel consoles.
MULTISCAN Software running on a 386 PC Intelligent Lighting Controller.

Intelligent Lighting:

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Lanterns

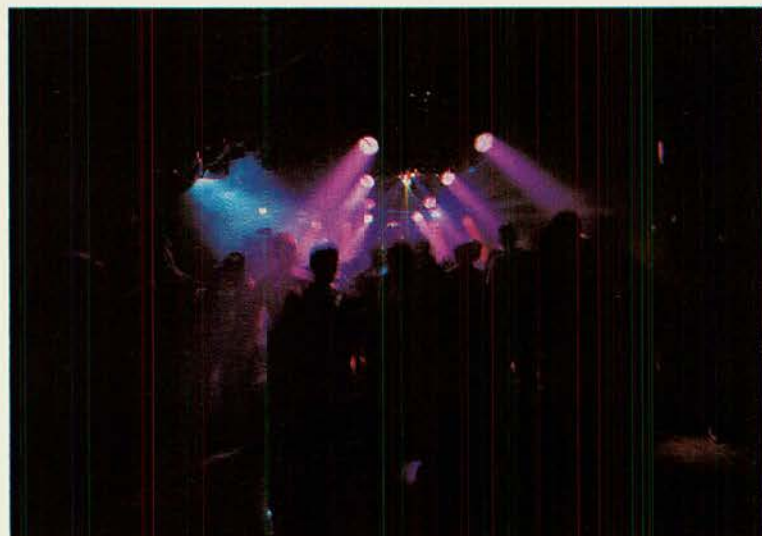
Par Cans: 12 * 64's,
38 * Raylights,
24 * 56's, 98 * Pin Spots (Orion Matrix).
Fresnels: 2 * 1K & 4 * 650 watts
Profiles: 12 * 1K, 4 * 650 watt & 2 * 500 watt, 20 * LX
Brics, 2 * ACL 250 watt & 2 * Mollays

Effects

2 * Helicopters,
3 * Astro Raggi OW,
1 * Astro Raggi Coloured,
4 * Astro Raggi Coemar, 2 * Astro Raggi Flat Blade,
12 * 180 Scanners,
24 * E.T. 500 watt,
2 * Gemini,
2 * Storm Trouper,
4 * 4 Flower,
1 * Pictor,
8 * (heads) Colibri Motorised Light System,
4 * Spatan 1K,
2 * White Lighting Strobes, 8 * Rock Strobes (4 * in floor),
4 * (heads) Laser Chorus System,
1 * Pinstot Scanner Bar, 4 * Solar 250s,
2 * Star Balls 150 watt,
24 * Mirror Balls (from 12" to 24").

AUDIO

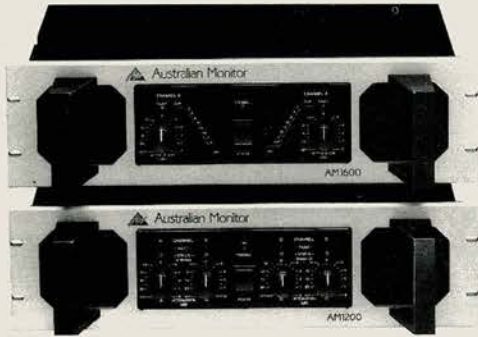
3 * Technics SL-1200MK2 Turntables (3 * Spare)
2 * Technics SL-P1200 CD Players
1 * GLI PMX-9000 Mixer (1 * Spare)
2 * Chiayo DR 505 Radio Mics
2 * 1/3 Octave EQs
1 * Audio Design X-Over
2 * DBX 160 Compressor/Limiter
2 * Jands Amps 800 watt
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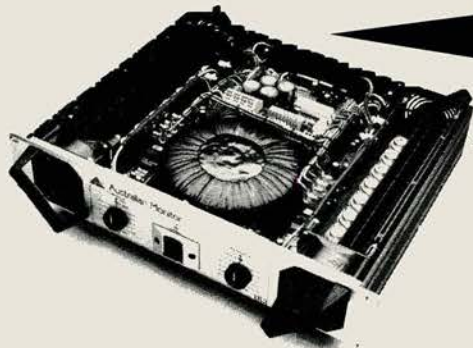
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WHO (& why?) is Fats Thommo?

The beach is one nautical mile long - just under two kilometers in the new money - and it's deserted, save for a handful of seagulls.

Human footprints lead from the trail onto the beach. As many as 30 sets follow in haphazard and meandering fashion towards what looks like a major excavation. Clustered around this metre-deep hole, the footprints mill about.

The clean sand is littered with tracks and pits to the end of the beach, not unlike the aftermath of the Normandy Invasion. The tide will need to clean up here because Fats Thommo has been at work.

Luna Park on legs, the Mound Of Sound - Fats Thommo is Resident Musical Director, Entertainer, Bon Vivant, Raconteur, Band Leader, Comic, Elvis Impersonator, Sideshow and Crabologist on Great Keppel Island, astride the tropic of Capricorn off the coast of north Queensland.

Earlier, Fats had led resort guests on the weekly hunt for crab race fodder, spotting the entry hole to a crab tunnel and digging it out before it could bury itself deeper than the considerable length of his arms.



"This crab is coming OUT!" he bellowed as he flung himself into a secondary pit, digging his considerable bulk into the landscape. Soon his large bald dome is missing, along with enough body to account for one normal person. His nether half was still visible and the guests pondered recovery action should the pit collapse.

Although it's 23 degrees in the midday sun, Fats insisted his crab catch was meagre because the little beggars were digging deep to escape the winter cold. A further expedition to another beach was required to find the six racing crabs required, with reserves, for the evening's races.

This is serious work. The crab race is an eagerly anticipated weekly event and is even more popular than the karaoke night Fats hosts.

"Welcome," he tells the audience. "EVERYBODY sings when Fats Thommo does karaoke". To my surprise and horror, for I'm somehow included in a duet with a solicitor from Yamba, all but one stubborn grandmother joins in.

Tourism generates a lot of business for the music trade. This one island had, in fact, two resident bands working and living in a vacuum where the passage of days is marked only by the food theme at the resort restaurant and by the entertainment dreamed up by Fats and his cohorts- Tony 'The Knife', and Frank. The three comprise a rudimentary band based on Fats' guitar and singing (ideally suited to Elvis take-offs), bass and keyboards. Dr Rythm provides the skins.

Fats is a cross between Uncle Festar, Ricky May and Divine - all sadly deceased, which is where the irony compounds because Fats came to music from a job as an undertaker in Mackay.

"I did the lot - picking up bodies from car accidents to arranging burials. I'm doing an exhumation soon because I'm the only one that knows how to do it. I did one once where the pit was wet and I passed out from the methane!"

According to Fats, the path to earning a decent living is the solo trail.

"I had my best year last year, just tcuring in a van with (*girlfriend*) Rose doing sound".

Fats hired a little PA from Dayle Kennedy in Mackay and took off. Harry Slee at Tropical Talent was booking him then and it wasn't always a fruitful relationship.

"I was booked into the Playpen at Cairns to do my Elvis act. It was Friday night, and 1,500 people were dancing to a Jimmy Barnes track at 10,000 watts. I died on stage, and the promotor held me to my contract to come back two nights

later." Every performers greatest fear!

Two days later Fats tried a different approach. "I rushed out in a bright pink stinger suit, and some of the crowd remembered me from the Friday night. I just stood there for about 10 seconds and stared them down. Then I ripped into 'em, told 'em all to fuck off, and my R rated act was born! They loved it!" Fats is never short of a one liner.

These days Fats has a show for any occasion. Kids karaoke, Weddings, Race days, Conventions- he thinks he has it all covered. "I know now that you need to hold out for what you're worth, and not sell yourself short", he says. "If you work as a \$250 act, you get treated like one."

Fats works, because he is a student of human nature. He's a good prototype for others contemplating a career in entertainment, and a 1993 version of what cabaret used to be all about. □ J.G.

◆ Also resident on Keppel are **The Thomas Brothers**- probably the best bar band I've seen in a long while. Music technology is hard at workstation here, with a traditional drumkit, guitar or bass played by the leadman and the workstation brother doubling on whatever he has time for once the sequencer starts clocking out the tune. They sounded great!

A set-and-forget.PA produces the goods better than I thought possible. A pair of Bose 802s are astride a W Bin at each side of stage, the mixing console is bolted to the wall. Sensible levels work!

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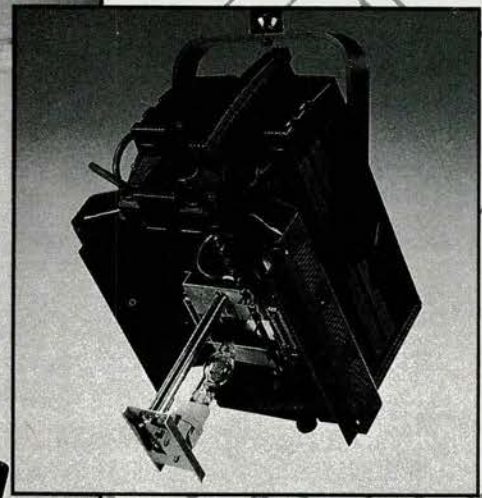


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- New optical design gives whiter light to give even higher apparent brightness.
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- Good peaky/flat field adjustment on profiles with easier adjustment of both lamp alignment and distribution.
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- Excellent access to lamp and reflector by quick release trap doors which are interlocked by high temperature rated microswitches to disconnect power.
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- Excellent access to profile lenses by top and bottom hinge covers.
- Version available with cranked fork, to allow high vertical angles of operation when fork underslung rather than top hung.

HIRE BIZ BUZZ

Queensland Cracks Down

Workplace Safety - or an impost on the Entertainment Industry? If you tour or gig North of the border, you'd better be sure that YOUR equipment is tested and tagged - otherwise the penalty could be severe!

Several months ago a best boy was accidentally killed on a film set because of an electrical fault, prompting calls for a new look at electrical safety in the workplace by the Work Cover Authority.

A meeting was held on July 1 with several gaffers from the film industry to discuss the matter. Although there is no definite legislation resulting from this, it is bound to flow over to the live and touring industry.

The problem with any future legislation is that it will be mandatory for all people to adhere to the same restrictions whether they work on construction sites or in theatres. The specific needs of one particular industry such as live concert production, are not likely to be met.

An electric drill on a construction site can easily be tested every morning but what about a production at the Entertainment Centre that moves to the Hordern Pavilion the next day? All the equipment would have to return to the factory to be re-tested, entered into a register and tagged before being loaded in.

In Queensland the Workplace Health and Safety Act became law on July 31, 1989. The Act, which applies to all workplaces except general mine sites, places a legal responsibility on every person at the workplace to ensure health and safety. Specific requirements relating to electrical equipment and installations are included in the Act so hire companies in Queensland have had to deal with the problems the legislation causes for several years now.

Greg Hughes of East Coast Lighting in Brisbane maintains that his company has tested and tagged all its equipment since early 1989.

He said that before 1989 Greg about two per cent of equipment because of faulty cables. He now claims a 100 per cent success rate.

Unfortunately the procedure's running costs are about \$40,000 per year. The company has to charge customers more and as a result, is more expensive than its counterparts in Sydney and Melbourne.

"It's a bit of a sore point," Greg said. "But I haven't got a problem with the hire companies themselves in New South Wales at all. The gear from Jands is great, tagged or not, and even if it fails they've always got extra."

What annoys Greg is the fact that touring theatre, conference and rock productions only have to adhere to the rules of their State of origin.

"I mean, if you go to the USA you don't drive on the left hand side of the road, do you? Surely when in Rome, do as the Romans do," he said.

Wayne King of Australia Concert Productions also believes the testing and tagging of equipment is vital to safety within the business. He too emphasised that large hire companies adhere strictly to safety policies while many backyard operators ignore them.

More checks should also be made on hotels and clubs where safety is self-regulated, he said. The responsibility falls back on the venue owners but apparently many don't care.

Wayne asserted that many prominent "Texans" did not test their equipment before sending it north of the border.

"I can't see how they get away with it," he said.

"Early last year we had shows at major venues stopped by the safety people because cables were not tagged. An electrician was sent for, the job done and the show restarted.

"All our major venues like the Brisbane Entertainment Centre are very strict. I mean, we're dealing with people's lives."

□ Catriona Forcer

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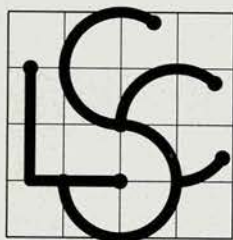
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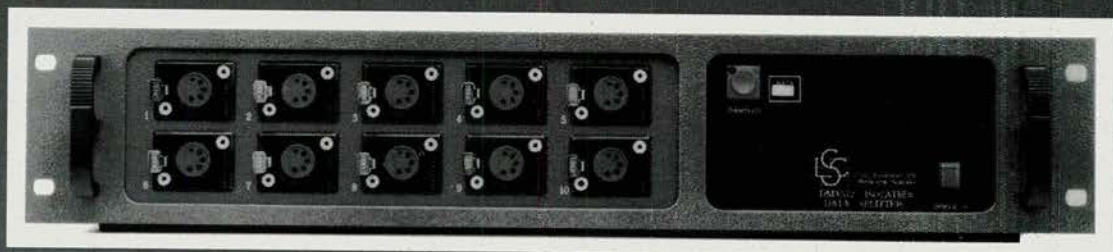
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HIRE BIZ BUZZ

Royalty Row

ALL Hire firms, Disco's and Venues Liable

Many DJs, venue owners and mobile disco proprietors may be operating without licences from the Phonographic Performance Company of Australia.

The situation was highlighted in recent weeks with a spate of calls to *Connections* complaining about payment notices received from the PPCA.

Chris Royal of Sydney hire company Grafton's Sound said he had received several demands from the organisation for royalties owing on a mobile disco. He said he had never heard of the PPCA and had requested more information about the company and how they defined a mobile disco.

"Just what is a mobile disco unit? Do I have to pay for every CD, cassette player and record player in my rental department?" he asked.

"I'm prepared to pay for a blanket licence for a year but I'm certainly not going to spend thousands of dollars for everything that I've got that makes a noise."

For those in similar situations, the PPCA is a non-profit organisation that was established in 1969 by Australian record companies to act as their agent in issuing licences to cover the broadcasting and public performances of recordings protected by the Copyright Act.

Whereas the Australasian Performing Right Association (APRA) represents the copyright holders of songs, compositions and lyrics, the PPCA represents the record companies who hold the copyright for the actual recordings.

People and companies providing public performances of recordings, therefore, need to carry both PPCA and APRA licences.

The annual fee for a mobile DJ operator works out to about \$120 depending on the number of recordings used and the frequency of work, according to PPCA executive director Emmanuel Candi.

The royalties are expected to total just under \$2 million this year (APRA will receive an estimated \$46 million by comparison). About \$100,000 of it will go to a trust fund used for performing arts grants, music seminars and the like with the remainder to the record companies and administration.

Mr Candi urged all operators concerned about licences to contact the PPCA on (02) 267 7877.

□ Jennifer Temm

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AROUND the NATION

□ **HirePoint** say they have sold their Hire Company reservation software to six sites in the UK and two in the USA this past month. Aussie exporters made good ... they have a lot of sites going multiuser too.

□ **SOUNDWORKS** in Perth say they really like the new ... Humangatron ... power amplifier from MSR in Melbourne. Grant Ettrick at Sounc works says the amp is wild, known more conventionally as the MSR-850c, it is said to be capable of a 3200w tone burst into 4Ω, and 850w p/ch continuous. MSR also do soem 12" & horn trap speaker cabs, and 2 x 12" subs. Lucinda Williams recently was heard at the Manning Hotel through a double MSR system. Details call Soundworks (09) 378-2018.

□ **Craig Upton** has departed LASER in Brisbane, and is now contactable on (07) 367-1890.

□ **C.L.S.** or Concert Lighting Systems as the full name goes, has moved to great new premises at 282 Normanby Road, Port Melbourne. New phone number: (03) 646-8444. The new building is just a few doors down from the old Strand premises, presumably more than a few former Strand customers can auto-pilot down and visit CLS instead? The firm has also won a contract to supply a huge pile of equipment to Cats for performances in Melbourne, Singapore and Hong Kong. Most of it will be supplied new, to the delight of the Cats crew!

□ **Paul Irving** of Show World Enterprises in Adelaide says he has recently sold a crop of Australian Monitor amps to S.A. hire firms.

□ **ATS** will move very shortly - same suburb- watch this space for the new address Real Soon Now.



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I'M CONFUSED?

I don't think the INXS beatup in your June magazine was fair. Those guys paid their dues in toil infinitely harder than any/all your magazine staff ever will. They can hire who they like, and tour where they want as far as I'm concerned. I just hope when I'm thirty-something I've got as much energy as those guys have. Your magazine is wierd, I found it in the newsagency and am still trying to work it out.

-Troy Belling, Eastwood NSW.

*Ta Troy. Welcome to Connections. Let us know what it is, when you work it out. -Ed

Suggestions ...

Do you print letters from readers suggesting stories? I think some guitar technician/roadie tales would be great, because these guys often know more about modern equipment that the stars they serve. I see them sidestage at the Entertainment Centre working hard, and think often they even look like more of a star than the star! Whaddya say? -Tracey Ruck, Ipswich QLD.

*Well, agreed, except we sort of don't do guitars. There is another magazine produced here in Australia called Sonics - they are THE guitar magazine. A good idea for them, maybe. -Ed

More Media Link info

I've been waiting for more from you on Media Link, the Lone Wolf LAN and software you raved about in May. The way you put it, the world was about to stop turning and start vibrating instead! So come on- WHAT IS HAPPENING? -Doug Murphy, Footscray VIC.

Mark was 'Sanga' ...

In answer to your question in this month's "Around the Nation" column (Hire Biz Buz, June/July): Mark Sainsburg is in fact Mark 'Sanga' Sainsbury. He was a pro surfer who died suddenly (from a brain haemorrhage I think) whilst surfing at Dee Why point. -Steve Moor, VRF Ltd, Sth Melb.

Lone Wolf write ...

We at Lone Wolf thoroughly enjoyed your article on Lone Wolf and we certainly look forward to the day we will "buy this magazine" from you (see sidebar "Bill Gates the second?) but there were several points in the article we felt we should address.

First the products mentioned in the article, the Video Tap and Phone Tap are not products consumers can buy today. Rather they are examples of the products which may or are in development by our licensees. We would love to discuss the many products in process (as well as those that are shipping) but since we are under non-disclosure we can not comment on products which have not been released. However, you are correct in stating that there are many, many MediaLink products in the works.

Secondly, in regards to the SC-10 Standards Committee and the October announcement. As members of the SC-10 Committee we want to reaffirm that the Committee has not completed its important work and thus we feel that speculation as to the October announcement at this time is premature.

Finally as to the comment that "Crown had rolled over and become a MediaLink Licensee." This is incorrect since Crown has not signed a MediaLink License. Further, this statement forms an extremely negative and misleading picture in readers minds. Lone Wolf is not in competition with Crown. (Remember we do not make sound equipment.) The announcement at NSCA was specifically intended to show the complimentary nature of MediaLink. The MediaLink license is available to anyone wishing to put MediaLink technology into their products so it should not be surprising to see any firm looking into MediaLink. After all its purpose is to increase the power and functionality of their products.

In closing, all of us here at Lone Wolf enjoy your sense of humor and must confess that we certainly hope your view of the future comes true.

- Andrew H. Sargent, Vice President, Lone Wolf, California, USA.

A Sheila Yates FAN ?!

Please don't be too hard on Sheila Yates of Glebe. We don't really want her to "piss off", I really enjoy her "continual carping" almost as much as I enjoy the blatant sexism and drummer jokes.

Note that no one writes about the drummer jokes, I guess the reason is obvious.

- Ed Matzenik, Enrec Studios, Kurri Kurri, NSW.

Apalling Misprint

I must point out an apalling misprint in your June/July issue. Page 27 carries a story on Joseph and The Amazing Technicolour Dreamcoat, and refers to the lighting designer, Andrew Bridge. You state that ..."for ten years Andrew was the lighting designer for Shirley Basset ...!"

-John Hughes, Darwin.

Catriona Forcer, the offending criminal, responded as follows:



Don't brush her off!

I don't know who Shiela Yates is, but you cannot brush off a genuine reader complaint in the manner you did (June, letters page). I for one sincerely hope Sheila did subsequently terminate her subscription. -Leone Chung, St Kilda VIC *Shiela is a long term reader of this publication and the one that precedes it. Her occasional letters on these pages are becoming a lowlight. I'm still waiting for the cancellation, but it hasn't come yet..... -Ed

SEND us your letter! Yup, we ALWAYS print the aggro ones. Find the mistake in this issue and prove to your colleagues that you actually read the thing! There is always at least one mistake in each issue, so search hard! You CAN write about almost anything ... and we will award a free subscription for the best letter each month. If already a subscriber, you can give it to someone else!

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The good, the bad and...

Congratulations on an excellent magazine. My wife disappears when *Connections* arrives in the mail and I don't see her until she has read it from cover to cover.

My purpose of writing is twofold: Firstly, I have been using a well-known brand of Mosfet amplifier for several years and have been quite content until recently, when I decided that I needed more power. I contacted my sound guru, Glen Barwick, of Jands Production Services. Glen suggested that I should try the new Jands SR3000 amplifier. I took his advice and purchased two units.

After the initial embarrassment of failing to twist the garden-hose connectors, (*Speakon connectors always confuse first time users, and should have a clear warning on them: "TWIST to connect" - Ed*) I powered the amps up. I was stunned! I could not believe that a power amp could make so much difference. The following week, I purchased another two SR3000's. Congratulations to Jands for producing such a magnificent *Australian* product!

Secondly, I recently had the occasion (or desperation) to ring a Sydney dealer to purchase some equipment. I was told that the salesperson "was not in at present" and so left my name and number for a return call. I waited seven days and rang again. The salesperson was still unavailable but "will ring back".

Another seven days passed - I rang again and asked to speak to the Manager. He was busy on the phone at the time, but "will ring back as soon as he is finished". He must have exceptionally long phone calls, as it is now three months later and still no call!

You lost a sale, guys and there will not be another chance. (*Name of dealer deleted by the Editor. They lost this writers business, that's punishment enough*). I am now dealing with a company that has exceptional Business ethics by today's standards - **Noisebox Entertainment Systems**. This company actually returns phone calls - my initial call being returned within 5 minutes! They also deliver the goods when promised. Keep up the excellent work, Noisebox - you have won my business.

- **Chris McFadden, Parramatta, NSW.**

International crew & INXS

In regards to the article on INXS last issue and the issue of Australian bands using international crews, I have the following opinion on the whole debate.

When bands hit the so called "big time", they become an 'international band' on the 'international scene' and everything about the band, including the crew will come under a heavier scrutiny than ever before. Australian crew have to realise that at this level the competition for crew positions on any tour will always be greater than at just the domestic level.

I think the secret to more Australian crew getting those top positions and so getting 'recognised' lies in the strength of Australian music on the international scene. If we get more Australian bands having

Birthday DataBase!

Your birthday?

Forget to invite us to the party did you?

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Not too sure that a rotten bugger like you should be allowed parties at your age anyway.

If you are wondering what to do about your birthday, give us a call. All you have to bring is the money.

So in the immortal words of professor Fred, Slick Scott, John the baptist and Super Sleuth Serge:

Check into your party mode, then,

Get down

Get up

...and get back down again.

-**John Baron, Audio Oz, Melbourne.**

**No idea what the above means. -Ed*

XLR wiring & more

Glen Leembruggen and David Connor's article on designing installations, and getting customers to say exactly what they want the system to do, hit the nail right on the head. I'm sure there are lots of people who have done installations and had the system abused in the ways they describe.

I would like to add something to Marshall Cullen's letter in the (May) issue. Yes XLR wiring is a real pain in the arse, but what can a manufacturer do? Since January this year we have been gradually changing over the XLR wiring on our electronic products so that Pin 2 is HOT, and our amps have a Pin2/Pin 3 Hot switch. But on speakers - well, that IS tricky. We use Pin 3 Hot because that's what most customers are used to getting. You'd have to be very courageous or have a Bose type budget to change that.

-**Duncan Fry, ARX Systems, Melbourne.**

**On this subject we repeat the warning from reader Merlin Zener (last issue) that if you wire a speaker cable with 3 core cable, and have all 3 pins of the XLR's connected, you risk failure if using the cable to connect a Jands amp to a BCSE speaker. Duncan Fry's column misses this issue, back next.*

overseas success, then the numbers of Australian roadcrew on the international scene will follow this success just like it has done for example with Irish crew. -**Phil (Feel) Payne, -an Aussie Sound Engineer, Wattle Grove.**

**I think the reason some industry angst has been focussed on INXS is because they hire: an English production manager for the Concert For Life in Sydney last year - at a reported cost of \$30,000 plus fares. That overlooks the greater problem, being that USA work visas are almost totally impossible for Aussie crew to get, yet we allow international crew into Australia without hindrance. INXS aren't to blame for this. -Editor*

Martin

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Melbourne comes alive August 24 through 26th, when the AES kicks off in the You Tangs Exhibition Hall at the World Congress Centre. More than just a trade show, AES symbolises a meeting of all that is pro audio - from PA to broadcast.

Workshops attract product professionals and engineers, while more populist events like the **FLYWARE SEMINAR** are aimed at everyone who may one day string up a loudspeaker box! Audio Legend Ern Rose will participate in a session on **LIVE SOUND SYSTEM OPERATION**, mixing a live six piece band - Solstice - to put theory into practice.

The **A-B SPEAKER COMPARISON TEST** returns, as a great opportunity to assess a variety of brands in a blind test. You get to hear them all, but only get told at the end which is which! This is guaranteed to change your perceptions of some brands.

SPEAKER DEMONSTRATIONS, where the vendors demo their system, and you get to ask questions. Like: 'what does it weigh?' and:- 'how loud does it go?'

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Andrew Martin of ATM Flyware USA will go through the following aspects of flying:

-A video presentation of the **PULL TESTING** of speaker enclosures;

-Explain the theory behind the stresses and forces associated with the flying of equipment;

-Look at the popularly used flying equipment, including Aeroquip, Kinedyne, Ancra and Brownline.

-The do's and don'ts of flying in case of fire.

-Safety in load ratings will be explained.

-Ratings for wire ropes, shackles, pear rings, forged eyebolts, bolt hardware, span sets, pan fittings, track fittings, quick release pins.

-Rigid array design, modular arrays, spatially aligned arrays.

-General info on flying specific types, including JBL, Copmmunity, Meyer, Apogee, EAW, Renkus Heinz, Martin & EV.

The seminars will feature extensive question and answer sessions. Supporting Andrew will be Peter Rashleigh of Phillips Fox Solicitors, to explain the legal liability questions relating to flying equipment. A rigger will be on hand.

LIVE SOUND SYSTEM OPERATION & MIXING

This is a session given by David Marmo, Technical Services Manager at the World Congress Centre, and Ern Rose of Metropolis - one of Australia's most notable producer/engineers.

The equipment used will include a Sourdcraft 800B desk, Jands amps, Rane & Yamaha outboard and of course speaker systems. Setup, patching, lines and manpower will be covered.

Ern Rose will conduct a practical session in miking a contemporary fusion band - Solstice - which comprises piano, acoustic and electric guitars, full percussion, didgeridoo, sax and flutes. A fair test of the live engineer. Ern will go through the whole process of making this act sound right in the room!

Editors AES Must See list!

It would have been easier not to do this, because mentioning a few of the thousands of products on hand at AES will create aggro with the importers and distributors who DON'T get mentioned below But on with the show!

TASCAM DA 88 vs ADAT.

First full frontal battle between the two digital 8 trackers, until at least the new Postex entrant appears later this year!

BIG by LANGLEY.

Surely the future in mixing console design. If the Langley RECALL live console makes it to AES, then it's a double act.

ARRAY by JBL.

Selling up a storm around Australia, the number one choice of venues this year, and now with a new subwoofer.

SIGTECH from ESA.

Timefield acoustic correction system that adjusts studio control room acoustics - hard to describe, but it WORKS!

D-CART from ABC

Could be an export winner, see how the ABC are throwing everything at this one. Worth a look see!

SONY from SONY

Always an action-packed exhibit!

WORKSHOPS

Audio compression for broadcast
Audio restoration featuring CEDAR (Computer Enhanced Digital Audio Restoration)
Concert recording techniques using high quality condenser microphones

Digital audio cartridge using standard and high capacity floppy disks for storage and general audio automation systems for on air use.

Digital audio workstations

Digital hard disk recording and storage for broadcast, theatre, education etc.

Dolby digital demonstration at Russell Cinemas

Education and music recording

FM Broadcasting

MIDI aspects for studio

OB audio for major sporting events

Processor based loudspeaker system: a marriage of technologies.

Programmable equalisation

Sound production for live performance in cabaret, sound system design, selection, and setup

System signal processing and routing techniques or- what happens before the power amp?

Wireless microphone systems

PAPERS

A new method of assessing the performance of loudspeaker arrays

Acoustics and sound system design or domed buildings, a computer modelling analysis
An axisymmetric model of a moving coil loud speaker

Application of modern sine based measurement algorithms in electroacoustics
Automatic mixing, a review of system design
Authentication of audible simulation (Auralisation) systems.

Basics of loudspeaker interference effects
Exploiting the full value of STI for predicting speech intelligibility

Introduction to speech transmission index
Linear output stages

Loudspeaker impedance non-linearity and bi-wiring.

Master disk- 24 bit recordable disk
Measurement of speech transmission index
Processor based loudspeaker systems: do you hear what I hear?

Simple SPICE models for the analysis of moving coil loudspeakers

St Patrick's Cathedral Melbourne, design and installation of the new sound system

St Pauls Cathedral Melbourne, design and installation of the new sound system

The application of DSP technology to surround sound decoding

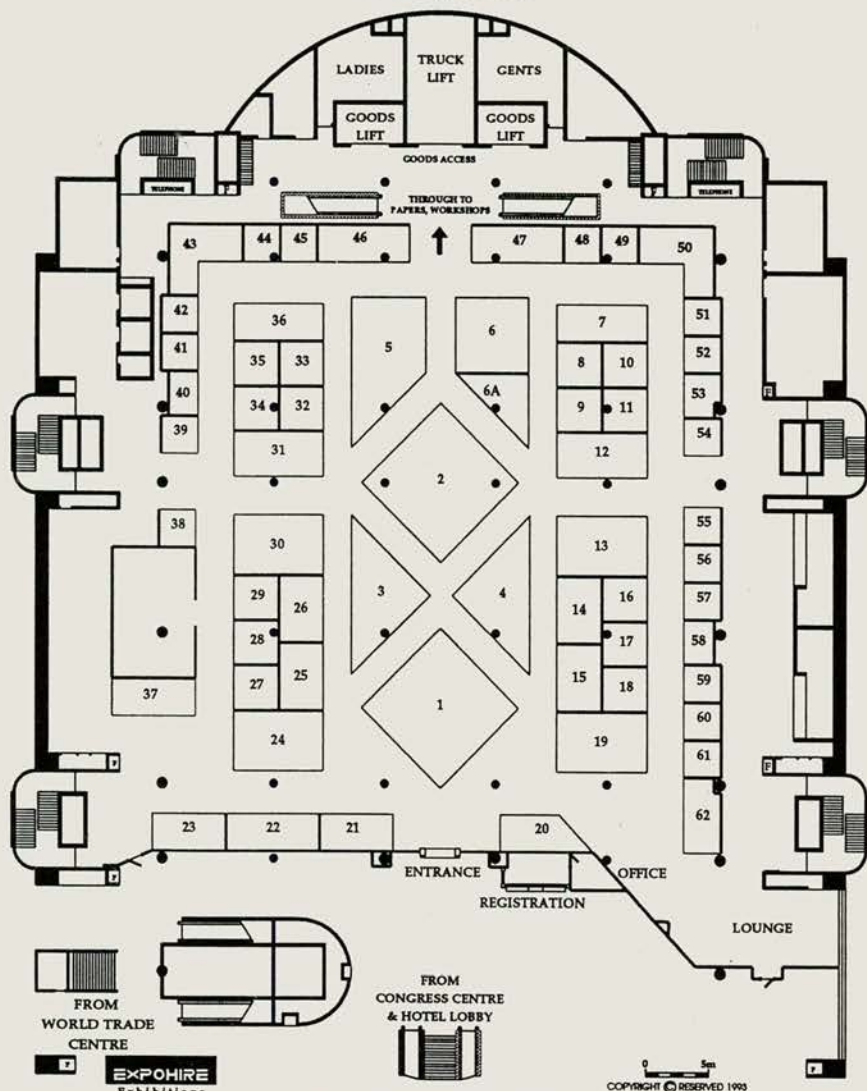
The design of a sound system for the Australian parliament - a holistic approach

The present state of digital audio broadcasting

The role of the specialist audio visual and theatre consultant

The spectrum of audio
Transmission line audio transformers

24-26 August 1993



YOU YANGS EXHIBITION HALL
WORLD CONGRESS CENTRE
MELBOURNE

Complete list of AES exhibitors

STAND NO. 1

TASCAM

Teac Australia Pty Ltd

Telephone: (03) 646-1733

Gavin Muir, Travers Falkner, Theo Kougi, Simone Cooper, Henry Lee, Oliver Ruckle

New Releases: M-3600 front of house console, RA-400 random access digital hard disc recorder, DA-88 digital 8 track tape recorder using high 8 tape.

Products to be Exhibited: Tascam recording consoles 3700, 3500, 2500 and 1000 Series, broadcast production recorders BR-20 and 207, DA-60 and DA-30 DAT recorders, a range of multitrack open reel recorders and cassette based, and accessory items.

AUDIO VISUAL DESIGNS

Telephone: (02) 550-0982

Sebastian Moore

Products to be Exhibited: Class A Hofex II Spectral Exciter, Dynamic Master (a stereo leveller, compressor, limiter and peak expander), HF-16 Automix Module and Jellinghaus Music System (featuring C-Mix fader automation system and software version 3.0).

EAV TECHNOLOGY

Telephone: (03) 417-1835

Clive O'Brien, Barbara Ward

Tony Hambling, Hugh Heinsohn (USA), Bob McNeill (USA), Rod McCubbin (McCubbin Electronics)

New Releases: Digidart II from 360 Systems USA, Dynamax digital cartridge machines, Corporate computer systems CDQ-1000 multi-standard audio codecs.

Products to be Exhibited: Digidart II digital audio hard disk recorder, Dynamax DCR-1000 digital cartridge machine, McCubbin Electronics broadcast products, Corporate computer audio codecs, "Audio Accessories" patch bays, Tascam professional audio products, 360 Systems Eprom audio storage, ESE time code readers, generators and audio distribution systems.

MUSICLAB PTY LTD

Telephone: (07) 862-1633

Chris Nainby, Martin Norris, Geoff Walker, Judith Branson

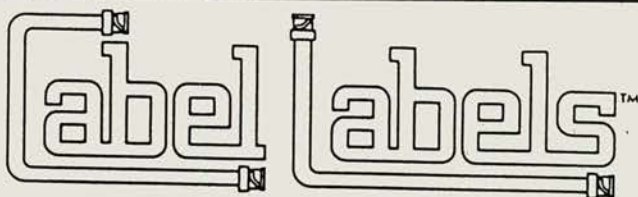
New Releases: An updated version Lindos Audio Analyser featuring an illuminated backlit display and twin tone generation, provisional version of Version 2 support software, digital

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AUSTRALIAN MADE

compression systems. Applications will include ISDN, audio logging satellite feeds, etc. Card and Codec type systems.

Products to be Exhibited: Annis head demagnetisers, Caig-Cramolin range of sprays/treatments, Lindos audio analysers, MRL analogue test tapes, Tentel tape tension guides for all tape based applications. Musiclub Digital Compression PC Card, Loggers and Audio Codecs.

STAND NO. 2
SYNCROTECH SYSTEMS DESIGN PTY LTD
Telephone (02) 417-5088

Paul Heaton, Terry Marshall, Pamela O'Brien
New Releases: AMS Audiofile Spectra, AMS logic 2 & 3 digital mixers, NEVE VR Legend analog audio mixer, DDA Interface analog audio mixer, DDA Forum composer analog mixer, DDA Microfile automation system.

Products to be Exhibited: AMS Audiofile spectra premier digital audio editing system, AMS logic 1, 2 and 3 dynamically automated digital audio mixers, AMS ST250 and soundfield microphones, AMS digital processors, NEVE VR Legend analog audio mixer, Sonic Solutions Mac based digital editing, mixing and de-noising system, Valley range of audio processors.

STAND NO. 3
SYNTEC INTERNATIONAL PTY LTD
Telephone: (02) 417-4700

Robert Sloss, Graeme Boucher, Jim Russell, Bruce Manser Mike Collins, James Waldron, Robert Harris, Tom Newell

New Releases: Fostex D10 Dat Recorder, Solid State Logic - Scenaria-Post-Production Mixing System, DBX - Audio Processing, Gotham Audio Cables - Microphone Line and Multicore Cables.

Products to be Exhibited: Ampex recording tape, Audio Developments portable mixing consoles, Audiopak broadcast tape cartridge, Bryston power amplifiers, DBX audio processing, Dolby noise reduction, Eventide digital delay equipment, Fostex mixer/recorders multi track tape recorders and Dat recorders, Garner highspeed bulk erasers, Gotham microphone line and multicore cables, ITC broadcast cartridge equipment and cartridges, Orban audio processors and broadcast limiters, Revox tape recorders, CD players and hi fi equipment, Rycote microphone windshields, Sedco monitoring panel, microphone power supplies, tape erasers, stereo monitor, distribution and balancing amplifiers, Sennheiser headphones, headsets, microphones, radio microphones, infrared equipment, microphone stands and accessories, Solid State Logic (SSL) automated mixing consoles and programma-

ble equalisers, STL alignment tapes and cartridges, Studer tape recorders, mixing consoles, CD players, cassette recorders, amplifiers, loudspeakers and digital audio production systems, tannoy studio monitoring, contractor and hi fi loudspeaker systems, Cat splicing equipment, Editall tape splicing blocks, PPI editing tapes.

STAND NO. 5
JANDS ELECTRONICS PTY LTD
Telephone: (02) 516-3622

Paul Mulholland, Peter Twartz, Rod McKinnon, Jeff Bolt, Doug Ford, David Williams, Robert Young

New Releases: Shure EC Series wireless microphones, JBL 4894 Array loudspeaker, MBI Series 5 on air console, UREI Platform Series electronics, Shure FP32A portable mixer.

Products to be Exhibited: Jands SR3000 and SR1500 split rail audio amplifiers, JBL 4892 Array loudspeaker, 4893 Array sub-woofer and 4894 double 14 Array loudspeaker with ES52000 processor, drivers and horn flares. Soundcraft Delta-Delux, MBI Series 5 and Series 10 on-air consoles. Rane Flex Series and CM86 commercial mixer. Shure L and EC Series wireless microphones, and Beta B57, 58 and 87 microphones.

STAND NO. 6
ELECTRIC FACTORY PTY LTD
Telephone: (03) 480-5988

Sperry Gruppetta, Kevin Blackley, Ruthven Martinus, Michael Allen

New Releases: Alesis/Timeline AI-2 video synchronisation interface. Products to be Exhibited: Adat and master remote control, Alesis quadraverb, quadraverb GT, midiverb III, microverb III, 3630 compressor limiter, D4 drum module, MEQ230 dual 30 band graphic equaliser and RA100.

STAND NO. 6A
CRESTRON AUSTRALIA PTY LTD
Telephone: (09) 389-8105

Phillip Jenkins, Joanne Gomez, Sabrina Skopp
New Releases: VT3000 Colour video touch panel, EKT Easykey transmitter, CTV4000 colour video and data touch panel.

Products to be Exhibited: CTP3000 touch panel, CNMSI and CNRACK control systems, CNSCI Slide Controller, CNECI-4 4 relay 8 input crenet controller, CLNI240 4 Channel 8 input lighting controller, CNFZ Focus Zoom Card, CNCAMI Camera Pan Tilt Zoom and focus Controller other networkable devices and cards. AVSE Audacon 16 and 10 Audio controller, amplacon 10 combined amplifier and audio controller. Extron system 8 video

and data switcher, data interfaces, presentation products magazine and other imported products.

STAND NO. 7
RADIO MANUFACTURING ENGINEERS P/L
Telephone: (02) 674-6177

Peter Adkins
New Releases: RMI "Twin-Pack" modular system of IRU "Mix and Match" range of base band and composite, program and control modules. RS T1 101 telephone hybrid.

Products to be Exhibited: RME Phoenix Series 2 (consoles 470 and 460), 400 Series Eurocard program control system composite and baseband, RME master clock system, RME 425R1 remote control system, Denon 961FA CD players, RME monitoring, metering and electronic cross point switching system, RME (passive and active) line isolation devices, DAMS-2 digital audio mass storage.

STAND NO. 8
ARISTA ELECTRONICS PTY LTD
Telephone: (03) 879-3746

Mr Rudi Langeveld, Mr. Mick Whiting, Stuart Solomon

Products to be Exhibited: PA Equipment, microphones, in wall speakers, inter connects and cables etc...

STAND NO. 9
ALCATEL COMPONENTS
Telephone: (03) 555-1566

Graeme Eime, Maurie De Candia, Paul Menolotto, Scott Lucas, Chris Weiss, Jim Stampolidis, Jeff Cushing, Paul Lecky, James Bonwick

New Releases: Alcatel Components have released a new range of XLR type connectors that feature solderless and solder termination and a new cable retention system that does not require any tooling to assemble. This range represents a world's first in XLR type connectors.

Products to be Exhibited: Alcatel Components will be exhibiting the new range of solderless audio connectors, as well as the popular range of AXR audio connectors. Other products on display are the EP and AP range of high power audio connectors, the PON range of speaker connectors. Alcatel Components also have available Cannon multipin connectors for lighting or audio multicore use and the superior "Big Foot" phono plugs, straight or right angle. Alcatel Components with their wide experience in both audio and optical fibre connector products are ideally placed to display a range of fibre optic solutions, including the internationally approved SC style optical con-

nectors, for both digital audio and lighting control systems of the future.

STAND NO. 10
PRODUCTION MUSIC SERVICES

Telephone: (02) 484-2321
Peter Baker and Barbara Baker
New Releases: Releasing the sound ideas Sex on CD-ROM, (*sounds good to me -Editor!!*) the Warner Bros. cartoon effects, Universal studio's sound effects.

Products to be Exhibited: Digi effects sound effects, sound ideas sound effects series 2000, Lucas film sound effects, audio quest sample it! Sampled sounds, the sound ideas sampler library, file effects, FX Collection, production music libraries.

STAND NO. 12
MARK IV AUDIO (AUSTRALIA) PTY LTD
Telephone: (02) 648-3455

Colin Formston, Ian Johnstone, Graham Harrison, Mick Privitera (Qld Rep) Frank Andrewartha (Vic Rep)

New Releases: Klark Teknik, Programmable E.Q KN3600, Interface mixing consoles, dynacord, Multi-effects, DKPIS, Vega wireless communication systems, University sound AMP/Mixers.

Products to be Exhibited: EL 88 Matrix, Interface with matrix, stereo and 6 into one module, dynacord multi-effects DRP 15 Vega UHF & VHF wireless system plus new multi communication systems, electro-voice & altelcansing electronics, klark teknik electronics & New DN3600 programme equaliser.

STAND NO. 13
ATT AUDIO CONTROLS/STUDIO SUPPLIES/ SOUNDCORP

Telephone: (03) 379-1511
Frank Hinton, Leon Hart, Ross Edwards, Shaun Kerrigan, Michael Lasa, Richard Meggitt, Robin Christoferson

New Releases: Langley (a new range of audio mixing consoles manufactured by Amek Systems and Controls Limited), Apex CD recorder and digital interface, BSS audio varicurve dual equaliser analyser.

Products on Display: Amek Einstein, Hendrix and Mozart multitrack mixing consoles, BC-111 and Classic broadcast consoles, 9098 range of consoles. Full range of products manufactured by BSS Audio including FDS-360 and FDS-318 crossovers, DPR-402 and DPR-404 compressor/limiter/de-essers, DPR-402 and DPR-504 noise gates, DPR-901 parametric dynamic equaliser, FCS-960 dual mode graphic equaliser, FCS-926 and FCS-920 varicurve dual equaliser analysers, AR-116 and

Colin and Graeme Stevenson & Byron Dixon of

PRODUCTION AUDIO SERVICES PTY. LTD.
ACN 006 149 499

Look forward to seeing you at the 1993 AES Show
World Congress Centre, Melbourne. August 24th-26th.

STAND 43

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DATELINE: August 24th through August 26th.

PLACE: A.E.S. Exhibition, Melbourne.

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- ◆ **PCM-9000** - Digital Master Disc Recorder (16/20/24 Bit)
 - ◆ **PCM-E7700** - DATStation™ for transportable DAT editing.
 - ◆ **CDP-C1/C1P** - MD Cart™ Mini Disc Cart machine for Sony's new Mini Disc technology
 - ◆ **DMX-S6024** - Digital Console, 24-64 frame, 48 bit processing.
 - ◆ **DMX-B4008** - Digital Console for radio.



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STAND 30, A.E.S. EXHIBITION

AES

AR-416 active DI's, AR-125 lead/fuse tester, AR-130 phase check system, MSR-604 and MSR-602 active signal splitters, ICS-803 and ICS-801 time correctors, EPC-760 and EPC-780 electronic power converters. TAC range including B2 Custom, Bullet Custom and Scorpion II multi-purpose mixing consoles, SR6000 foh mixing console, SR6500 foldback mixing console and SR9000 foh mixing console. Apex CD Recorders and Digicon 1 digital interface. Soundcorp Pty Ltd will be exhibiting Dynaudio Acoustics products, and Panasonics DAT recorders.

STAND NO. 14 & 15 BOSE AUSTRALIA INC

Telephone: (02) 684-1022

Bob Schenk, Ken Jacob (Bose Corp, USA), Dave Adams, Des Williamson, Harold Isberg, Peter James, Dominic Waters, Bill McLean, Steve Hart, Ron English

New Releases: IQ systems, Panaray system, Freespace business music system.

Products to be Exhibited: Panaray system (a new speaker system developed specifically to reproduce high quality sound with even sound coverage over large areas), Freespace business music system (new speaker system designed specifically to suit the needs of retail/commercial environment), IQ systems, complete range of Bose Professional products and various Crown amplifiers and microphones.

STAND NO. 18 THIRKELL HOLDINGS PTY LTD/ACOUSTISEARCH

Telephone: (03) 568-4022

Graham Thirkell, Katherine Thirkell

New Releases: Innovative acoustic solutions from Systems Development Group, Stereo 4 to 1 digital system, metal coned near field monitoring speakers, new tube traps.

Products to be Exhibited: High quality microphone pre amplifier with digital output, art diffusers and cutting wedge acoustic modules from systems development group, new tube trap acoustic modules, new series metal coned near field monitoring speakers, Stereo 4 to 1 digital system (stores 8 channels digitally on media previously limited to 2 channels, encodes 8 channels on to CD, DAT, laser disk, digital multi-track, digital workstations, etc. Decodes the 2 channel output from CD, DAT, laser disk, digital multi-track, digital workstation etc to 8 channels without any loss of quality.)

STAND NO. 19 YAMAHA AUSTRALIA

Telephone: (03) 699-2388

Stephen Leonard.

Products to be Exhibited: Recording and Broadcast - Digital mixing & recording including the new CBXD5 hard disc controller and sample rate converter, New version 3 of the DMR8 digital mixer recorder. The new stereo broadcast version of the DMC1000 digital mixer and project manager control software. The new PDS301 multi media/multi session CD recorder. Sound Re-Inforcement - Display of the Active servo concert speaker systems, PM4000 series console, SPX990 intelligent effects system, DEQ5 digital graphic EQ & D2040 digital crossover. Installation & Acoustics - demonstration of the AS2 analyser employing the Schroeder method of acoustic analysis, new MV1000 installation mixer, New Audio Technica auto mixer and range of installation microphones.

STAND NO. 20 EAST COAST AUDIO

Telephone: (03) 428-9797

Robert Bontschek, Jude McKewen, Donn Werrbach (Aphex)

New Releases: Aydin Corporation/HFA for TV and satellite, TC Electronics M5000 digital revert, Crown International OMNI-FM10X FM transmitter.

Products to be Exhibited: Full range of Aphex Systems Limited on air audio signal processing system compeller 320-720, dominator and digicoder 3-400. Complete studio and PA processors, the 9000 Series compressor limiter, gates, para EQ, aural exciter, distribution amps and balancing units. New aural exciter C2 and big bottom. TC Electronics fully programmable 1128 EQ systems, digital delay, M5000 digital mainframe, parametric EQ and SCF pedal. Bruel and Kjaer - the bench mark professional studio microphones 4000 Series and the Cardioid 4011 new APE.

STAND NO. 22 SOUTHBANK TRADING MELBOURNE VIC. 3004

Telephone: (03) 696-7809

John Baron, Gary Anderson, Frank Anderewartha, Steve Yarrow, Harmony Baron

New Releases: LA Audio model 4x4 compressor/limiter/gate with selectable frequency filters. Microtech Gefell model UM92S Vacuum Tube-condenser microphone with gold splattered M7 capsule and switchable polar pattern. John Martyn model

QRA1 microphone quick release adaptor. John Martyn model TSSKBA01 side kick boom arm. John Martyn model MRO1 rack mount system. RML model RML08 two way studio monitor system.

Products to be Exhibited: Aflex model HF2 2 core speaker cable. Alien model LZM1 mic. pre amp. John Martyn model SRM stack rack legs. LA Audio Classic "Tube Sounding" Stereo Peak limiter/comp. LA Audio Midimute 32 channels soft mutes. LA Audio Multigate 16 channel audio mutes. Microtech model MV692M69 Condenser Mic. Microtech model PM860 Condenser Mic. Microtech model MV696M70 condenser mic. Microtech model MV692M93 condenser Mic. Microtech model MV692M94 Condenser Mic. Microtech model MV692UM70 condenser mic. Microtech model MV692M71 condenser mic. Microtech model UM70S condenser mic. Microtech model UM92S condenser mic. RML model RML45 bookshelf speakers. Stack rack model W6U39E 6RU wooden rack. Terminator model T2 bulk eraser.

STAND NO. 24 & 25 AMBER TECHNOLOGY PTY LTD

Telephone: (02) 975-1211

David Hannay, John Fitzpatrick, Athol Greenhalgh, Graeme Rothwell, Peter Della Tolla, Mike Sanders, Robert Van Der Vlies, Graeme Boucher, Mike Wilson

New Releases: Fairlight "MFX Tower" digital audio workstation, ASC DL2 DAT-format multi-channel logger, Otari "Concept 1" recording/production console, Celestion SR Series PA cabinets, Soundtracs "Solo Logic" automated production console, Neutrik A2 audio test system, Drawmer DL-441 quad compressor, Canare digital audio cable, Beyer DT-190 headset and new microphone range.

Products to be Exhibited: ASC voice-logging systems, Barco-Video/Data projectors and monitors, Barco-EMT- signal processing equipment, Beyerdynamic-microphones and headphones, Celestion-loudspeaker systems, Canare-professional audio and video cables, Drawmer-signal processing systems, Fairlight-MFX2 digital audio workstation, Lexicon-digital effects systems, Neumann-studio condenser microphones, Neutrik-connectors and audio test equipment, Otari-professional tape recorders and mixing consoles, Soundtracs-mixing consoles, Weircliffe-tape erasers/De-Gaussers.

STAND NO. 26 TECHTEL

Telephone: (03) 899-3032

Kevin Alcock.

Products to be Exhibited: "The Digital Commercial System" - A digital audio mass storage system designed for storage and on-air presentation of commercials and music for TV and radio stations. "The Ultimate Digital Studio" - A digital master control system capable of live assist or automated control of CD juke boxes, audio mass storage and any machine controlled equipment. Integrates to stations schedule and music systems. "WaveFrame" - A gital multi-track audio production system used for video post production, audio production, CD mastering and radio production. Conforms to all industry standards.

STAND NO. 27 QUANTUM PACIFIC PTY LTD

Telephone: (02) 975-1323

Ross Thyer, Peter Amos, Victor Punch, Graeme Parr

New Releases: AVID AudioVision.

Products to be Exhibited: AVID AudioVision is a cost effective random access multi-track digital audio editing system offering an integrated sync-locked full-motion high quality digital picture. AVID AudioVision is fully compatible with the AVID range of Media Composers. AVID Media Composer 8000, the on line version of the world's most popular digital non linear editing system. The editing system chosen by George Lucas for use at Skywalker Ranch. More than 1500 AVID digital non linear editing systems have now been delivered world wide. There are now 30 systems operating in Australia and New Zealand.

STAND NO. 28 BASF AUSTRALIA LTD

Telephone: (03) 212-1559

Jürgen Heinsen, John Benfield, Rowan Turner, Simon Murphy, Barrie Ellis, John Parncutt

New Releases: Studio Master 931 digital, Studio Master 999 high bias SP betacam, DCC magnetic optical disk.

Products to be Exhibited: Audio and video studio products including Studio Master 911, SM468, SM931, Digital SM999 high bias, DCC, magnetic optical disk, SP betacam, 1" C format, R Dat, E300 SHR video tape, chrome maxima plus audio cassettes.

STAND NO. 29 AUSTRALIAN MONITOR PTY LTD

Telephone: (03) 816-3544

David Hay, Iain P Everington, Lionel Krupp, Stuart Mclean,

BASF

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STUDIO MASTER 468

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**500 Princes Highway
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Fax: (03) 212 1502**

New Releases: QMX double 12 high performance 2 way full range, QMX wedge monitor, 2 new amplifier models.

Products to be Exhibited: K7, IK2 amplifiers (stereo), AM1200 amplifiers (quad), AM1600 amplifiers (stereo), AM2200 amplifiers (tri), BT350 2 way full range loudspeaker, QMX double 12 & 15 concert systems, F300 wedge monitor, Mitec "Performer" range of audio mixing consoles and the new "Event" series live sound audio mixing consoles, PAS range of loudspeaker products.

STAND NO. 30 SONY AUSTRALIA

Telephone: (02) 887-6674

Shinsuke Yoshida, Peter Colby, Peter Norman, Rodney Sammut, Garry Rhodin, Chris Middleton-Williams, Gary Beachamp

New Releases: DMX-S6000 digital audio mixing console (post production), PCM-9000 master disc recorder, K-1203 super bit mapping processor, PCM-E7700 DAT station (DAT editing), DMX-B4000 "On-Air" digital console (radio/TV), PMD-C1/C1PO MD cart (mini disc cart), CDP-3100 CD player (radio, CD master and post pd), CDK-3600 360 CD auto disc loader.

Products to be Exhibited: DMX-S6032 digital console, PCM-3324S DASH multitrack, PCM-9000 master discs recorder, K-1203 super bit mapping processor, PCM-E7700 DAT station, DMX-B4008 on-air digital console, CDP-C1/C1P MD cart, CDP-3100 CD player system, CDK-3600 CD auto disc loader.

STAND NO. 31 ABC RADIO BUSINESS DEPARTMENT

Telephone: (02) 333-2209

John Parker, Spencer Lieng, Chris Winter, Tom Lubin, Michael Guest, Andrew Bell, Marghanita Da Cruz

Products to be Exhibited: D-CART is a powerful, multi-user, digital audio system designed to record, edit, replay, playlist, and store audio material without using tape. Providing simultaneous, random access to large selections of audio material by large numbers of users, this unique sound management system is suited not only to radio news/talk and music formats, but also a variety of television and non-broadcast applications. D-CART's quality, ease and efficiency of audio handling, as well as its support of a range of semi or fully automated operations, make it an attractive and cost efficient adjunct to many operations. D-CART is truly multi-user and can

support an extraordinary number of working simultaneously yet independently, whether it be in the broadcast operation requiring access to hundreds of hours of material, or general audio applications including for example on-line sound libraries, public information and entertainment systems, logging and transcription applications.

STAND NO. 32 AUSTRALIS MUSIC GROUP PTY LTD

Telephone: (02) 938-3466 Danny Dun

Products to be Exhibited: Akai S01 MIDI Digital, S3000 Series, S2800, S3000 and S3200 MIDI stereo digital samplers, CD3000 CD ROM sampling synthesiser, MX1000 MIDI master keyboard, PM76 MX10000 piano sound module, MIDI production centre MPC60II, ME35T MIDI audio percussion interface, ME80P MIDI programmable patch bay, DP88 digital signal patchbay, sample tools editor programs for MAC/IBM/ATARI computers, DD1000, DD1000i and DD1000s magneto optical disk recorder, DL1000 and DL600 remote controllers. ADAM DR1200 digital multitrack, Akai DR4 digital hard disk recorder, Peavey DPM-3SE plus digital phase modulation synth, DPM V3 rack version of DPM 3 SE, DPM V2 rack version of DPM 2, DPM C8 88 key piano action MIDI master keyboard, DPM SP 16 bit sample playback module, DPM SXII sample expander/player, PC1600 MIDI data controller, PRM 308s monitors.

STAND NO. 33 ENTERTAINMENT SERVICES OF AUSTRALIA

Telephone: (03) 562-4605

Graeme McGeorge, John Monty

New Releases: Sigtech timefield acoustic correction, Apogee sound CR1-12 multimode parametric equaliser, Anchor Audio AN100 multimedia powered speaker.

Products to be Exhibited: Apogee Sound, Artist Systems, IRP professional sound products, Anchor Audio, Sigtech.

STAND NO. 34 STUDIO CONNECTIONS PTY LTD

Telephone: (03) 723-4300

Dave Sloss

Products to be Exhibited: Lexicon Digital Post Production Systems, Allen & Heath Mixing consoles, Audiolab Bulk Erasers, 12 Gauge Fishpoles, Jacques Electronics Equipment Racks & Audio Equipment, Foster Headphones & Microphones, Audi-Cord Broadcast cartridge machines.

STAND NO. 35 PIONEER ELECTRONICS AUSTRALIA PTY LTD

Telephone: (03) 680-9911 Allan Chadwick
New Releases: New range of professional amplification & s/reinforcement products.
Products to be Exhibited: MV-2000 and MV-3000 amplifiers, S-V7000 full range speaker, S-V5500W sub-woofer, C-V2300 control pre-amp, CAC-V3000 300 disc CD changer, DRM-604X high speed CD rom mini-charger, VDR-V1000P recordable laser disc.

STAND NO. 36 PHILIPS

Telephone: (02) 888-8222

Justis Veeneklaas, Michael Pun, Alain Pilot, Shubroto Bhattacharjee

New Releases: Philips SR range of sound reinforcement systems comprising 3 models of loudspeakers, 2 types of amplifiers, graphic equaliser, 8 channel mixing desk, wireless microphones and a large range of microphones. Also, new speakers from Renkus Heinz and the latest release of EASE.

Products to be Exhibited: Philips SM30 computer controlled sound management system, CCS410 voice activated conference system, M100-S16 intercom system, BMS3000 background music system on CD-ROM, infrared multichannel sound distribution, SR range of sound reinforcement systems, EASE version 2, DP6000 digital paging, DCC digital compact cassette, Marantz CD recording system.

STAND NO. 37 A.R. AUDIO ENGINEERING PTY LTD

Telephone: (02) 299 3666

Anthony Russo

Products to be Exhibited: ATC, SCM100 active main studio monitors, SCM20 near field and the SCM10 desktop monitor, Nakamichi - DAT, Cassette & CD Players. SCV the complete range of signal processing including: Compressors, Equalisers, Parametric Room Equalisers, 4-Band Dynamic Processors, Noise Gates, Cross Overs, Microphone Splitters, Phase & Cable testers, Singel & Multiple Channel DI's, Phantom PSU's, Headphone Splitters, Transformer Balancers, Phono Preamplifiers, Plus the Universal buffer, a series of Micro-modules: Input Modules, Mixer & Line Output Modules, Mic & Phone Pre-amp Modules, Oscillator Modules, VCA/AGC Modules, EQ Modules, Mid Sweep EQ Modules, Headphone Amp. Modules.

STAND NO. 37 DW PRODUCTIONS

Phone: (02) 967-9683

David Wickert

Products to be Exhibited: Denon DN-961FA CD cart player, a range of ASI computers,

Kodak PCD Writer 200 recordable CD, TDK recordable CD, audio design products including Panscan Effects processor, ProPak Pro-consumer Interface, F601 Super Dynamic Limiter, Compex 2 Dynamics Processor, Ambisonic Surround Sound, Ambisonic Decoders, Smart box Interface (SCMS/CDR), SRC 1000 Sample Rate Converter, Copy-Rite SCMS defeat box, Distribution boxes (AES, S/Pdif, W/C), Masterlock (AES and W/C), ProBox 3 Sdif/AES Interface, Level ModelDefier digital fader, Nicam Professional Receiver, Digital Limiter (preliminary), Digi-4 four channel recorder, Solo-R Recordable CD system, Recordable and custom labelled CDs, Denon Orange Book CD players, Audio Design ProDat PCM2700, Sony PCM7000 Series + DAT Editor, SoundMaestro stereo CD Editor, Computer Concepts DCS, Sigtech Reference Monitoring. A complete range of CEDAR (computer enhanced digital audio restoration) products.

STAND NO. 38 HORWOOD AUSTRALIA PTY LTD

Telephone: (02) 718-8054

Ian Woodhouse, Judith Horman

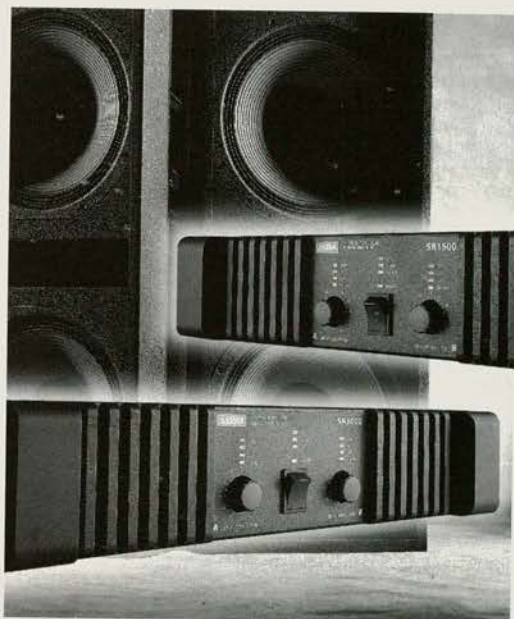
Products to be Exhibited: A new range of amplifiers and equalisers from AB International. From Astatic a range of gooseneck, conference and touch to talk microphones including the new 900 Series overhead choir, conference and boundary mics. Atlas/Soundolier will feature their new range of Aura-Style in wall loudspeaker systems plus the popular Strategy Series six inch speaker systems, indoor/outdoor speakers and microphones and equipment stands. Community's RS Series electronically controlled array loudspeakers systems and CSX packaged systems will be shown. White range of equalisers and the new DSP5000 digital audio signal processor. AB International (stereo and specialist amplifiers, audio distribution amplifiers and equalisers), Astatic (commercial range of microphones including goosenecks, conference, touch to talk and hand held microphones), Atlas/Soundolier (commercial and professional sound loudspeakers, outdoor/indoor and environment resistant loudspeakers and compression drivers, loudspeaker baffles and enclosures, custom install loudspeakers, attenuators and communication system accessories, cabinets, microphone and equipment stands), Community (RS Series electronically controlled array of loudspeaker systems, VBS Series subwoofer systems, M4/PC horn systems and bass horns, CSX/CSV modular packaged loudspeaker systems), White Instruments (digital audio signal proc-

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essors, one third and one sixth octave equalisers and spectrum analysers).

STAND NO. 39 AMPS UNLIMITED

Telephone: (03) 534-7184
Les Goding, Ken Wraight

New Releases: Inductive loop amplifiers, Evac amplifiers (24 volt back up), PA amplifiers, mixer amplifiers.

Products to be Exhibited: A full range of Ampower commercial amplifiers including the current range of line and mixer amps. Plus Perreux studio quality reference series amplifiers and preamps. Presentation engineering audio/video switching systems.

STAND NO. 40 ELECTRONIC DIGITAL INNOVATIONS

Telephone: (03) 690-8488
Roger Savage, Nigel Cadywoud

Products to be Exhibited: EDI-Tracker PS800 portable system.

STAND NO. 41 INNOV. SOUND AND MEDIA TECHNOLOGIES

Telephone: (03) 416-9688
Robert Styles, Adam Elkman, Neil Howe

New Releases: Avid media suite pro, Session 8, Pro-Tools V20.

Products to be Exhibited: Pro-Tools, Avid Media Suite Pro, Session 8, Sequencing software (Performer), notational editing software (Mosaic), time code readers, backup devices.

STAND NO. 43 PRODUCTION AUDIO SERVICES PTY LTD

Telephone: (03) 852-0900 Colin Stevenson, Graeme Stevenson, Byron Dixon

New Releases: Nady UHF 40 channel wireless mike systems, Gentner teleconferencing and assistive listening systems, Crest power amps and consoles, Dic tape Beta SP and Dat tapes recordable CD's, Klipsch pro speaker systems.

Products to be Exhibited: Ashly Audio Inc (Mosfet power amplifiers, compressor/limiters, noise gates, parametric and graphic equalisers, crossovers and mixers), Biamp systems (audio and powered mixers, amplifiers, equalisers and gain management units), Countryman Associates (microphones, DI boxes and battery power supplies), Crest Audio (power amplifiers), DIC/Digital (R-DAT Betacam SP tape, recordable CD's, computer back up tape and cleaning kits), Gentner (teleconferencing and assistive listening systems), Klipsch Professional (speaker systems), Nady systems (VHF and UHF wireless systems), Pro Co DI boxes, mic splitters, transformers, fixits, interface boxes, mic cables, multicores, cable accessories and patch bays. Quam-Nichols Co loudspeakers, Sescam audio problem solvers and hand held test equip.

STAND NO. 45 JESSEC-SWITCHES/C&K ELECTRONICS

Telephone: (03) 587-4044

Jessec-Switches: Frank Sneddon, John Tozer, Bob Tozer. C&K Electronics: Tom Porfelli

Products to be Exhibited: C&K switches, Serpac enclosures, Refex cases and racks, Supertronics enclosures, Sifam meters, Sifam instrument knobs, Cliff accessories, Alps switches and potentiometers, Marushen audio accessories, Deltron audio connectors.

STAND NO. 46 CREATIVE AUDIO

Telephone: (02) 746-2400
Chris Dodds, Neil Packer

New Releases: DMS-3 and DMS-4 ii Digital Message Store's. Creative Audio's two new 1ru digital Message Store systems feature variable message bandwidth from 5kHz mono to 16kHz Stereo. Suitable for applications like paging systems and telecommunications, stereo broadcasters. The DMS-3 is an entry level device for up to 32 messages, while the DMS-4 ii is an upgraded version of our existing product. C110, C120, and C140 ConcerCom CommandCentre. First produc-

tion versions of Creative Audio's new loudspeaking stations for its ConcertCom range of entertainment communications systems.

Products to be Exhibited: DMS-3 and DMS 4 ii: as above, DMS-100: Digital message on hold system for PABX and PBX systems, DMS-110: Dual channel broadcast line ID unit featuring digital message and tone output. C110, C120, C140: As above. C100 ConcertCom BeltPac, single channel headset substitution. C101: ConcertCom BeltPac Two, dual channel headset substitution C104: ConcertCom SquarkPac, single channel loudspeaking substitution. A7000 series: Fourth generation MosFet commercial mixer amplifiers. A1000/2000: Slave amplifiers from single channel 60w to dual channel 120w to compliment the A7000 range. A000 series option modules: A system of flexible input, output and insert option modules for the A1000, A2000 and A7000 series. Includes an FM tuner, Digital Message Store, VCA, Ducker, notch filter, limiter, and a record play tape switch. DIS Conference Systems: a range of conference delegate discussion systems featuring voice operated and manual operation, and Infra Red Simultaneous Interpretation systems. Custom Engineering: Samples of some of the work carried out by Creative Audio in the Audio and Communications fields.

STAND NO. 47 ROLAND

Telephone: (02) 982-8266
John Egan, Glenn Dodson, Rick Gell

Products: Roland Australia will be showing the DM-80 hard disk recorder in a full 32 track configuration. The DM-80 system will be on the display with the Macintosh based Track Manager graphic software and also with the new software engine DM80-R remote controller. Roland will also be displaying the SRC-2 dual sample rate converter. This is a multi function digital processor capable of converting shifting digital sample frequencies from both of it's two inputs into a constant industry standard clock rate at it's output. The SRC-2 can also double up as a digital protocol converter as it has industry standard optical, coaxial and AES/EBU inputs and outputs. Roland will have on display the new SRV - 330 digital reverb and SDE - 330 digital delay. Rolands product manager Rick Gell claims that the new sampling technology will definitely turn heads.

STAND NO. 48 CABEL LABELS PTY LTD

Telephone: (03) 870-3051
Jean Leach, Ralph Skendzic, Barbara Skendzic, Ashley Leach

Products to be Exhibited: Labels - standard size (up to 10.2mm cable diameter) in white, red, green, blue, yellow, orange and pink, and large size (up to 30.4mm cable diameter) in white, yellow and blue. Software -Database System (IBM compatible), Print Only System (IBM compatible).

STAND NO. 50 AUDIO TELEX COMMUNICATIONS PTY LTD

Telephone: (02) 647-1411
Roy Morgan, Don McConnell, Peter Holland, Paul Anderson

New Releases: Chiayo UHF wireless microphones, FBX 1200 feedback extermiator, AT amplifiers, Symetrix 601 programmable voice processor, 421 automatic gain controller, 402 delay line processor.

Products to be Exhibited: Chiayo UGH and VHF wireless microphones, Symetrix signal processors, AT and SA series amplifiers, Sabine feedback extermiators, Autopatch matrix switches, Speaker Zone switches, Soundsphere speakers plus a full range of entertainment, ceiling and column speakers, Goldline test equipment, Switchcraft connectors, leads and patch panels, Telex wireless microphones, Telex wireless talkback system and headsets, portable PA systems, personal listening system, plus a full range of equipment for those involved in sound installations.

STAND NO. 51 IRT ELECTRONICS PTY LTD

Telephone: (02) 439-3744
Jeff Meyer, Adrian Parker

Products to be Exhibited: IRT Eurocard audio rack frame products including audio distribution amplifiers for stereo/mono, stereo oscillator/amplifier, audio switchers, audio rail detectors. IRU units, 25 output audio distribution amplifiers, stereo recorder balanced matching interface amplifier, stereo monitor amplifier. Audio precision system, audio precision portable one plus audio test sets, verity systems V860 automatic conveyor belt magnetic media eraser.

STAND NO. 52 & 53 dB AUDIO

Telephone: (03) 853-1070
Ewen Coldrey, Janette Coldrey, Travis Coldrey

New Releases: Nagra D digital 4 channel open reel recorder, Micron 6 way diversity radio microphone system, Schoeps KFM 6 sphere stereo microphone, Cooper Sound professional audio mixer.

Products to be Exhibited: Porta Brace production cases, Micron Radio microphone systems, SQN Electronics Ltd portable audio field mixers, Schoeps condenser microphones, Trams lavalier microphones, Nagra tape recorders, Cooper sound audio mixer.

STAND NO. 54 AV TECHNOLOGY PTY LTD

Telephone: (03) 764-8443
Colin Taggart, Kevin Chaffield

New Releases: Tiltscreen electroluminescent touch control panel, AVT-24 teleconferencing interface.

Products to be Exhibited: AMX Access fully expandable/programmable control system, AMX tiltscreen programmable electroluminescent interface.

STAND NO. 55 AWA DISTRIBUTION

Telephone: (02) 888-0000 & (03) 693-3322
Bob McCallum, Alistair Dewar, Greg McLaghlan, Tony Conroy, Paul Nichols

New Releases: Denon's DN1200F CD Changer and DN1200C Controller.

Products to be Exhibited: Denon DN951FA (professional "CD-Cart" studio deck), DN-961FA (Professional "CD-Cart" studio deck), DN2000F (professional disco CD player), DN720R (cassette deck-single deck-speed control). TOA 200 MHz radio microphone equipment, 8-channel gate mixer, 900 Series MKII power amplifiers and mixer amplifiers, designer series foreground speakers. AKG Acoustics DSE7000 (digital editing suite), "Blue Line" series condenser microphones, "Tri-Power" series dynamic microphones, full range of headphones.

STAND NO. 56 MICRO SOUND AUSTRALIA

Telephone: (02) 557-2658
Geoff Sturre, Diane Fernando

New Releases: Version 2.1 - effects send and return (digital and analogue).

Products to be Exhibited: Microsound digital audio workstations for IBM/Windows platform with 50 stereo track mixing on PC/AT computers.

STAND NO. 57 AMPEX MEDIA INTERNATIONAL CORP

Telephone: (02) 887-3333
Greg Martin, Darren Rogers, David Williamson

New Releases: 489 cassettes for ADAT recorders (a new 15 minute length of the popular 467 R-DAT cassettes and the high energy analogue 499 mastering series).

Products to be Exhibited: All formats of audio tape will be available at the Ampex or Syntex booths.

STAND NO. 58 THE RESOURCE CORPORATION PTY LTD

Telephone: (03) 888-6555 Tony Hosking

Products to be Exhibited: Connectronics microphone, instrument and speaker cable, Konig

and Meyer microphone and speaker stands, accessories and studio equipment rack trolleys, Omnimount wall and ceiling mounting systems for speakers, TV monitors and AV products, Pro Tec "Pro Pac" cases for electronics and rack bags.

STAND NO. 58 ARX SYSTEMS PTY LTD

Telephone: (03) 555-7859
Colin Park, David Park, Duncan Fry

New Releases: POWERMAX 5 near field loudspeaker system, EQ15 dual 2/3rd octave graphic equaliser, DI-2 dual channel/stereo DI, MaxiMix dual Ch 4 input line mixer, MaxiSplit dual Ch 4 output line splitter.

Products to be Exhibited: EQ 60 dual 1/3rd octave graphic equaliser, Multi Q parametric equaliser, afterburner dual band comp limiter, DDP-1 dynamics processor, Quadcomp 4ch comp limiter, Sixgate 6ch noise gate, EC-1 & EC-2 dual Ch 24dB active crossovers, DI-6 DI box/line mixer splitter, DI-1 single DI box, SS1200VC SS600VC power amplifier, PowerMax 1 2 3 4 loudspeakers, 222 215 biamped monitors, 200 Series professional loudspeakers, 900 Series professional loudspeakers.

STAND NO. 59 AUSTRALIAN AUDIO SUPPLIES

Telephone: (018) 432-910
David Croxton, Martin Kirkpatrick, Tony Waine

Products to be Exhibited: Mackie Mixers Micro Series 1202 12 channel ultra compact mic/line mixer, CR1604 low noise/high headroom 16 channel mic line mixer, Mixer Mixer active combiner, XLR10 mic preamps for CR1604, Otto-1604 add on internal MIDI automation for CR1604, 8 Buss mixing consoles.

STAND NO. 60 & 61 ARTECH SYSTEMS AUSTRALIA PTY LTD

Telephone: (03) 720-5711
Des Silvester, Tim Shuttleworth, Ray Sheldrick, Bert Reedy, Matthew MacDonald, Anita Martin

New Releases: Audix microphones including VLM (Very Low Mass) D Series and SCM range of microphones, Brainstorm SR15 time code Distripalysar (strips and re-generates SMPTE time codes), D&R Electronica audio consoles, Digital Audio Laboratories TED digital editor with new window software, Digital Audio Research Soundstation Sigma and Sabre workstations, Focusrite Red Series audio processors and Euroconsole with Uptown moving faders.

Products to be Exhibited: AD Systeme Optifile 3D console VCA automation system with Optiview film previewer, Audio Animation Paragon digital on air stereo processor, Dynair fibre optic transmission systems, switchers and ancillary equipment, Furman (complete range), Neotek Esprit broadcast console, Elite and Elan studio consoles, Oxmoor Room Combining Sytem, QSC Audio Series 1, MX, EX, USA Series amplifiers, Timeline Lynx/Microlynx SMPTE time code synchroniser.

STAND NO. 62 AUDIO SERVICES CORPORATION INTERNATIONAL PTY LTD

Telephone: (02) 901-4455
Geoffrey Grist, Richard Topham Jnr (President Audio Services Corporation USA)

New Releases: "PSC-Intellislite" - the thinking persons time code slate and "PSC M4 Mixer MK 2" - upgraded and even better value, 4 channel stereo location mixer.

Products to be Exhibited: Complete range of Professional Sound Corporation (PSC) products, Comtek Communications, Radio Mix and Radio Link products, Kangaroo Video products, products from EAA France, wide range of microphones and accessories, phonic ear products, everything for production sound.

Enjoy AES! See you there.
-Your Connections team.

Asian Trade Report

At last our Sound & Lighting traders look collectively North, as Caroline Crafton discovers in Singapore - where business calls!

Pro Audio and Light Asia '93 was a Trade Exhibition for Entertainment and Related Industries for the entire Asian region. But it seems the Pacific countries such as Australia and New Zealand felt obliged to reveal their design and manufacturing talents as well. Maybe in the future this show should be re-titled Pro Audio & Light Asia/Pacific. The '93 exhibition was conducted in Singapore at the World Trade Centre from July 7th through to the 9th inclusive.

Singapore is a highly conservative country and this character made for an extremely keen business environment, unlike some exhibitions where it really becomes one endless party. After the Official Opening in which two rather large Chinese Dragons danced through the two pavilions to the deafening sounds of drums, chimes and gongs (which according to legend, scare away the evil spirits) the key word was TRADE - and trade everyone did.

Many international principals were on sight, either supporting local distributors or trying to expand their distribution networks into the ever increasing Asian/Pacific market place. I was one very proud Australian to see so many of our designers and manufacturers personally manning their exhibits, and the number of Australian

visitors was mind boggling.

It's been a hard slog for many Australian and New Zealand manufacturers, as we generally (and in most cases unjustifiably) have a reputation for lack of motivation, sales and marketing ability. We have also in the past, due to a lack of wage control, been non-competitive. But we have always had something that other countries have not. Due to our geographic situation we have always had to improvise and this, once considered a drawback, has made Australia one of the world leaders in design technology. Hopefully now, with a combination of our design ability, precision engineering, wage control and the business and marketing attributes honed from the financial disasters incurred in the heady eighties, we have proven we have come of age and are competitive.

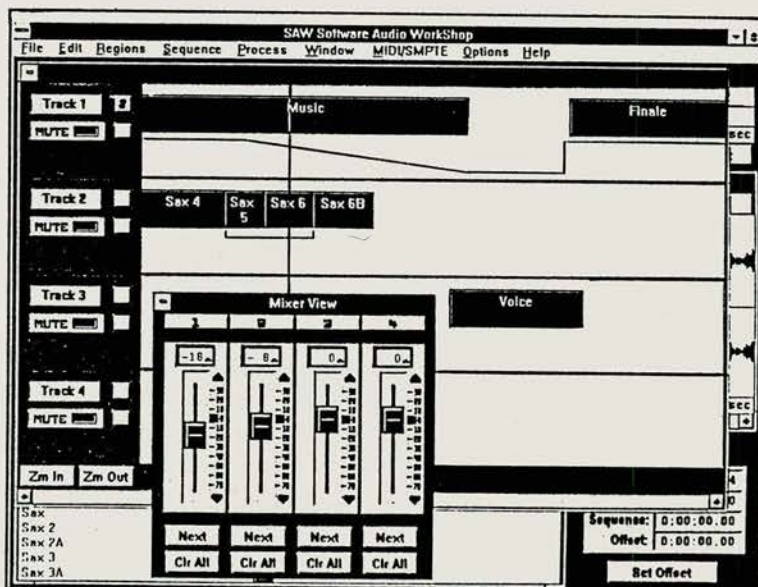
There were many countries, companies and products, represented. Some old, some new, some ingenious and some bizarre. New products will filter into the magazine later, but for now I'd like to talk about Asian Trade.

Australia and New Zealand have a wealth of entertainment and supporting industry technical knowledge, and many of the best designers internationally. These attributes are something that most Asian countries with the exclusion of

Japan and Korea lack. Generally with the increasing westernisation of Asia, it seems ridiculous that we are not taking full advantage of our locality to this region. I have noticed something in my recent travels around Australia and that is the ease with which the Western Australian's deal with our Asian neighbours. I know several Eastern State traders who have managed Asian dealings successfully, but some still feel slight trepidation. But to the business community in WA it seems to come more naturally. Maybe its their location, I don't know - but it would be worth a little more observation.

We are not just talking about finished manufactured product for export. We are talking about technical knowledge. Theatres, Hotel Conference Centres, Studios, Traditional Dance Rooms, Nightclubs, Theme and Cultural Parks verging on the scale of Disneyland - all require design, construction and installation. Asia represents a huge market and we are already witnessing the USA, UK and Europe trying to gain a foothold, but Australia and New Zealand are fighting back.

Australian exporters such as Jands, Australian Monitor, ARX, Dynalite, Bytcraft, LSC, and Alcatel, along with New Zealand's Selecon and Theatrelight are capturing the Asias with technology, accessibility and a growing cultural un-



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derstanding. Apart from exporting hard product in recent years we have seen several successful concept and design projects completed by Australians and New Zealanders in Asia, including Recording and TV studios and the design and installation for resort, convention and leisure facilities. Not to mention several live rock and theatre shows being exported in their entirety from our shores direct into Asia. Some of our leading live sound and recording engineers, lighting designers and technicians export their services.

I think one of the things that most interested me in talking to a few Asian importers/contractors who use Australian and New Zealand products and services, is HOW they trade with their local customers. I mean, it can be quite a lengthy wooing procedure. They don't have a base market like we do in Australia and NZ, the majority is big contract work ranging from US\$100,000 to half million or so. So there are certain procedures they follow to win the business:

STEP 1. Build a trusting relationship with the potential customer.

STEP 2. Introduce product on a reasonably casual basis.

STEP 3. Then, "You want a design and/or quote yesterday, no problem".

STEP 4. Organise support and a long term price structure deal with your Australian or NZ supplier.

STEP 5. Start negotiations with the customer. This entails much entertaining, over a period which CAN be as long as a YEAR.

By the way, in most of Asia, entertaining is considered a cost of sale and is fully tax deductible. I wish the Australian government realised how many deals can be done through cordiality, even over a cup of coffee.

In Asia your average entertainment expenses equals approx 20% of your profit on sale.

STEP 6. Once you have gained the customers absolute trust, then the deal will, most likely, go

ahead. And of course, YESTERDAY.

STEP 7. In the mean time, the original Australian or NZ manufacturer/supplier should have maintained the situation in reverse with the Asian importer/contractor, who has gone through the six steps above to win business - and all's well with the world.

Establishing Asian distributors is not an easy task. Even though the Asians are generally excellent traders they lack the technical skills required to go into an installation or maintenance contract situation cold. Be prepared to gain the contractors trust through stability, professionalism and backup. The willingness to acquire knowledge is there, the markets are there, manufacturers just have to be prepared to invest TIME in developing the technical skills required for projects of this proportion.

TRUST is the key word for Asian traders and until all Australian and New Zealand manufacturers recover from the immature fear of breach of copyright and trademark, Australia and NZ will not fully realise the export potential to Asia. Someone, somewhere will always copy technology and concepts, it is not an exclusive habit of the Asians.

When you talk of Asia, you are talking huge population, a high percentage of whom want to be entertained in one form or another. Even if we only catch a small percentage of that market it represents a huge export revenue and on the current balance of trade figures we really can't lose. Just to name a few, here are some current population approximates:

China-1 Billion; Malaysia-18 Million; Indonesia-154 Million; Singapore-3.5 Million; Hong Kong-6 Million; Sth.Korea-20 Million.

The Australian entertainment and technical support industry should be proud to have broken down the barriers that our forefathers and other industries have managed to construct.

I personally salute all the Australians and New Zealanders out there giving it their best shot!



Olaf Diegel from Theatrelight, a NZ manufacturer trawling for business.



Jands chief Paul Mulholland, an old hand at Asian trade. 'You MUST have someone in the region supporting the product'.

Ern Rose from Metropolis Studios, recently completed a design project in Malaysia, in Singapore fishing for business.



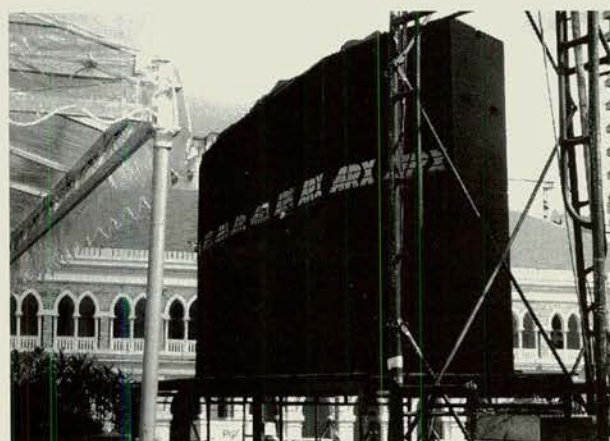
How 3 Australian firms are making inroads into Asian markets today ...

Melbourne's **Bytecraft** has signed an agreement with Ushio U-Tech of Japan, who will import Bytecraft's Intelligent Dimming Systems. Ted Fregan of Bytecraft is pictured below with Mr. Takehito Suzuli, Executive Managing Director, Ushio U-Tech.



Malaysia's largest rental company, Cahaya Audio Lighting Sdn. Bhd, has recently taken delivery of a new **ARX** Loudspeaker system comprising 20 x 212 mid/high and 20 x 925 bass cabinets. Powered by ARX SS1200VC amps, the system was first used for the Dataram Merdeka concert in the centre of Kuala Lumpur. MC Hammer & Engelbert Humperdink have since used the rig in concerts at the Kuala Lumpur Hilton.

GUVT have opened an office in Singapore run by Rod Hailey to install over 48 cinema screens over the next 12 months.



Singapore hosts Pro Light & Asia tradeshow

This tradeshow is all about doing business, and as such is an essential calendar entry for next year July 6 - 8 at the World Trade Centre in Singapore. 200 exhibitors can't be wrong.

Connections' Caroline Grafton, with Hymie Meyerson of Australian Monitor.

Centre. Kelvin Ashby-King from Selecon with Hefferich Tan of Innovative Communications, Singapore.

Ray & Helen Bond, ex-pat Aussies in Singapore.



ARRAYS IN ASIA

DAVID McCAY tells how Trans Media Engineering from Perth executed two installations in Malaysia

Back in September '92 Michael Youngman and myself combined forces to design, install and commission a JBL/Soundcraft audio system and a Jands digital lighting system for the Malaysian Casino conglomerate Resort World Bhd, commonly known in Western Australia as Genting, the original partner in the Burswood Resort Casino development now successfully operating in Perth.

Working from a cramped office within Michael's house we developed the audio and lighting system designs from the consoles to the cable labels. Both served as system designers with Michael covering system engineering and installation management and David assuming the roles of logistics management and client liaison. We employed the services of Mike Smith of MGS Projects Melbourne as mechanical engineer/trigger and Tony Boon of Wodonga NSW as chief interconnecting officer.

The venue for this installation was the Grand Ballroom, housed within the main Genting Hotel building. As the resort is 45km out of Kuala Lumpur and 6000 feet above sea level, several logistical problems were encountered before the installation commenced. For instance, the Soundcraft console was shipped by air from England to Perth, Perth to Singapore, Singapore to Sydney, Sydney to Perth, Perth to Singapore, and finally from Singapore to Kuala Lumpur

(the original destination) and then by truck up the mountain to the venue.

Once all the equipment had arrived works commenced and within four days Genting had arguably the best audio and lighting control systems within Malaysia.

Following the successful completion of the installation, we formed what is now known as Trans-Media Engineering Pty Ltd and now work out of offices in Hay Street, Subiaco.

During January '93 TME was contacted again by Resorts World Berhad Malaysia and contracted to design a suitable replacement audio system for the resort's premier venue, the Genting Theatre Restaurant. This project required the complete redesign, removal and replacement of the venue's ageing multi-horn speaker system in addition to the various theatre communications and cashiers' background music systems.

As the release of the JBL Array 4892 enclosures had occurred recently, the choice of speaker for this project was obvious. Work commenced on the design using the JBL room analysis software CADP2. After several late night calls to a mysterious telephone number in Gosford and a hectic flight to Malaysia, the equipment list was finally complete and an urgent order was placed with Jands. With the indispensable assistance of Robert Young, Peter Grisard and Barry Turner, the order was ready for shipment

to Malaysia within seven days of placement, a feat well worth comment.

The same team was assembled and departed Australia yet again. After some initial delays caused by the lack of freight arriving, fastidious custom agents, etc., the little JBL Arrays arrived with only two days until opening night for the latest production show.

All preliminary works had been completed by this stage, thanks to some sleepless nights by Michael, Tony and Mike Smith, who completely dismantled the existing four equipment racks, rewiring, modifying, and rebuilding some of the obscure products previously installed by others throughout the 17-year history of the venue.

The system design for this room consisted of left, centre and right clusters of two JBL Array 4892 enclosures (all suspended from steel grids within the ceiling), two Jands System-80 subwoofers hidden beneath the fore-stage, time alignment of the existing under-balcony ceiling speakers, and the reinforcement of the existing balcony ceiling speakers with additional JBL S-3 ceiling units, in addition to four JBL Soundpower 4728AP passive stage monitors.

The total disbelief of the Genting staff that these six little Array enclosures could replace two and a half tonnes of wierd looking horns etc., was soon put to rest.



The control room, before



and after!

The China Connection

This was my first visit to China and I had been told by many people to be prepared for a culture shock. After leaving the plane we progressed to the baggage area along an automated walk-way that was flanked on both sides by publicity posters and photo's regarding the Year 2000 Olympics. The arrival area was very dreary and it seemed to take forever to get your baggage.

Once my baggage arrived I proceeded to find a taxi to my hotel. In China there are a number of different types of taxi's ranging from an extremely small mini bus/van type to what they class as a luxury taxi (similar to a mazda 626 1980's model), each class of taxi has a restriction on the maximum speed than can go and also the fares are rated according to the taxi.

Upon leaving the Airport we proceeded on what seemed to be a new freeway, however this only lasted for approximately 1 kilometre, as we then went onto a small side road which ran parallel with the continuation of the new freeway, which I found out was being constructed for the Year 2000 Olympics.

Saturday was the first day of the Exhibition (which by the way ran for 5 days) so I attempted to get a taxi to the Exhibition Centre. After being taken to the China Exhibition Centre, which was not where the exhibition was, I found another taxi and made my way to the Beijing

Exhibition Hall.

The front of the Exhibition Hall has a large open area housing a water fountain etc and on this day, an enormous mass of people, Military band, large colourful flying balloons with Chinese writing trailing from them and a host of Government Officials. After waiting for approximately 1.5 hours I found that there was to be an official opening, hence the band and officials.

The major products on show were musical instruments and music reinforcement system with a fair splattering of lighting product.

From a lighting point of view the major manufacturers that had products on show included: Martin (Denmark), Clay Paky (Italy), FAL (Italy), Lampo (Italy), High End (USA), Zero 88 (JK), JEM (UK), Compulite (Israel), Selecon (NZ), Studio Due (Italy), Smoke Factory (Germany), Rainbow Scrollers (UK), Colourtran (USA) and a number of Chinese, Tawainese manufacturers.

Over the period of the show that I attended (3 days) the crowds were constantly moving throughout the halls with most exhibitors being constantly bombarded for catalogues and information. Being solely interested in Lighting I took very little interest in the Musical Instruments/Audio side of the show (I apologize to all interested), however as previously stated the show was dominated by these products.

Peter Kemp travelled to Beijing, and reports on a tradeshow option there.

From talking with the lighting industry people in attendance I believe that an enormous amount of business was fostered by the show and nobody was sorry they attended. In talking with Jeremy Collins from Selecon, he told me how they had printed up a simple black and white handout on their products (in Chinese) to give out at the show and that on one occasion he produced a coloured leaflet on a particular product for somebody and he was immediately pounced on by hords of people wanting the colour leaflet.

It seems that the market has been starved of a wide range of products to date, and now, that the country is opening up the demand for information etc is quiet staggering. All in all I believe the show was an excellent opportunity for manufacturers to move into the Chinese market and upon review of the market, there is an enormous country, with a gigantic population, wanting the modern technology that we all take for granted.

However from a business point of view one must be very careful of who and how they deal with in China.

Pro Audio, Light & Music China will run next May 16 - 21 in Beijing. Contact Alan Suen on fax: (852) 866-1770 for details.

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Hot Shoe Shuffle

It was through a sea of grey perms and bifocals that Catriona Forcer attended a matinee performance of David Atkins' production of the *Hot Shoe Shuffle*. She found a happening crew, who are ready for anything

Playing to packed houses at Sydney's Footbridge Theatre, the show is set in 1948 and tells the story of the Tap Brothers, a madcap dance act who learn that they stand to inherit their long lost father's fortune - if they can reproduce his dance act.

Inspired by the dance acts that travelled the American vaudeville circuit during the '30s and '40s, *Hot Shoe Shuffle* is a celebration of tap with many well-known tunes, including *Putting On The Ritz*, *If It Ain't Got No Swing* and the optimistic *Accentuate The Positive* which stirred the elderly audience into a constrained sing-along. Unfortunately I knew all the words too. In fact it was difficult not to get swept up with the Broadway magic of the show and the standing ovation was well deserved.

Best of all, in true Broadway tradition, leading lady Rhonda Burchmore was battling a severe case of 'flu and a doctor was waiting in the wings to decide if she was fit enough for the performance. Would a budding starlet get her chance to break into the big time? Wow, it was just like in the movies.

Stage manager Jodie Hitchcock is responsible for maintain-

ing and co-ordinating the flow of the show. Although there is a specialist in charge of each department - lighting, sound, sets, props and wardrobe - it is Jodie's job to make sure everything is done at the right time.

"None of them are fools, they all know when to do it," she said. "But the bottom line is if they don't do it, it's my fault and I have to find out why.

"I have to maintain communication between the cast and the crew and the band. You have to have a basic understanding of how it all works because, with lighting for instance, I'm nearer the lights and I can often spot something wrong before the operator. Obviously if you know what you're talking about they understand it a lot quicker and the problem is solved faster.

"Here we have a floor electrician so I just have to find him in the building and he'll fix anything. The sound control gets done through me as well so the front of house engineer tells me if there's a problem and I tell the person standing beside me. So basically I'm the in between person, passing the messages along the line.

"You've got to be able to concentrate on what you're doing in the show, make everything happen at the right time and be aware of what's going on around it. I don't have an assistant

"A celebration of tap with many well-known tunes, which stirred the elderly audience into a constrained sing-along. Unfortunately I knew all the words too."



Stage manager Jodie Hitchcock

on this show which is pretty unusual.

"It's small but very successful, and we run on a minimum crew with a family atmosphere. Everybody, even the crew we hire in-house, is made to feel part of the show and I find they work for that as well. There are no qualms about sharing responsibilities."

Daily duties for Jodie include dealing with such problems as a dead possum frozen with rigor mortis and clutching a curtain with his teeth. The curtain had to be cut to get him off.

But Jodie describes these sorts of problems as minor compared to the shows with more technical equipment and automation. All the props and scenery are easily worked and thus easily maintained.

The show travels to Adelaide next and there are rumours of Perth, Brisbane and New Zealand. The entire cast will be opening the show in London early next year, the first time the British actors' union Equity has allowed this to happen. The show will hopefully run for six months although the venue has not been confirmed.

"It's wonderful but it is a bit like a carrot on the end of a stick!" Jodie laughed.

"I'm very excited by it but I don't want to pin my life down to it. I did the Grease tour in New Zealand and after three weeks it was 'Wham bang, you're going home now'. A lot of people can't live that sort of life.

"Monday night is my night off but I'm usually too exhausted to do anything! I've owned a flat for 18 months and only lived in it for six because I'm on the road so much.

"It's a lot of stress on a person but you've got to maintain the calmness and the coolness. When somebody is yelling at you, you've just got to stand there, absorb it and then say your piece. You have to deal with people without getting anyone's back up and making sure your point gets through.

"Usually my crew are male and some people say there is no sexism in theatre but there is. Sometimes you use it to your advantage and sometimes you don't. Hopefully you find the medium between them and it works for you."

Lighting designer for the show was the popular David Murray with head electrician Zoe Farrow running the

production in his absence. Zoe completed a two year technical course at the Centre for Performing Arts and has been working in lighting since in Adelaide, Melbourne, Sydney and at the Queensland Performing Arts Centre where she spent four and a half years.

Hot Shoe Shuffle originally started at the Castle Hill Centre in Sydney, which Zoe describes as a horrible place.

"It was very hard to fit this show in there," she said. "We basically had to use truss through the whole thing and we had lots of problems with power. I think we must have been on the end of the line or something."

After eight weeks the show travelled to Her Majesty's Theatre in Melbourne where it played to full houses. It was the same when it returned to the Footbridge Theatre earlier this year.

"We've had packed houses every night and standing ovations," Zoe said. "It's good to work on a show that has that kind of response and has got good critical reviews.

"The basic rig hasn't changed that much from Castle Hill, just bits added here and there. Obviously the positions of lights are all different but the basic concept has stayed the same. Here we've got our basic touring rig which has a lot of ray lights because they're always good in chases to give a bit of oomph. It's basically washes with scrollers and lots of specials including four Golden Scans for some fancy moves."

The show is split into two parts. The first act is a build up of the story and the second is mostly songs and tap dancing. This means two separate rigs are required, with the rig and white stage set for the second act concealed by black drapes during the first.

"They are two very separate rigs and that's why people think there are so many lamps in the air," Zoe explained. "We use them for very specific reasons.

"There are two spotlights which are at a very strange angle here. I prefer them at the back, next to each other in the middle. Because the Footbridge is so small they throw a really bad angle and we've had to put the Lycians on stands about six inches high - the poor guys operating them have to sit on chairs with the legs cut off!

"We've got four ColourFaders which I've never worked with before and they are working extremely well. We've also got 24 Colourset scrollers which have also been very reliable.

"There are a lot of the old tricks that David has used like colour wheels, lots of chases happening, bud light over the whole set and gobo rotators which the audience go 'ooooh!' over. It's just two dots going through smoke.

"Then there's the old mirrorball - a lot of the old stuff that works really well under these conditions and work well with a white set. The white also brings up the depth of

Daily duties for Jodie include dealing with such problems as a dead possum frozen with rigor mortis and clutching a curtain with his teeth. The curtain had to be cut to get him off.



Head electrician Zoe Farrow



the colour and bounces the beams around a bit.

"We had a problem with the steps. I think Davic was a bit worried about how we would light the top of them as well as the face of them. Fortunately lighting them from above bounces off the top step onto the faces."

For control Zoe is using a Strand Gemini which she's had a few problems with but it has settled down - she gives it a soothing talk now and again to keep it happy.

"I think there's a bit of a joke at Chameleon that anything that can go wrong will go wrong with *Zoe* and *Hot Shoe Shuffle!* We've had a few problems but they've all been solved.

"Chameleon have supplied about half the rig as the Footbridge did not have a very large stock themselves. All our scrollers had to go on lamps so we hired par cans for that. We always end up hiring quite a few dimmers from Chameleon - there are 48 dimmers underneath the set just to cope with the bud light and set electrics, which is quite a lot. We've used the whole data system from Chameleon, using DMX512 so we're using a data convertor as well."

Head mechanist with *Hot Shoe Shuffle* is Jay Dwyer, who explained his main task on this show is to keep everything clean.

"Because we have taps throughout the whole show everything gets destroyed," he explained. "Every surface they dance on gets destroyed and we have to get them back to a condition which they can use.

"The floor itself is my biggest pain. We have to maintain its looks, its speed and it has to have the right sound.

"When you put taps on a guy who weighs 11 stone, it's like putting chisels on somebody's feet and asking them to dance on a paint job. So despite our lack of technology on this show we have a surprising amount of maintenance. We're now changing the surface on one dance plat-

form because the boss didn't like it."

"Oh yeah, blame me for it," moaned a passing David Atkins.

The sound engineer and designer for the show is Jim Blackfoot, who has worked on film, theatre, television and album production during the past 20 years. His operator is Malcolm McLeod.

"This is an interesting show in that with a lot of theatre shows, you don't actually have a separate foldback mixer and operator backstage, which we do for this," Malcolm said.

"They need quite a bit onstage and from that respect it's almost into a rock 'n' roll area. But it hasn't proved any problems which has been nice. I imagine it could at times, when it gets a bit heavy back there because you have to keep it down to a fair degree. You can't have the dialogue at one level and screaming at rock 'n' roll level for the numbers, obviously.

"The designer travels to each venue before the show to check out the theatre, organises the gear to go in and fine-tunes the system.

There's quite a mixture of equipment - they've got Meyers out front for the front of house and some on stage for foldback. There are five tap mics along the front of the stage which pick up quite a bit off the floor, plus three plate mics in the stairs for entrances there. Every one of the nine cast are using radio mics. The control desk is a Yamaha 300 desk with a small sub mixer for the tin section in the band.

"Having the band exposed onstage is a problem in so much as you have so much sound next to the singers all the time," Malcolm said.

"It does tend to get into the radio mics but luckily with this show they've all got big voices and they can get above it."

One problem Malcolm has to deal with is the amount of sweat that drips onto the radio mics. A great effort is made to keep the dancers dry by mopping them backstage.

Peter Kemp's LX column *Not So Hot News*

If you are a regular reader of the lighting columns of the magazine you would be aware that it has not been my style to use the column as an advertising or sounding board for our company, however a recent event has prompted me to cover the following topic, as I believe this is something that needs to be pointed out to the lighting industry at large.

One of our competitors has recently released a newsletter which included the following article:

"Tas Machine Re-call:

Coemar De Sisti have been forced by the electrical authorities to recall their cheap Tas fog machine. This was due to a reported "shock" received by a high school student at a school production."

It is true that we have recalled the smoke machine mentioned, however it was not due to a reported shock.

The real chain of event that took place is as follows:

Via one of our distributors, TCP, we received a letter from the Office of Energy NSW, basically canning the remote switch connection. On receipt of this letter I personally contacted the Officer concerned and he informed me that they had been called by an anonymous caller asking them to check out the machine.

After consultation with the officer it was agreed to change the remote plug and socket to a cannon 2 pin, plus earth 250 Volt rated plug and socket and accordingly we recalled all machines for the modification.

I have personally heard a lot of comments from people from within the industry, whereby they have been told that the machines are unsafe and people have been electrocuted by them.

The simple facts are that an unapproved plug and socket WAS used and this was quickly rectified when picked up by the authorities in fact we have a letter from the Office Of Energy which states "Thank you for the prompt response on this matter"

I am sure it is unusual for a government body to give such praise. All machines sold are now supplied with the approved Cannon plug and socket. In regards to low voltage control, which is also mentioned in the newsletter article, we do offer this for the Tas Mini Smoke Machine.

Needless to say the negative publicity about the Smoke Machine has in no way hindered our sales of these machines, in fact as per usual we have difficulty in supplying the number of machines required.

Should anybody wish to view copies of the official correspondence between the authorities and ourselves, please contact me.

Peter Kemp heads Coemar DeSisti Australia, Call (03) 467-8666

END USER REVIEW

By Bruce Waite & Dave Macken, from Blind Lemon Pie

BIG

Hello is anyone listening... turn up the midrange on channel twenty !" Yep, that's what the man said! "Which man?" you ask.

The man who is sampled and built-in to the total recall system in the desk, that's which man we're talking about. Pretty soon a lot more people will be talking about this particular man and his sampled voice commands, and the console to which he is attached.

Leon Hart of Studio Supplies asked us if we would like to take a look at the new Amek "BIG" by Langley which, in short, is a total recall, automated mixing console. We told Leon that we'd like him to turn his back while EMI's John Bee (the demonstrator) gave us a hand to put it in the boot, at which point we'd happily drive away and never come back again.

The overwhelming desire to steal this product stems from the fact that it is "really happening man." (circa 1960's talk) The "BIG" that we assessed is an in-line, 28 input console featuring "splitable" E.Q. allowing 64 inputs for mixdown, there is the ability to SMPTE lock the control of Faders, Monitor and Channel muting, as well as defeating of Auxiliaries 1 and 2. Other outboard features include 16 soft-groups and the provision to add-on a software controlled gain shaping system which utilises the on board VCA's to yield a range of panning, gating and compression effects. The desk also has 4 stereo effects returns, and eight assignable auxiliary sends which can be patched to give up to an enormous twenty sends when mixing.

Importers ATT Audio Controls have pulled all stops in the pricing of this "Superconsole System" (Amek's affectionate advertising description) by offering the Langley at a price that allows the trade purchaser to walk away from the retailer with a console, a stand and all the necessary computer/software requirements for under \$45,000 including sales tax. This may seem like a lot of money, and we know you don't get electric windows, however the reader should



Looks like ... yawnanother mixing console. Think again, say Bruce & Dave, it'sBIG!

bear in mind that this is a serious console indeed and it could well begin to elevate the status of many studios. But that's not all, this console is not entirely out of reach for some live production companies either; imagine at changeover time giving the monitor engineer or front-of-house rigger a set of headphones and watching them quietly resetting the next mix simply by watching a screen and following the audio instructions issued by the computer.

This may seem like an overly complex operation for the purpose but the beauty of scanning software such as "Minitrue" is that it only requires attention when a dial is not at its last known position. Therefore it would be possible to apply this automation to tasks such as telling an engineer about upcoming items he needs to adjust for the next song and, even better, it would be an ultra-expensive yet super-effective way to quickly tell which dials have just been moved by interfering people who can't keep their hands off things that don't concern them! Cod people like that are annoying, aren't they? Just when you get everything happening on the board some f——it just has to play with it...then they usually say something pissy like "Oh it wasn't me mate, honest" or "I thought that one wasn't doing anything" grrrrSorry readers, back to where we were.

The "BIG" by Langley offers a comprehensive 4-band Equaliser path in each "rail" and this network comprises of a hybrid of features to allow for all sorts of tone shaping. The concept

is as follows, there is a +/- 18dB shelving filter switchable to 6 or 12 kHz, the High-Mid has a fixed 0.7 octave peak filter that allows +/-14dB from 400Hz to an impressive 18kHz, the Low-Mid has the same gain range and runs from 100Hz through to 4kHz with the addition of a selectable "Q" of either 0.7 or 1.5, and finally the Low shelving filter, which is different again, employs two selections of 40 or 80 Hz and then compounds these with a "x3" switch to allow four filter choices. This Low band control also yields a +/-18 dB gain range and if you like good EQ then you would do well to investigate this console, even the silk screening on the chassis is accurate and when the dial points to 1kHz it really is 1kHz.

To explain all of the little extra switching facilities for Auxiliaries and various Tape paths would be impossible in this review however we counted no less than twenty extra on board routing features including the ability to borrow EQ and also "Blend" various monitor paths simply by pushing a button, thus making tasks such as overdubbing and vocal sessions a lot easier to endure. Also, Amek have put in the simple things that many other manufacturers are choosing to leave off consoles these days such as Peak/VU meter selection, a three band test tone with calibration from the front panel and last but not least is the humble Phase reversal switch which can affect all selected inputs and not just the Mic input.

There were no specifications supplied to us,

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LA AUDIO MULTIGATE

The LA Multigate is a 1 rack unit high assemblage containing sixteen (count 'em, folks) individual dynamic processors. Though it's name would suggest that this unit is purely for gating audio sources it would be an understatement to leave the description at this point. In reality the unit functions as sixteen discreet or associated, freely controllable VCA paths, making the Multigate more of a dynamic sculpting centre than just sixteen gates in a box. Don't be fooled.

The front panel is dissected into two sides by the green LCD display, the left side giving menu, parameter, data and memory scan access via four data knobs which double as threshold, attack, decay and range/hold adjusters. To the right of the Multigate's display are two banks of buttons, the first bank of six is for mode selection, these include system and channel editing as well as a direct access midi trigger receive on/off function. The second bank, whilst doubling as some editing functions, is primarily for direct

channel selection, subsequently there are sixteen buttons in this area.

Rear panel connection is very straightforward and almost self explanatory with just a power lead, midi in/ out/ thru and sixteen tip/ring/sleeve 6.5mm jack sockets for sending and receiving to each processor. You may notice at this point (if you had one of these in front of you) the distinct absence of any sidechain entry points; fear not, all will be explained when we discuss the software capabilities.

The LA Audio Multigate comes extremely well encased in what can only be described as "60's tripping foam", which if it doesn't make it secure, sure makes for an impressive sight. The manual is a comprehensive selection of data and reference information seemingly intended for the professional user, and whilst it contains all that there is needed to know, it would be fair to say though that it does not perform very well as a step by step user guide for those unfamiliar with software based processors.

To effectively make use of a processor such as the Multigate one has to get over the idea that it is bound by its primary functions and uses, and instead expand on existing ideas (no we haven't been eating the foam packaging!) to create and achieve a different set of boundaries. Simply put, the Multigate will give you control over gating, ducking and muting on each channel with parameter adjustment over attack, decay, hold, range and threshold when gating or ducking and adjustment over attack and decay when using channel mute.

The fun really begins when you start to explore the combinations of functions and channels many of which are provided as factory patches. For instance, you may require four channels to act as gates while causing other assigned channels to duck in sympathy, you may require twelve midi mutable channels and only a pair of stereo gated channels or you may require any of the countless other combinations of parameters that are all available all of the time. Sidechains for this purpose are garnered by borrowing other inputs and allocating them to the desired channel or channels while still being able to use the sidechain channel as a processor. All of this and more without entering the software's advanced mode.

What makes LA Audio's Multigate even more application friendly is the software inclusion of

some up to the minute control functions such as internal or midi clock syncing for LFO control, including the ability to create time divisions and offsets against incoming MIDI tempos. These are the basic building blocks from which complex auto panning and synchronised tremolo structures may be built.

In between writing this and the prior paragraph we've discovered that the Multigate has some outstanding audio to midi features. (*I love the way these turkeys work!* -Editor)

Get this... we used an incoming audio source through two gated channels; selected the "Gates to Midi" function, then we had to assign a note to each gate that corresponded to different drum loops in a sampler. By playing around with the threshold and introducing the "Trigger Hold" function we successfully triggered loops alongside our incoming audio source. In essence this means you can paste live and electronic sounds together in real time. Nice one, guys!

With all these useable features pouring out into a discussion much longer than this article, you must be thinking it doesn't sound any good, WRONG! The LA Audio Multigate sounds just fine with no noticeable misrepresentation of source material. In fact, with an attack time down to 5 μ Sec. and an operating system that doesn't leave you wanting for much, the Multigate is a fine example of common sense design for those who prefer a useable rather than gimmicky product. One of the most interesting processors we've reviewed!!

LA AUDIO MULTIGATE SPEC'S.

ATTACK TIME	from 5 μ S
DECAY TIME	from 1 mS
HOLD TIME	from 1mS
THRESHOLD	-54dB to +15dB
RANGE	0dB to 90dB
SIGNAL to NOISE	-102dB
DISTORTION	0.01%
DYNAMIC RANGE	106dB
BANDWIDTH	5Hz to 50KHz
HEADROOM	+24dB

*Contact Southbank Trading, (03) 699-7809

Bruce & Dave work from Blind Lemon Pie, a strange name for a project studio - but anyway, call them on (02) 457-8304

Langley BIG

(not that we needed any to hear the quality) so with the space saved we will touch lightly on the computer requirements. The "Minitrue" software speaks for itself, literally, and apart from giving recall information in the form of pictures and speech, it also allows the user to draw and copy fade curves and mute data in pictorial form. Synchronisation is organised in much the same manner as most sequencer software with Song files containing alternate mixes as well as start times, etc. SMPTE can be viewed as a large number plate display while mixes are running and the mix can be Updated or Written on screens which depict either the data or icon's of faders that whiz up and down to impress everyone.

Hardware required to support the "BIG" comprises of an Atari 1040 STE with 2 Meg RAM and a minimum 48 Meg hard disc. The software runs at a respectable rate on this configuration and apart from the usual Atari redraw time we would anticipate no dilemmas in using such a computer. Considering the excellent audio quality, the routing features, the 'groovy' software and the price of this "Superconsole System"; it would be no surprise at all if it rapidly becomes one of those products that everyone "in tha' know" loves to say they've used. (Even if they haven't).

*Contact ATT Audio Controls, (03) 379-1511



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STUDIOS



Pictured in the control room at Planet recently: (from left) Les Williams, Chief Engineer; George Gorga; John Villani, Studio Manager; and Margaret Urlich.

Caroline Grafton visits Planet Sound Studios, the:

Japanese owned studio in Perth

Planet Sound Studios is one of the few digital 48-track recording facilities in Australia. Situated in Perth, it has managed to achieve a market that most studios in the country can only envy.

It seems this is the *ASIAN TRADE CONNECTION Connections* issue so it is only fitting that we take our collective hats off to the one studio that has managed to crack and retain one of the few areas in the recording market that has big bucks. Yes, you got it, the Japanese sound recording industry!

Now I can hear all you cynics out there saying, "Yeah, but it's owned by the Japs", but this was not always the case. The market was already lucrative before the corporate tide moved in and the audience, you could say, was already captured.

Planet has worked intimately with the Japanese for five years and the current owners, A to Z Company Limited, were actually the studio's first Japanese clients before it succumbed to takeover in late 1992.

Now don't get me wrong! Planet is not exclusive to the Japanese. As a matter of fact recording time is pretty much split 50/50 between the locals and the Japanese. The studio still caters to the rest of the industry, recording everything from demos to full LPs but you pay for what you get so studio manager John Villani doesn't recommend the studio for small bands who are just cutting their teeth.

Planet now boasts a pretty slick team in John, general manager Ken Kaica and chief engineer Les Williams.

All the equipment, studios and other facilities are maintained in pristine condition. To be quite honest, I have never seen a studio as spotless as this. But when you are dealing with the Japanese, cleanliness becomes a prerequisite, along with patience, cultural awareness and a slightly different sense of humour.

Planet caters to its clients on levels that some facilities have not even thought of. Apart from the technical excellence of both Studios A and Z, all rooms are ergonomically, comfortably and tastefully decorated. Translators are available when required, transport in the form of a minibus is available to visiting clientele and John and Les have taught themselves to communicate with a reasonable understanding of the Japanese language. They work in phonetics when translating song lists and other written material.

Planet also boasts the best loading access I have ever seen. I wish a lot of live venues would take a look and see how decent access not only means less stress but also protects buildings structurally and aesthetically.

In return for these efforts Planet is rewarded with continual patronage, excellent return for investment, respect from local and international peers and a lot of sushi.

John also occasionally goes to Japan to engi-

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Employment Opportunities in the Middle East & Far East

Inova is a company specialising in the distribution and turnkey installation of sound, lighting, laser, video & A/V equipment throughout the Asia/Pacific region. We are looking for entertainment industry professionals to fill a number of posts in our Dubai & Singapore offices.

Tertiary technical qualifications would be advantage in Dubai, but are essential in Singapore.

Production Manager (Dubai)

The post involves responsibility for setting up & running a new production department located in Inova's Dubai office. The job will entail the co-ordination of design, crewing, equipment and budgets for sound & lighting rental. The area covered by the post will include the Gulf, Middle East & West Asia.

The applicant should have extensive experience in setting up productions, small concerts, product launches and exhibitions. It is also important that the candidate be able to demonstrate at least five years experience in managing at least one major element of the sound and/or lighting production industry.

Regional Sales Manager (Singapore)

The position of Regional Sales Manager is to target & develop sales opportunities in SE Asia for Inova's products & services which include:

- Entertainment systems: Including sound, lighting, video, laser equipment.
- Professional systems: Including boardroom A/V concepts, house dimming systems.
- Services: Including operational consultancies, personnel, video & audio software, technical maintenance.

The applicant should have extensive experience in dealing with a corporate clientele. It is important that the candidate be able to demonstrate at least five years experience in negotiating high value. As the position involves extensive travel throughout Asia & Australasia, the position may be more suited to single person.

Product Sales Executive (Singapore)

The position of Product Sales Executive is to target & develop sales of Inova's high end distribution products including theatre lighting, dimming & control systems; audio-visual products & specialist systems.

Please send full CV & references to:

Inova Audio Visual Designs Pty Ltd

118 Lorong 23, #02-120, Geylang, Singapore 1438.

Planet Sound Studio's.
(continued)

neer and final mix various projects. He has the utmost respect for the technical ability of Japanese engineers and producers. Many like the approach and feel of the western style of mixing, especially with the Japanese rock music market expanding.

"A lot of Japanese rock bands and pop artists tend to sound very heavy in the midrange area," John explains, with an awareness that partly explains the attraction of Planet Sound Studios for the Japanese. "The lack of high and bottom end is indicative of Japanese traditional music."

Finally, and after many years of patience, John's favourite piece of apparatus has been installed and this is where my tour ends. And no, I mustn't touch it. Only the elite Planet staff may ride the controls of this valuable asset. If used incorrectly much could turn sour and ruin a whole session.

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Studio A inclusions: SSL mixing console 4000E, Sony 3348/48 track digital recorder, JBL 4435 speakers, Genelec and NS10M Nearfield monitors, Studer A80 1/2 inch recorder, Sony PCM 2700 DAT machine, Sony A7 DAT recorders.

Studio Z inclusions: Amek Einstein mixing console, Otari DTR 900 32 track digital recorder, JBL 4430 Speakers, NS10M Nearfield monitors, Ampex ATR 102 recorder, Sony A7 DAT recorders, Studer A800 24 track analogue machine capable of synchronisation to Otari DTR 900 recorder.

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Suite 16 Audio Productions, Brisbane Qld, deserve congratulations on the results of the "Brisbane Art Directors" Awards, otherwise known as the "BAD" Awards. From 15 Finalist nominations they received; Best Jingle/Soundtrack, Best Video Production, Best TV/Cinema, Best Mixed Media Campaign, Best TV Campaign and Best Sound Production. To top off the night Suite 16 engineer won the "Michael Oakhill Award" for Engineering Excellence. Suite16 have had a few purchases recently with the installation of, an Akai S3200, Series 6000 SFX Library, Lucas Film SFX Library, Revision 3 Lexicon Digital Reverb Update and a Tascam DA-30 DAT Player. Call Murray on (07)369-8733.

Warehouse Studios and Hullabaloo Music, Sydney NSW, have introduced two packages for those young/new bands trying to find somewhere to rehearse and put their first recordings together. Package 1: Rehearse 3hrs/Week for 4 Weeks and receive 1hr. live recording FREE. Package 2: Rehearse 3hrs./Week for 8 Weeks, Record at Hullabaloo with one of their Triple Deals and receive 12 Cassettes FREE. Warehouse Rehearsals attract such acts as Ray Burgess and Mario Miller currently rehearsing his new

ARTIST	PRODUCER	ENGINEER/S	NOTES
Australian Capital Territory			
⊕ Wonderland Studios	Contact Jon Wicks	(06) 241-1543	16 Track
Medicine Man	R.Good/J.Wicks	Jon Wicks	Dance Mix
Coloured Stone	R.Muecke/J.Wicks	Album	
Coloured Stone	J.Wicks/Joe '90	Jon Wicks	Mix/Re-mix
Clan Analog	J.Wicks/B.Daley	Jon Wicks	EP Trks
New South Wales			
⊕ All Music Manufacturing	Contact Geoff Sturre	(02) 557-1169	Mastering
The Sparrows	Ross McGregor	Paul Bryant	CD Master
Cathy Pitt	Ross McGregor	Paul Bryant	CD Master
Irish Drivers	Ross McGregor	Paul Bryant	CD Master
Mark Matthews	Greg Lansom	Paul Bryant	CD Master
Clan Analogue 2	Brendan Palmer	Paul Bryant	Dig Master
⊕ Bush Traks Recording Studio	Contact Ruth Miller	(066) 89-1290	24 Track
Spiff Masters	D.Highet/A.Major/T.Tonkin	Dave Highet	Single
River	N/A	Dave Highet	Soundtrack
Brett Hitchcock	B.Hitchcock/D.Highet	Dave Highet	Show Trks
⊕ Charing Cross Studios	Contact Gordon Hervey	(02) 387-8362	16,24 Track
Vince Stone	S.Balbi/J.Stanley	Lumpy Dave/J.Slade	Single
Scary Mother	Rick Willis	Rick Willis	Overdubs
Living Daylights	Boyd Wilson	G.Hervey/J.Slade	Tracks
Electric Hippies	Electric Hippies	Lumpy Dave	B Sides Mixing
Steve Marquis	Steve Marquis	J.Slade/G.Hervey	Overdubs
⊕ Damien Gerard Studios	Contact Elia Bell	(02) 660-8776	16/32 Track
Bone	Dave Steel	R.Pilling/D.Trump	Tracks
Hippos	Hippos	Mike Wood	Album
RIP Sister	Sue Kinney	Russell Pilling	Demo
Fridge	Fridge	M.Wood/D.Trump	EP
New Christs	Rob Younger	Mike Wood	EP
⊕ Enrec Studios	Contact Ed Matzenik	(049) 36-1376	32 Track
Pixie Jenkins	Steve Newton	Steve Newton	Album
Keith Blinman	Steve Newton	Steve Newton	Album
Errol Gray	Steve Newton	Steve Newton	Album
⊕ Hullabaloo Music	Contact Glenn Heaton	(02) 684-2039	24 Track
John Firth	John Firth	Glenn Heaton	EP
McVicar	McVicar	Glenn Heaton	EP
Slipstream	Lucci/Slipstream	Lucci	Demo
Toni Pearen	John Rowe	Heaton/McGarvey	Movie World Show

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band "The Planets" with Tony Mitchell on Bass. Just up the corridor Hulla-baloo have been frantically busy recording for Movie Worlds "Hollywood Bugs" and various Disney Soundtracks including the Australian Stage Version of "Aladdin" as well as bands such as Slipstream, Shattered Image and Emile Neilson just to name a few. Warehouse (02)684-1152; Hulla-baloo (02)684-2039.

Troy Horse Studios, Sydney NSW, now offer Full Colour Printing for anything from Cassette Covers to A3 Posters. Call Michael on (02)557-3129.

Damien Gerard Sound Studios, Sydney NSW, have succumbed to the overwhelming demand for 32 Track Facilities by installing 2 * 16 Track Machines in both Studios A and B. Start with a 16 Track Session and add to it at a later date. The extra machines have also proved invaluable for transferring and doing safety's. Russell Pilling is also back from his well earned break and is hard at work with Bob Armstrong, Dave Steel & Co. and Michael Wood is in the final stages of the "FRIDGE" EP. Call Marshall, Elia or Mandy on (02)692-9915 or (02)660-8776.

All Music Manufacturing, Sydney NSW, have added a Sony Digital Comp./Limiter and Sony Digital EQ to their Mastering Equipment. Call Geoff on (02)557-1169.

Charing Cross Studios, Sydney NSW, have completed their Control Room fit-out allowing room for new and old outboard gear arriving including, SSL

ARTIST	PRODUCER	ENGINEER/S	NOTES
Sound Unlimited	Sound Unlimited	Glenn Heaton	Single
Disney Corporation	Berrick/Heaton/McGarvey	Heaton/McGarvey	Soundtracks
Ⓢ Megaphon Sound Recording Studio	Contact Guy Dickerson	(02) 516 3917	24 Track
The Clouds	Paul McKercher	Paul McKerche	Album
The Catholics	Lloyd	Adam Chapman	Album
Utungan Percussion	N/A	Shane Fahey	Album Mix
Ⓢ Pathway Recording Studio	Contact Frank K	(02) 555-8700	24 Track
Dan Mullins	Frank K	Frank K	EP
GANGajang	Buzz Bidstrup	B.Bidstrup/T.Howard/Frank	Album Mix
Radio Zero	T.Adams/M.Chatwick	Frank K	Mix Trks
Ⓢ R&R Recordings	Contact Robert Zimola	(02) 624-4484	16 Track
Vadim Bolander	Vadim Bolander	Robert Zimola	EP
Area 51	Area 51	Robert Zimola	Demos
Ballina/Mackay Tourist	Robert Zimola	Robert Zimola	Radio Theme
Chris Turner	Chris Turner	Robert Zimola	Pre-Production
Wilkinson Award	P.Saunders	Robert Zimola	Theme
Ⓢ Rich Music Studios	Contact Elise Huntley	(02) 264-7734	24,32 Track
Living Daylights	Robie Porter	G.Gray/F.Stuart	Single
Carmelia	Murray Burns	A.Boland/J.Blackwell	Album
Wendy Matthews	Niven Garland	N.Garland/F.Stuart	Single
Jackson Code	N/A	T.Colley/J.Blackwell	Album
Torrid Zone	Lindsay Jehan	Peter Lees	Album
Spectres Of Andre	Nonda	Jason Blackwell	Album
Ⓢ SAE Studios	Contact Tom Misner	(02) 211-3711	24 Track
Larraby's Birthday	Jason Wilde	Bret Wagland	Demo
Ⓢ Skyhigh Recording Studios	Contact Rob Taylor	(049) 50-1574	8,16,24 Track
The Olive Branch	Mark Roberts	R.Taylor/C.Beck	Mixing/Trking
Swoop	Peter Lorimar	D.Henderson	Re-Mix
Dann Fusion	Dann Fusion	C.Beck	EP
Fleshvent	C.Beck	C.Beck	EP
Guryel Ali	D.Henderson	D.Henderson	Re-Mix
Ⓢ Sony Music Studios	Contact Russ Ohern	(02) 332-0320	24 Track
Sound Unlimited	Derek Antunes	Simon Tonx	Single Pre-Prod.
Boxcar	Adrian Bolland	Adrian Bolland	Single Mix
Charlemagne	Charlemagne	Simon Tonx	Demos
Carmen Warrington	David Jones	Ross Ahern	Album Trks
Sexing The Cherry	Robert Rasic	Kathy Naughton	Single
Saint Davids	Simon Tonx	Simon Tonx	Album Pre-Prod.
Ⓢ Trackdown P/L	Contact Geoff Watson	(02) 550-6890	8, 16, 24 Track
Icehouse	Iva Davies	D.Lord/S.Leadley	Album Mix
Blinky Bill	Yoyam Gross Film	T.Ryan/S.Leadley/M.Barry	TV Series
Bananas In Pjamas	Chris Harriott	K.Naughton/M.Barry	Album

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STUDIOS

ARTIST	PRODUCER	ENGINEER/S	NOTES
Ⓢ Tracking Station Studios	Contact Martin Cass	(02) 281-8999	24 Track
The Radiators	Mick Mazzone	Anthony McKenzie	Album Trks
The Maddisons	The Maddisons	Russell Pilling	Album Trks
Various	Martin Reeve	Steve Pomfrett	Compilation CD
Redneck Mothers	Redneck Mothers	Steve Pomfrett	Album Trks
Our House	Jamie Rigg	Steve Pomfrett	TV Theme
Ⓢ Trafalgar Recording Studios	Contact Donna Fisher	(02) 660 0385	24 Track
Dig	J.Bonnefond	Bonnefond/Gist	Album
Ⓢ Troy Horse Studios	Contact Katie Blackman	(02) 557-3129	24 track
Noise Addicts	Simon Holmes	John Rafferty	EP
Riley Lee	Tony Lewis	Colin Wright	Album
Belisimo	N/A	Bruce Waite	EP Track
Sidewinder	Sidewinder/B.Waite	Bruce Waite	EP
Kaktus Mantras	N/A	J.Rafferty/B.Waite	Album
Queensland			
Ⓢ Grevillea Recording Studios	Contact Malcolm Jacobson	(07) 262-8422	24 Track
The Flood	G.McDonald/L.Stone	Bruce Jacobson	Film Theme
Steve Kennedy	Nick Coetzee	M.Lalor/M.Jacobson	Album
Steve Usher's Jazz Unit	Jeff Usher	Bruce Jacobson	Album
Chill	Ian Taylor	Bruce Jacobson	Single
Ⓢ Studio 19	Contact Allen Castleton	(077) 74-5438	16 Track
Lynda Knuth	Allen Castleton	Allen Castleton	Album
Renee Stanley	Allen Castleton	Allen Castleton	Tracks
Billy Cokebottle	B.Martin/L.Beers	Allen Castleton	Album
Dan Everingham	Allen Castleton	Allen Castleton	Video Re-Mix
Danny Makepeace	Castleton/Makepeace	Allen Castleton	Demo
Debbie Knight	Castleton/Knight	Allen Castleton	Tracks
Dan Vogler	Dan Vogler	Allan Castleton	Theme Track
Ⓢ Suite 16 Audio Productions	Contact: Murray Lyons	(07) 569 8661	N/A
Korean Expo/Aust.Pavil.	Gary Smith	Julian Lynch	AV Production
Vocal Point	Robert Clark	Julian Lynch	Album
Victoria			
Ⓢ Gotham Audio	Contact Tom Kehoe	(03) 879-9400	24,48 Track
John Farnham	Ross Fraser	Doug Brady/Spiro	Album
Ⓢ Metropolis Audio	Contact Kerri Minchin	(03) 696-2111	48 Track
Wild Pumpkins At Midnight	Tony Cohen	T.Cohen/M.Thomas/A.Humphries	Album
Melbourne Shuffle	Tony Cohen	T.Cohen/A.Humphries	Mix
Cruel Sea	Cruel Sea	Mathew Thomas	Live Album
Seekers	Ern Rose	E.Rose/M.Thomas	Live Album
My Friend The Chocolate Cake	David Bridie	D.Roberts/T.Johnston	Album
Jon Stevens	Jon Stevens	D.Roberts/T.Johnston	Album Mix
Starworld	Jed Starr	Mathew Thomas	EP
Frente	Frente	P.Jones/A.Humphries	B Sides
TISM	Tony Cohen	T.Cohen/A.Humphries	EP
Deborah Conway	Willy/J.Rondinelli	Jim Rondinelli	Album
Don/Tex/Charlie	D.Walker/T.Cohen	T.Cohen/A.Humphries	Album Mix
Dennis Walker	Peter Sullivan	Andrew Evans	Album
Kate Ceberano	Phil Ceberano	Mathew Thomas	Single
Optus	Duffield Kenihan	Phil Kenihan	Jingle
Billy Miller	Andrew Duffield	T.Cohen/D.Gjedsted	Tracks
Ⓢ Platinum Studios	Contact Gary Moorhead	(03) 827-7483	48 Track
Wings	Wings	S.Day/M.Lawson	Album Mix
Daryl Braithwaite	Simon Hussey	Michael Letho	Album
Peter Andre	Ashley Cedell	M.Forrester/K.Tonuma	Vocal Trks
David McComb	D.McComb/N.Mainsbridge	N.Mainsbridge/P.Jones	Album Mix
Red Tape	Red Tape	Lawrence Maddy	EP
Stephen Cummings	S.Cummings/R.Gouge	Chris Carr	EP
Ⓢ Sing Sing Studios	Contact Mark Wood	(03) 428-4622	24,48 Track
Debbie Byrne	Mark Moffatt	M.Moffatt/A.Cooke	Album
Marcia Howard	Phil Butson	Phil Butson	Demos
Ground Level	Tony Espie	Tony Espie	Single
Ruby Hunter	Jen Anderson	Cameron Craig	Album Mix
Ted Egan	N/A	Chris Thompson	Album
Ⓢ Studio 52	Contact Paul Higgins	(03) 417 7707	16, 24 Track
Vic. Police trad. Band	Mike Pine	Trevor Carter	Album
Daniel Cobb Band	Daniel Cobb	Trevor Carter	Demos
LSD	LSD	John Copeland	Album Mix
Various	N/A	Trevor Carter	Album Trks
Funki Addiction	Funki Addiction	Trevor Carter	Demos



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STUDIOS

ARTIST	PRODUCER	ENGINEER/S	NOTES
@ Studio RBX Andrew Stenford Fred Cheah Georgietta Markus Peatling Tan Punturumpon Western Australia	Contact Ross Burton Andrew Stenford Roger McLachlan Robert Severini Ross Burton John Justin	(03) 429-6199 Mark McDougall Mark McDougall Mark McDougall Mark McDougall John Justin	16,24,32 Track Album Album Album Demos Album
@ Planet Sound Studios DM3 Dave Hole Mike Blake Geoff Brownrigg	Contact John Villani Dom Mariani Dave Hole Mike Blake Geoff Brownrigg	(09) 382-2211 Les Williams John Villani John Villani Les Williams John Villani	24,32,48 Track Album Mixing Album Album

Compression, EQPIA Pultec and Behringer Noise Reduction. Call Gordon on (02)387-8362.

Meridian Studio, previously known as Rich Studios, in Sydney NSW, has appointed Kathie Delandro (ex Rhino' Studios before its untimely demise), as Studio Manager. We at Connections wish Kathie luck in her new endeavour. Call Kathie on (02)264-7734.

Enrec Studios, Kurri Kurri NSW, recording artist Roger Knox has been named "Artist of the Year". The announcement was made by the NAIDOC Committee at Alice Springs, during Aboriginal Week. Congratulations to both Roger and Enrec Studios. Call Ed or Steve on (049)36-1376.

Skyhigh Recording Studios, NSW, Studio Manager David Henderson is heading off to the US of A with Def FX for a few months, as FOH Engineer. Have fun, be good and keep safe. Call Rob on (049)50-1574.

Pathway Recording Studios, Bowral NSW, have acquired and installed some of the new Behringer Signal Processors. Call Frank K. on (048)872-1336 or (02)555-8700.

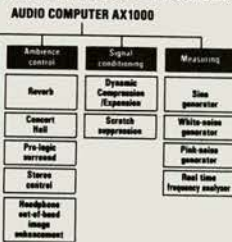
Carolines Must See Gear List: 1. The Sig Tech AEC1000 from ESA in Melbourne. This amazing device, and I must say that I was pretty sceptical when I was first told about it, has impressed the pants off me. What is it? A Digital Room Corrector! Now to get the complete lowdown on the specs I suggest you call ESA or visit their stand at the AES in Melbourne but believe me you have to hear this thing. My opinion is, and I quote myself when I first heard it, "it's like being surrounded by music and when you turn it off it's like someone just stuffed your speakers full of sponge", unquote. Contact John Monty at ESA on (03)547-6683. 2. **Tube Trap™ and Studio Trap™** available from local Australian distributor, Thirkell Holdings in Melbourne. These clever gizmos offer an easy and mobile method of acoustic control for resonance, reflection and reverberation. Have a look at the AES Show, they seem to be a good alternative. Call Catherine Thirkell for more information on (03)568-4022.

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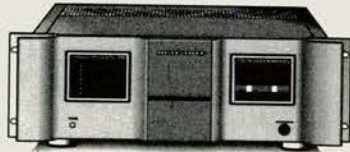
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HOW TO RECORD IT!

Bob Armstrong tells how to do it - from both sides of the process! This month he organises your thinking, and tries to referee those inevitable group disputes

Welcome again to this warts and all, down market approach to recording your current fav song. Yes, yes, yes- I do seem to have egg on my face! You may recall last issue's (June) article where I had a clanger of grand proportions on-air (2SER-fm) when an over-zealous songwriter/engineer forgot to mix down from his four track recorder to your basic 2 track for general listening? Well, I was cornered during the week by 2SER's legendary producer/engineer of the arts program 'Sideshow' (and many more) Bruce Williams, who had read my article and said BOB, you are a silly sausage, why didn't you check the cassette before you went to air like all good presenters/panellists are supposed to! Well, talk about caught out! All I can say in my defence is that I'd had a particularly stressful night before that incident, without much sleep! Enough said!

Last issue we went through your basic recording on 2 track and progressed through to 4 track. What now, you say? Well, I suppose it all depends now on what you want to do with your recording. Some bands like to demo again and again getting everything right before they're happy with the finished product.

There is merit in this approach but it can also have some down sides, like the spontaneity goes out with the 20th recording, also if you have quite a few versions similar you can get into dog fights about which version is the hit. The drummer might like one version, the guitarist another and of course we all know which version the singer wants! (The acappella version) All parties involved in the recording should get together and bang heads. The engineer, the muso's, the producer (if you're at that stage). Before you decide on a particular recording studio you really have to decide on whether you want just a rough demo

or to go the whole hog and achieve finished product. I am a great believer in the adage that you should always go for finished product no matter what gear you use or what budget. It's very important to let the engineer and producer

know what you really want, if you have visions of it being released well let them know. The producers job is to relay the wishes and sounds of the band down onto tape and get the best possible performance out of them. The engineer's job is to follow the instructions of the producer and band and get everything recorded onto tape in the quickest and cleanest way.

Before we continue on our recording ways I think it is important to discuss the different types of studios out there. Now I know for a fact that you can get amazing results out of all of these different systems so I'll try not to judge and give you my preferred recording studio because really there are so many to pick from.

It's a good thing to ring up some studios and ask them what type of system they operate. Now you're going to get a myriad of answers, so we'll go through just a few and explain the differences. What you're really interested in is the type/size of the desk and the type/size of the recorder. Many companies i.e.: Tascam, Yamaha, & Tanberg make 8 track 1/2 and 1/4 inch machines. Studer make a 2" recorder and 1" as well

etc etc. There can be many variations. What is a budding engineer to pick? You may ask yourself that very question, apart from the varying price range to record, there are several basic differences you have to take into account. Really it's a mathematical equation: lets take for simplicity sake, a 24 track 1" recorder. The 1" tape is divided into 24 tracks each being 1/24" in width. Now if you only used a 1/2" recorder those 24 tracks would be going down onto half the room i.e. 1/48". Now of course you and I - and the dog, know that if you cut down the size of the track you lose the

quality! That's why most of the 24, 36, 48 track studios use the biggest tape they can, and it goes without saying that these studios are generally the most expensive. 2" tape can retail for up around \$300 per 2500 ft (that gives you around



15 minutes of recording time).

It's not out of the realms of possibility that if you're recording a 12 track album you could need five 2" tapes. Yikes! Severe damage to the pocket! Do not panic, as I said before there are various ways around this problem, you do not have to be Midnight Oil to afford to record in these studios, but more later.

As I said before there are some weird and wonderful recording methods in different studios, I will mention one not because I record there but because it is a great case of using what's available. In Damien Gerards studio A there are three 12 channel desks slaved together to feed a sixteen channel 1/2 inch recorder. This is commonly used from day to day recordings of demo's and albums. But also stashed away for the big jobs is another 16 channel 1/2" recorder and when needed, such as was the case for a Ravenswood recording of Dave Steel and the Road Side Prophets. These two recorders are slaved together for one massive 32 track/channel monster.

Jon Stevens is currently using this system for his album with Sony. So basically what I'm saying is that given the technical brainstorm any studio can be fattened out or stripped down to the bare necessities. Megaphon studios just went through a similar operation when the Oils recently recorded their brilliant new album.

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(continued over)

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the different systems. So if you are a 12 piece band you're going to have problems in an 8 track environment. But hey- that's no problem either, lots of reputable little studios have great 8 track 1/4" recorders. You may utilise these facilities to go live to DAT.

This way you can achieve quality of sound and spontaneity and vibe. The down side of this is that you can't do overdubs, you must get it right from the start, if you're confident in your muso's, then this is the way to go. A lot of jazz, country and blues recordings are done this way (so as to retain the feel MAN!) If you do find yourself in the situation of recording in a 24 track 2" studio, don't go berserk- there's plenty of tracks for everybody. Keep in mind that the engineer may want to keep channels 1 and 24 free for various reasons, such as striping a time code or generally leaving it vacant as 1 and 24 are the immediate inner and outer tracks on the tape and if there is any damage likely to occur it is on these particular tracks.

I also remember the case when a certain well known band (no-names no-packdrill) started recording with a big budget, big studio for the first time. They had previously recorded a couple of 8 track wiz bang EP's before being given the leg up to record their first epic album. The drummer and guitarist had talked the record company into letting them produce the 'master piece'. Fine, said the company, "We want to engineer it ourselves too" they said, obviously flushed with power.

A slightly more hesitant record company finally agreed. On they went, buoyed with the task ahead, track after track of drums were recorded, then the double track bass was laid to rest, then copious amounts of guitars and lashings of keyboards. It sounded FAN-BLOODY-TASTIC, then the sun loving lead singer decided to move his body up from the brazen beaches of Bondi to lay down some well lubricated vocals. "WADDYA MEAN THERE'S NO TRACKS LEFT!" ALL I can say was it became pretty ugly there for

awhile, the others didn't want to wipe anything and of course the singer (as we know singers can be) went straight to the record company. Well, we know what happened next, the record company had kittens, brought in the axeman producer, managed to cut all the crap, the singer even got a few spare tracks for b/v's and every one was happy. I would like to say that the album went on and became a hit, but I'd be lying, it was still a stinker and sunk like the proverbial stone. Well what the hell, it was a good story anyway.

OK we've decided that we want to achieve finished product but only have a reasonable budget to record our five piece line-up. We've done our pre-production going over what actually we want onto tape, arrangements, solo's, how many pizza's for tea, you know all the important stuff. You've picked yourself a little 8 track 1/2" studios somewhere like Troy Horse. If you're planning to engineer yourself to save costs that's fine, but a lot of studios have very cheap rates even with engineer you may find that you'll only save \$5 or \$10 per hour.

You may think that's good and it probably is but you may find you'll take your time getting to know the studio and waste time anyhow. If you're intent on engineering yourself I would suggest that you get a house engineer to assist so that you'll have somebody to fall back on, when the guitarist is screaming at you to turn his broken down cans up. This may cost a little more but you'll find it's a better way to learn and after a couple of times you'll be like an old pro. Also keep in mind that some of the upper echelon of studios zealously guard their consoles against rogue would-be muso/engineers, probably with very good cause too. Stories of computers crashing, bells ringing and speakers blown are common occurrences.

At this point we have talked about the common differences in some of our studios, some studios also offer digital sound recording as an option. Well, as if we haven't got a lot on our

plate, now they throw us this lot! Get used to it folks, over the next decade or so the main means of recording is going to change quite dramatically and the people who keep track of the changes are the ones us poor suckers will be turning to in our quest for the perfect recording.

I've heard lots of arguments on the pro's and cons of digital v's analogue recordings and I have to say at this stage I'm neither convinced of the superiority of one over the other, it's again horses for courses. I've heard some fine orchestral recordings on digital recently and I've heard some pretty passable distorted guitars on it as well, but then again I've heard some pretty hot sounds on the old analogue. As time passes we'll probably see the end of analogue tape recordings but as in the vinyl album case it will still rear its tremendously ugly head from time to time.

We've whacked down a good many tracks on our 8 track and everyone is happy with the performances (quite a novelty). You may be tempted to add some effects as you record each instrument, please **do not** bow to the temptation, no matter how much the bass player loves his new fuzz-wah pedal! Or the guitarist his super-whammy-wizo, the reality is that you can always add it in the mix with some out board effects.

I can't express the need to get things down to tape pretty clean, the long delay on the Robert Plant voice can be added later. It's always easier to add something than to take away!

Well I think that about does me for this month. Next month we'll see how our recording is going, we'll mix it, master it, mull it over and release it! If we can find a record company that is aware of our needs and wants as artists. Now that's another story!

**Bob Armstrong & the Navigators album 'Wild is the Way Home' is out now on Ravenswood/ Mushroom records. Bob can be heard Saturdays at noon on 2SER-FM 107.3 in Sydney.*

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CONTRACTING NEWS

Australia's 'first roadie' retires from AWA

After 45 years at AWA, Ted Miles has retired - and the firm is already missing his accumulated knowledge in PA.

Dubbed 'Australia's first roadie' due to his early gigs at the Sydney Stadium, Ted comes from an era when talking to people and helping them was the norm. The guy has a kaleidoscopic

knowledge of PA from the valve era through to today's more complex systems.

Lauded by his peers at a send off function, Ted was paid tribute as a person with a tremendous desire to help others. We hope there will be many more fruitful days in retirement for Ted. Call him: (02) 869-2558 & wish him well!



Ted Miles, second from left, pictured with Adrian Wackwitz; AWA Marketing Manager (left), Ian McLean; Managing Director of Sound Affair, and AWA National Sales Manager Bob Middleton (right). Pictured at his send off.

PEAVEY RELEASE ARCHITECTURAL ACOUSTICS LINE

In a move guaranteed to impact on the market sooner rather than later, Peavey have released their successful range of audio for contracting down under. Importer Australis Pty Ltd has established a separate channel for the distribution of the massive range, with Rene Hendrickson appointed as product manager.

Dubbed 'The American Alternative', Peavey have made serious inroads against Japanese imports in their home market, the USA. Here the rising Yen has given Australis a major boost, the firm receives a 40' container each month from Peavey, and claim lead times can be as short as six weeks.

In the range are a massive number of audio tools, power amps, mixers, wall mount amps,

mutizone systems, equalisers, delays, enclosures, transducers, transformers and microphones.

Peavey must not be underestimated in any market, they have over 20 factories in the USA, and will penetrate any market they target.

Australis acknowledge a hurdle here is that Peavey products are readily available through music stores, and assert that the Architectural Acoustics line will only be available through contractor dealers. This quarantining is seen by observers as essential for success in the local market, which is also characterised by its conservatism and reluctance to switch brands.

Australis have a long haul ahead, but provided they maintain their current policies could become a force in the contractor market.

RANE INTRODUCES AD-22 DIGITAL AUDIO DELAY

Rane say excellent signal-to-noise and dynamic range specifications add to all the operating features required for permanent installations and touring sound applications in their new AD-22, a cost effective, dual independent digital delay line.

Features including remote programming, ambient air temperature compensation and a time/feet/metres readout result from input to Rane from end-users; the audio performance of the AD-22 comes from enhancements made by Rane engineers to the Dolby Time Link circuit, licensed from Dolby Laboratories.

The unit provides a delay range of 0.011 to 327.68 milliseconds on each output, adjustable in 10 microsecond and 1 millisecond increments. Each output has two nonvolatile memories for easy access to previously stored delay values and Remote Recall terminals on the rear accept external configuration switches to allow independent remote recall of the memories.

The AD-22 can be operated as two independent channels, as a stereo pair or internally configured as a mono device to provide twice the delay range of a single channel. *Details from Jands, (02) 516-3622.*

AUDIO TELEX

SOUND

REINFORCEMENT

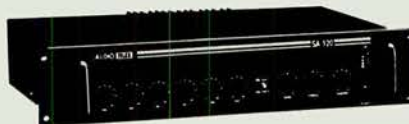
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CONTRACTING NEWS

AUDIO TELEX MAKE AN IMPACT WITH NEW AMPS

From time to time we all give lip service to the 'need to buy Australian where the product is of an equal standard and competitively priced'.

No one can argue the good sense of this strategy if we are to create more jobs in our flagging economy. But too often the quality and presentation of the Aussie-made product has left a little to be desired and as a consequence, we have preferred to buy imports.

Audio Telex is one Australian company changing these attitudes through sheer hard work, good in-house industrial design and the production of some mighty fine audio products in its factory in Silverwater, Sydney - within a few miles of several other manufacturers, the largest concentration of amplifier makers in the southern hemisphere.

About five years ago Audio Telex purchased the business of Hans Overeem who was well known in the industry for his fine range of music power amplifiers and accessories, catering

mainly for small bands and groups in the entertainment field.

Audio Telex had a much wider vision of the audio market in Australia and overseas. They set about acquiring a more professional design and manufacturing team headed by Rudi Smit, a Netherlands born designer who has extensive production experience.

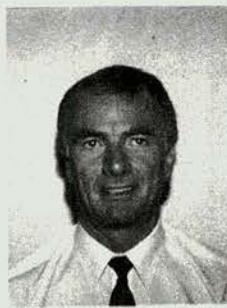
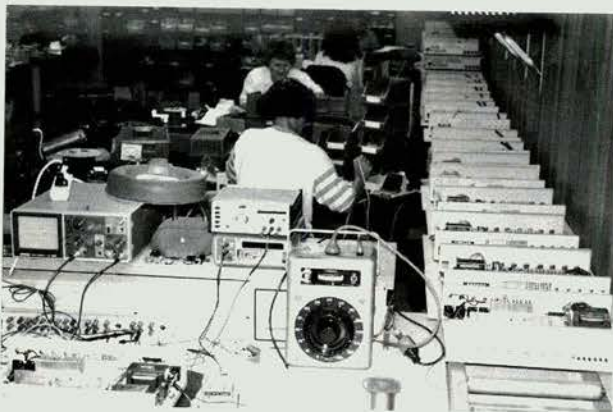
Audio Telex knew they had to not only design good audio products, they had to build them to an international standard with quality assurance programs covering everything from the electronics and the way the amplifiers were packed to the operating instructions. The new series of AT amplifiers, released at recent trade shows throughout Australia, are the latest in an impressive range of locally designed products meeting that criteria. They have been widely accepted locally as well as in several overseas countries.

According to Audio Telex' founder and chair-

man Rod Craig, the future of the company is inextricably tied to its heavy commitment to local production. The company feels that Asia will become increasingly expensive as labour rates follow the improved living standards in the region. Rod also feels that Audio Telex is better able to react to the needs of Australian system designers and sound contractors as its development times are shorter and costs lower than most overseas conglomerates.

"There is still a lot of indifference or even, in some cases, antagonism to local manufacturers, but we are breaking down some barriers and our success in exporting to Asia is helping us with volume and consequently, improving all aspects of our production including quality control," Rod said.

"Nobody said local production would be easy but we are encouraged by our success. We have a good team and lots of new products in the pipeline."



Rudi Smit (left) and Audio Telex founder Rod Craig (far left).

Factory view, amp's on the line (left)

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CONTRACTING NEWS

FREEDMAN RELOCATE AFTER 25 YRS

Walk through a club in NSW and chances are you'll see a piece of gear with FREEDMANS written on it. The firm was established by the late Henri Freedman some 25 years ago, and today is still engaged in it's core activity - audio contracting. Along the way there was flirtation with lighting, but today this is limited to distribution of a popular chaser, branded with Freedman's JET tradename.

Jet is one of Freedman's product lines, and it comprises speaker systems, disco mixers and soon- power amplifiers.

Rode is the other brand, this is a range including a studio microphone, db meter and suchlike. General Manager Colin Hill (pictured right) is credited with establishing these brands. Managing Director

Peter Freedman (left) is the contracting expert, with many increasingly diverse installations to his credit in recent years.

The spacious new premises of Freedman are at 283 Victoria Road, Rydalmere NSW. Call them on (02) 638-6666.



Crestron establishes down-under

Since introducing CRESTRON Systems to Australia, Jands have trained dealers in most states on how to extract the best from this exciting new technology.

A Crestron System is a method of controlling diverse equipment from one or more locations. The most common Crestron System uses a touch screen with customised icons set up for the customer - things even a company director understands, like a button that says: "DIM LIGHTS" - and even another that says: "START VIDEO!"

"The possibilities are endless. We are still finding new applications and designing new panels of increasing sophistication," says Garry Rutter from the Jands Contracting Support team. "Each new application is a potential challenge for us but so far the system hasn't let us down - it seems capable of virtually re-inventing itself!"

Crestron Systems control audio-visuals, security, lighting, curtains - anything that turns on and off - in venues from boardrooms to clubs and theatres. A choice of two control modules form the heart of the system and act as the interface with the real world. The Cresnet II, a

fully featured modular card cage controller, employs multiple port plug-in control modules and may be interfaced with all types of equipment and control scenarios. The low cost Cresnet II MS mini packaged control system has all the software power of Cresnet II with expansion capability and is ideal for small to mid-sized applications.

Customised operating instructions need only be loaded via an IBM compatible lap top or computer in a one-off operation. Thereafter the system is controlled by a choice of customised peripherals including touch screens, wall panels and hand-held remotes.

Recent installations of the Cresnet control system include Sydney's University of Technology (installed by Freedman) and a system to control a massive paging system at the Darling Harbour complex in Sydney, designed by The PA People.

The installation companies provide the system hardware, software and programming services, with extensive training and backup support from Jands Electronics.

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Entry form and details on page 4.

What is MIDI & how does it work?

part three

THE BENEFITS OF MIDI

(1) Two Instruments in Unison

This section will cover the uses of MIDI in performance, expression, and other facets of the music making process. Firstly, we shall discuss playing 2 instruments in unison.

For example, the MIDI OUT of an electronic piano to the MIDI IN of a synth. Then, if the synth is set to a string sound, playing the piano will cause the synth to play exactly the same part on a string sound. The result is a very BIG sound, simulating the pianist, being doubled by an orchestra.

Another useful combination would be to use a harpsichord sound from the piano, and a synth flute sound. Similarly, two synths with pipe organ and choir sounds are very effective. Two trumpet sounds, slightly detuned, make the brass effect much thicker. The list is endless. Playing two instruments in unison can provide a wealth of musical possibilities.

Another method is to use one synth sound that features a unique attack sound, combined with another instrument whose sustain sound is interesting. In this way, a whole new synthesized sound is created by playing the two together.

Playing two instruments in unison is a very basic way of using MIDI, and yet you can achieve a much greater variety of sounds, thicker sounds, than using only one synth. It can certainly expand your expressive capabilities, so try it and you'll begin to understand the fascination of MIDI. Of course, if you use MIDI THRU connectors.... 3 or 4 synths can create some amazing possibilities.

(Continues next month)

(2) Combinations of Different Kinds of Instruments

AS was mentioned earlier, it is possible for different kinds of instruments to "converse" through MIDI. Naturally, we expect keyboards to "talk" to each other, but what would a piano say to a drum machine. It is hard to imagine just what the result might be.

Think what would happen if you connect a piano to a drum machine, the piano as the master, the drum machine as the slave. You may choose the sounds (assign them) so that by playing the key "C" on the piano, a bass drum sound is heard. Then perhaps a "D" would play the snare, and a "G" a tom, etc.. Then, rather than using drum sticks, you can play the "drums" by pressing the appropriate keys on the keyboard.

What happens if the drum machine is the master and the piano the slave? This time, if the drum machine is playing a pre-programmed rhythm, the piano will play the same part. However, whenever the drum machine plays a bass drum, the piano will play a "C", etc.. Just the reverse of the previous situation.

NOTE: A drum machine has limited capability, and can usually only remember a few songs, so it would be more practical to use a sequencer, or a computer, for this type of automatic performance (as we shall discuss later).

This combination of a piano and a drum machine is only one example. It is possible for many instruments to "converse" via MIDI.

info freako

With Danny Dun

DIGITAL GLOSSARY
(continued from last issue)

LFO:

Short for Low Frequency Oscillator, a device that vibrates at a very low frequency (low pitch) in fact its so low we generally can't hear it. An LFO can be assigned to many things such as pitch or pan. An example of an effect of this would be an LFO assigned to panning of an organ sound. This can give an effect similar to a leslie speaker device.

Looping:

In the world of sampling looping refers to taking a portion of a sound and repeating it. There are many different ways of looping sounds depending on the manufacturer involved. The major reasons for looping a sound are: one to allow the sound a longer sustain time (hold) without eating up huge amounts of memory; two for special effect or; three to sustain a looped drum/percussion/rhythm section, ie: a "beat loop".

MIDI:

See the continuing series on MIDI elsewhere in Connections.

Non-Destructive:

With digital audio editing devices, many of the editing or changes made to the sound can be reversed or undone whilst leaving the original recording untouched. This is known as non-destructive editing.

Parameter:

This is a value which can be changed resulting in a new setting for the machine in question. eg. MIDI channel number, filter frequency cutoff, resonance level etc are all parameters.

(continued over)

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MELBOURNE
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A MIDI Marshall?

Bruce Waite & Dave Macken at Blind Lemon Pie track down and test the JMP-1

Recently we needed to record some guitar tracks amidst what you might call limiting circumstances. The situation was like this, there was to be no "live room" for setting up amps and speaker boxes, the tracks could only be done in the middle of the night, there would be no mixing desk or outboard equipment only an ADAT, we had to be quick as the locale was to be a small bedroom in suburbia, Shhhh. Then came the BIG problem, the guitar tracks had to sound as if they were performed in a "live room" with the amp turned up so far that the life of the speaker box was being threatened while the engineer was comfortably taking care of everything going to tape. "Get a guitar pre-amp" was on the tip of everyone's tongue (your's too probably). Well, we did!

Physically the JMP-1 is easily identifiable with it's gold coloured, brushed aluminium front panel, black fascia panel and dials, though this is about as trivial as this unit gets. It's

layout is small (1 unit high), simple and purposeful. To the left of the fascia panel are the input jack and headphones jack with the Output Level dial directly next to them. To the right of the fascia panel is the power on/off button with the centre area of the JMP-1 spaciouly housing a red, four digit LCD display, data +/- dial and sixteen operation push buttons.

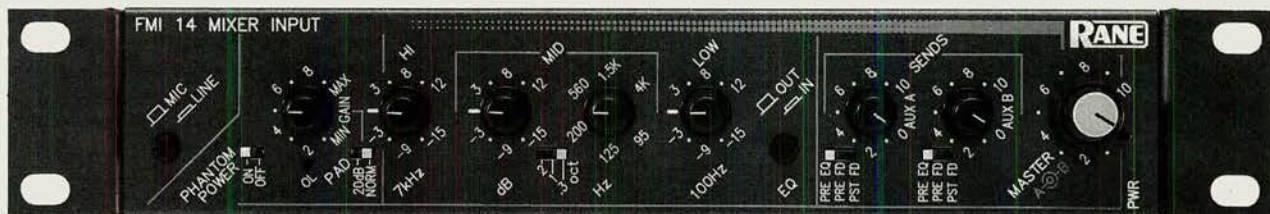
Back panel hook-up was to prove easy with 6.5mm jacks provided for left/right speaker emulator and master outputs as well as for the effects send/returns. The only problem we could see with any of the layout is the location of the midi in/out/thru sockets and the 6 pin footswitch socket (an optional 4-way footswitch is available for selection of patches 1-4), they're probably close enough to be frustratingly similar on a half lit stage, during changeover for instance.

A quick audio check affirmed the JMP-1's suitability for the task, and yes, it did have alot

of Marshall characteristics. It may have been a bigger surprise if this pre-amp didn't have these characteristics as it is driven by a pair of ECC83 valves. The ECC83's, or 12AX7's as they're known in America, have long been a part of the gain stage in Marshall amplifiers.

The requirement of fast operational capabilities was quickly dealt with as the JMP-1 is ridiculously easy to use. If you want to change the current patch to another of the one hundred available, you push the "patch" button and turn the data dial. To edit the tone of the selected patch you push "bass/middle/treble or presence" and turn the data dial. To adjust the gain you push.....that's right, "gain" and thenyep, turn the data dial. It's sooo nice NOT to have buttons that perform more than one function, it makes operation easier particularly on a product that is only 1 unit high. A rather generously sized LCD display shows relevent information, with patch numbers on the left and editing values on the right. Though

"SHORT CUT TO PURITY"

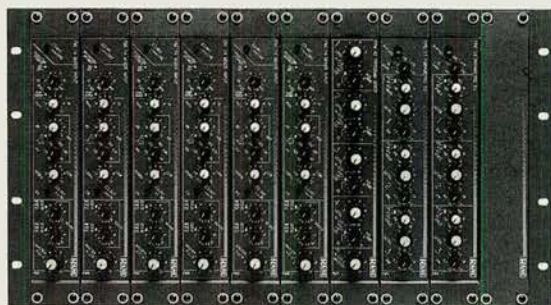


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M

MUSIC TECHNOLOGY SUPPLEMENT

MIDI Marshall (continued)

it's no breakthrough in design, the modesty and uncomplicated operation of the Marshall JMP-1 certainly lent to its appeal.

Having solved some of our situational hazards by using the JMP-1 the next item on the agenda was to obtain usable sounds from it. Please remember that the only connections made were the guitar into the pre-amp and the outputs straight into two channels on the ADAT.

One of four selections can be made regarding what are called "channels", the selection is between Overdrive 1 or 2 (OD1 or OD2) and Clean 1 or 2 and all are appreciably divergent to one another. Overdrive 2 guarantees hours of wailing pleasure with an almost incessant sustain and tonal qualities that are more, shall we say, current sounding than the warmer tones of Overdrive 1. Driving the crap out of Clean 1 is a real winner though Clean 2 with its superb bottom end control actually went to tape better. A predetermined Bass Shift is provided to put a lump in your bottom end on the overdrive and give more body to the clean channels. Though the Bass Shift is not a selectable frequency it is still very usable when you're trying to get some low end grunt or thicken the sound up.

Gain level and Patch Volume are adjustable between 0-20 (does this mean it goes past 11... sorry), again these parameters as with all the adjustable parameters are viewed on the display in big, eye catching numbers. A point here concerning the gain control, watch out if your just flicking through the presets (there are 25 preset patches by the way) or your own patches (you can store these where ever you wish), not only is it hard to remember all the different gain structures in patches it's also very embarrassing to plug in a guitar with "hot" pick-ups and nearly blow

everyone's head off as well as sending the meters through the roof. This could of course be your desire but don't say you weren't warned, it has the potential to make you change trousers if you are careless.

The tone circuits of Marshall's JMP-1 are straight forward enough the user is given a +6/-6 adjustment range over Bass/Middle/Treble and Presence, all tone adjustments appeared to be quite smooth with no obvious problems or extraneous noise. We found using the tone controls so similar to using a normal amp, it really sped things up not having to dial through 0-100 parameter ranges as, in this case, the parameter range is kept small.

Once we were able to get out and about with this unit we were free to try it in conjunction with other equipment and under different conditions. The first was to run it with an effects processor in both stereo and mono. Control over the stereo Effects return is simple with a range of 0-12. At 0 no effected signal is mixed with the dry signal and at 12 only the effected signal is heard. Once again no evidence of induced noise was present and the JMP-1's effects loop was deemed a success. Hey, this thing hasn't even been connected to a desk yet.

Another, yet undiscussed feature of this unit is that it employs Speaker Emulation circuitry to create speaker cabinet simulation. When going to tape these outputs were invaluable, it sounded realistic enough to go undetected by most as well as offering another choice from only using the master outputs. The real test was to come one day at soundcheck when the JMP-1 was connected only via the Speaker Emulator outputs and listened to up against "real" quad boxes. Both sounds, be they somewhat similar, had qualities of their own. The tonal differences between the two were minimal and slight adjustment of the Presence seemed to settle them.

It appeared that the only thing really missing, once other instruments were mixed with the guitar, was the sight of a big speaker cabinet on stage. Used as a pre-amp connected to a power amp via the master outputs then into a guitar cabinet the JMP-1 delivered the goods in a big way. In a weird way it *sounded* better *seeing* speakers underneath the pre-amp. How much of this is psychological is purely academic as it really comes down to how comfortable the individual performer is with this whole idea anyway.

The inclusion of the word "midi" in the unit's title is a bit keen as the only recognised midi functions are Program Change for patch selection via midi and System Exclusive communication for saving or transferring all the memory. These functions, be it few, are still very handy particularly if you need to perform program changes on an effects unit as well as pre-amp.

All in all Marshall's JMP-1 stood out as a great sounding valve pre-amp, it's ease of operation was a blessing and it's simple, well charted instruction manual with Jim Marshall's smiling head inside the front cover helped make short work of what could have become another long night of recording.

* Unfortunately no technical specifications could be made available to us concerning the JMP-1 though here is the small blurb we found:

MODEL: Marshall JMP-1 Valve Midi Pre-Amp

FEATURES: 4 channel, programmable valve pre-amp with 100 presets, built-in speaker simulation, programmable effects loop and midi capabilities

OPTIONS: MPM4E footswitch

LIST PRICE: \$1595

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MUSIC TECHNOLOGY SUPPLEMENT

(Digital Glossary, continued from P63)

Real-Time:

As opposed to non real-time. The audio device in question will process the sound without any delays or interruptions for calculation time. i.e. you don't have to wait for your computer (sampler etc.) to do an eq calculation. This is very important. Imagine adjusting an eq setting when each time you wish to hear your edit you have to wait for the computer to think about it? Some complex functions such as time-stretch will use much of the processing time of the device. For this reason time-stretch is usually a non real-time process.

Sample:

A snippet of sound that has been converted in to a digital format and can now be edited (changed) or replayed. A sample is also a single number that represents the most basic part of the sound waveform. To put it more simply a "snapshot" of the sound at a single point in time.

SCSI:

This stands for Small Computer Systems Interface and is a standard communication method between computer products. eg. sampler and a hard drive.

Like MIDI it also consists of a language and hardware specification.

Soft Key:

This is a switch or button on some devices that does not have a fixed function. The buttons function is usually listed on a section of the devices screen near to the button. These allow manufacturers to reduce the number of buttons (and hence price) while increasing the number of functions for the machine. For this reason they are often called a function button.

Splicing:

This is the process of joining two samples together (analogous to and for similar reasons for analogue tape splicing. Electronically this is much easier than tape splicing and more accurate. Also edits of this nature in the world of digital audio are usually reversible. ie. non-destructive.

Velocity:

This is a MIDI message that describe how fast a key was played on a MIDI keyboard. In the real world this is basically how hard you hit the bloody

thing!

Stay tuned for more next issue and keep those letters flooding in! We will begin our replies to your letters next issue!

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PERTH MUSIC STORES TESTED

Retailer
Exposé

Richard Mortimer visits 3 stores in the quest for a Quadraverb.....

Searching for professional and semi-professional audio equipment in Perth is not easy, particularly in times when the recession we had to have has made music stores think twice about the stock that they have on display in comparison to the amount of products they sell. In my search for a middle of the range effects unit, I compared three stores service and product knowledge.

• **Kosmic's** 'superstore' in Osborne Park has been open for about 3 years, dealing mainly with synthesizers, guitars and amplifiers, but also delving into PA's, lighting and low end multi-track recorders and associated equipment. The shop is an open room extending back for about 20 metres where most of the stock is displayed in a fashion that promotes the specials of the month in the middle of the room. The sound rooms provide an isolated area where potential buyers can fantasize over the amplifier/guitar of their choice, turning the volume up without adversely affecting any conversation in another section of the store very much.

There is never a hurried atmosphere in Kosmic, the salespeople generally keep their distance for an ample amount of time before approaching a potential customer. This allows people to have a look at the item which they are considering, or just tinkle with a guitar or keyboard. My only grievance is that sometimes they hesitate *too* long, making a customer wonder if they will be served. The staff of Kosmic are very congenial, never approaching with a hard-sell method, which adds to the easy flowing mood. After I was approached and asked about the unit, I was led into the small side room where the effects are set up with a microphone and mixing desk. This allows customers the option of comparing units against one another at their own leisure. I asked the salesman a question to which he responded by pulling out the instruction manual, which also allowed him to brush up on a few other points about the module.

The demonstration was concluded with a suggestion of a software package which would run from my computer. He pointed out that, although this was not a necessary step, it made the programming of patches easier for the unit, an added bonus when a small LCD lit screen is the standard option. Before I departed from the store he offered a brochure on the complete range of products from the manufacturer so that I could remember the unit and consider the deal offered.

• On the Western boundaries of Perth, **Concept** have a small but packed display area of guitars, amplifiers and drum paraphernalia. The shop is very open, with a small room to the side housing the acoustic guitars, all other equipment was in the main area. The service was super-quick, and I had hardly taken a dozen steps into the store before a salesman asked if I required assistance. Requesting if they sold the unit I was chasing, he pointed out the GT model, the next version and admitted that they didn't have the Plus in stock, but also stated that it would not be too much trouble to order one in, if that's what I really wanted. I asked for a demonstration of the unit and the salesman started to rattle off about the advantages of the GT over the Plus, including the number of variations of Pre-Amp modes.

It seemed that the unit was merely a display and not to be used for demonstration. He then handed me a photocopy of the sales brochure (for the Plus, not the GT he was trying to sell me), and suggested that I read through the specifications and give him a call if I required any further knowledge of the unit. Overall I wasn't that impressed by the service given in this store, feeling that everything had been a bit rushed and that, if I didn't have the money in my hand, the salesman didn't really have time to spend with me.

• Located south of Perth, **Music Park** comprises

of two stores, the other being Park Pianos. This latter shop also provides the entrance into a well-stocked display area that, whilst small, was packed with keyboards, guitars and sheet music. The amplifier room is to the rear of the shop, with the PA room upstairs and I found myself wandering from one end of the showroom to the other. The service was moderately slow, comparable with Kosmic.

When I was finally served, I asked about the effects unit, I was led upstairs to the PA section where the Multi-tracks and effects are displayed. Music Park gets a big plus from me for the fact that, although I asked about one unit, the salesman took the time to point out two other units in a similar price range, with more features but less well known names. He also took the time out to plug in and demonstrate these models, explaining the editing parameters and demonstrating the ease of use and resulting effect. Although they didn't have a demo model of the Plus, the GT was plugged in and used, whilst the salesperson leaned more towards the 'unknown' brand, having recently bought one himself. The analysis ended with the salesman handing photocopies of the specifications of the units, stapled together with his business card.

• **Summary:** The salespeople in each of the shops were friendly enough, but certainly didn't instill me to spend my hard-earned cash in their respective shops. Music Park was the only store to offer a discount, albeit for their imitation model. None of the shops offered a discount on the product that I was particularly looking at, nor did they try to beat the competitions price.

Speaking to a few musicians around the place, most were happiest with the service and location of Concept, although I was most impressed with the service and the duration of the demonstration at both Music Park and Kosmic. All of the salespeople knew what they were talking about, and in the instance that they couldn't answer a question, were happy to seek the information from a pamphlet or other sales staff.

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Don't get upset now...

Connections Publishing invited a freelance journalist with a musical background to write this expose.

Parameters were set beforehand, including the need to not hamper the retailers normal course of trade. The Journalist was left to choose the product, the approach, and the stores visited.

The Publisher realises it doesn't matter HOW you treat this, SOME-ONE gets upset. Sorry if it's you.

The Stores

Kosmic Unit 7, 44 Hutton Street, Osborne Park, WA 6017. Telephone (09) 242 3844, Fax (09) 444 1144.

Concept Music 634 Murray Street, West Perth, WA 6005. Phone (09) 322 6422, Fax (09) 324 1040, Toll free 008 998 021.

Music Park 341 Albany Highway, Victoria Park, Telephone (09) 470 1020, Fax (09) 470 1708.

Quadraverb Plus Specifications:

Frequency Response: 16Hz-20kHz

Dynamic Range: 85 dB

Harmonic Distortion: 0.1% @1kHz @0 dBV

Digital Conversion: 16 Bit PCM

Processor Speed: 24 MIPS

Input: 2 x 6.5mm jacks, -10 to +4 dB, Imp. 1M Ω per channel.

Output: 2 x 6.5 mm jacks, peak +14dBV (effect), +20 dBV (dry), Imp. 1k Ω


Rear Panel: Input L/R, Output L/R, Bypass, Power, MIDI In/Out/Thru.

Power: 9 volts AC, external supply.

Dimensions (WxHxD): 19" x 1.75" x 7"

Weight: 4.5 lbs

Four or more simultaneous effects are available, including: reverb, delay, chorus/flange/phase shift, pitch detune, parametric EQ, graphic EQ, multitap delays, resonator, programmable panning, ring modulators, and 1.5 seconds of sampling. Quadraverb has real time MIDI implementation in a digital signal processor, 20kHz band-width and is super quiet, according to Richard Mortimer. **Imported by The Electric Factory, (03) 480-5988.**



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Utilising technology developed for the Quartz and IL mastering consoles Soundtracs have now developed a console that can reach a wider sector of the recording market.

The audio performance of the Megas Studio Console makes it a perfect match for 2" professional analogue and digital machines while the affordability brings it into the budget 16 & 24 track range.

Available in 5 frame sizes the Megas Studio Console can be supplied with a patchbay and 16 or 24 metered sub groups. Console sizes range from 20 into 16 to 40 into 24 with Patchbay.

Primary features:

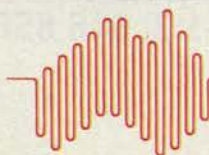
- Split type console
- Programmable MIDI muting on Channels, Monitors & Aux masters
- 99 MIDI patches with external mode
- 2 Stereo speaker outputs
- 2 Stereo master machine returns

Channel Module

- 4 band EQ, with 2 sweepable mid ranges
- 6 Aux sends - aux 6 switchable to variable channel direct output
- 24 Bus routing
- In Place Solo & pfl with adjustable master
- Programmable MIDI muting
- Stereo channel option

Group/Monitor module

- 2 band EQ
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- Sub Groups routable to remix bus
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GIRL Friend



*Catriona Forcer reports
from behind the scenes*

Catch them smoking dope, swearing and drinking bourbon,” barked an enthusiastic Editor. “Ask them about personal hygiene,” he added. Now this might be an easy task with some female performers but I’m afraid Girlfriend are not only squeaky clean but also extremely professional.

They are also very nice and you could see why the crew, in all honesty, could only say nice things about them. Certainly fodder for Dolly and not The National Enquirer - here at Connections we’re not so selective.

The girls tour sporadically, doing one or two week trips around the country mainly coinciding with the school holidays because their audience tends to be of that age.

"They've really taken off in the last six months," said Colin Baldwin, lighting designer and production manager for the band. "They are becoming very popular in fact they could tour solidly for the next two years around Australia and South East Asia without a break. Because of their commitments overseas trying to break into South East Asia and the UK they are spending a lot of time over there doing PR work. They're very talented young ladies and hard workers on stage."

Recently Girlfriend did a shopping centre tour (can't see someone like U2 doing this) to promote their range of clothing and Colin described it as crazy.

"There were just thousands of kids and it was a security nightmare," he said. "So successful was the appearances they are now planning a tour of the shopping centres at Christmas. The first release of clothing sold out within four weeks throughout the chain of department stores. They are now talking to me about designing a set, sound and lighting that they can take into shopping centres - there will be lots of ambient light already, noise problems and crowd problems so it'll be a challenge. Tickets for their shows are now only sold as reserved seating because the kids trying to get in the venue to get the best seats were literally trampling over each other. We've bought in certain rules and regulations towards the venues, promoters and agencies to protect the young audience. When we come to a venue where there is no seating we put in a safety barrier across the front of stage and there are security men inside the barrier to pluck anyone out."

Before reaching Sydney's Parramatta Riverside Theatre, this tour had been going for two weeks and every venue had been sold out. Second shows were added wherever possible and the tour took in Penrith, Newcastle, Ettalong, Shell Harbour. There was also a charity show in Auburn for the Norman Ross children's hospital appeal. Venues around Sydney were chosen as they did not want to become overplayed in the Sydney area. In September a tour of North Queensland, Victoria, regional areas of NSW and perhaps Tasmania is planned. There is also a possible trip to China, Korea and Malaysia later in the year.

One gig on this tour was in a lock up outside the Harvey Norman store in Auburn and it was for charity.

"It was horrendous weather, pissing down with rain," Colin told me. "Water was running underneath the stage and the backstage area was awash. We gave serious consideration to not going on with the show but due to the fact the girls use radio

mics we decided to let them go on. It was for a very worthwhile cause so it was hard not to do the show.

The rig on this tour here is based on budget and truck space. We've got an eight tonner which we fill up as much as we can with sound, lights and stage set. When we do bigger shows we have a much larger set. The girls rely heavily on staging and effects. They have a lot of choreography so they need a set to climb on and lighting that works well with them, it's a very lively show. This is quite a small show in comparison with some of the production we normally take out. When we go out later in the year we'll take out more gear, a bigger set, pyrotechnics and all the whizz bangs that go with it. This is our B-set which is an E-shape with a centre catwalk to give the girls positions to stand for ballads and to run around on. There are four Roman style columns, kind of a Madonna look with the backdrop. It's very basic compared to our other shows where we use a big aluminium set in the shape of a crab with lots of interesting levels on it. The set I'm designing for the September tour will have a West Side Story look to it with brick walls etc. It'll be more a darker looking set as opposed to a pretty one with flowers on it."

The rig comprised of about eighty chrome Par cans, strobes, ACLs, Raylights, Lekos and gobos. There was a lot of silhouette lighting effect but with a good quantity of downstage lighting because of all the dance routines. Colin had also introduced five Trackspots (one for each girl) which he was controlling through a new software programme called Multiscan developed by Lance Douglass.



Lance Douglass, Multiscan creator

"We actually looked at all moving light systems when we were looking at buying the Trackspot system," Colin said. "As the Trackspot was the baby brother to the Intellabeam we thought it would be a fairly safe bet as Intellabeams are quickly becoming

one of the most used moving light systems in the world, second only to Vari*lite and Pan Command. We decided to stick with a reputable name and trustworthy brand even though it doesn't have as many colours or gobos as a Martin Roboscan. These are a lot simpler light but, in my opinion, still as effective. I don't like to overdo it with moving lights so I only use them now and again."

Colin was keen to stress that the crew outlook towards the group was the same professional outlook there would be to any rock band or corporate event they may do regardless of whether it's a kiddies show or not.

Other equipment includes a Kupo smoker, Dyalite dimmers

and a Jands Instinct desk. The Multiscan can be plugged into the system whether it be a Roboscan, Intellabeam, Samurai, Trackspot or Goldenscan and the computer has all the software built into it to communicate with that light whether by DMX512 or the light's intelligence. The computer knows how many colours it's got, how many gobos and all its different features and functions therefore you can just go ahead and programme. Colin has been extremely impressed by the Multiscans performance and has certainly put it to the test. The Multiscan has been used mainly in nightclub environments so far but Lance Douglass is keen to introduce it to the live concert market.

"In a nightclub all they are really after is predetermined sets of sequences that they can get instantaneous access to," explained Lance. "Also they need the ability to quickly change colours and gobos and strobing effects. Because the music changes constantly they need quick access to the change. In this live concert environment it is very choreographed, every thing is known and it is run by a series of cues. The guys at Showcorp have been giving me suggestions as to what changes needed to be made to suit this environment. I'm also interested in the theatre side of things too and at the moment I am speaking to some people although cost tends to be a problem there. The cost of the controller is not a problem it's the intelligent lights themselves. Basically any light that can be communicated with via DMX512 can be used with the software, it's just a matter of me building a driver into the software which takes me about an hour. You can also mix and match the lights so you can run Intellabeams with Goldenscans and Trackspots all in the one system. The driver in the software has been designed so that if you ask all the lamps to strobe they will. The software takes all the worry out of that and you don't have to try control four desks at once. Each light I've dealt with so far has its 'plus' and 'minus' so if you can get good combination of lights you can do anything you want."

The Multiscan has been used by Megatone, Lightmoves in Melbourne and Premier.

"In my opinion it's very close to becoming one of the best controllers for moving light systems," said Colin.

Sound engineer Richard Kershaw was running a EHT PA System which he found very compact, lightweight and reli-



Maggie 'The Minder' McKinney

able. Richard was using a Yamaha PM1800 24 channel desk with various effects including rev 5's. Audio wise, the show is not very demanding. A DAT machine with the backing track is run but the girls sing live and there are a couple of musicians who also play live. Br an

Laughlan was the monitor engineer running an uncomplicated EV monitor system with side fill and six wedges on stage.

"It's a simple show although there are a lot of cues in it," said Richard. "Every song has a lot of stuff going on in various places. Lot of lead vocal swaps and little raps come out. Their vocals range quite differently and they've been learning microphone techniques. The kids screaming gets very loud though, louder than when I was working with Kylie Minogue. They're quite a pleasurable group to do and I enjoy it. I wouldn't be here if I didn't!"

Tour Manager Maggie McKinney has been working in the entertainment business for many years mainly as a singer doing commercials, album tracks and she has worked with artists such as Jimmy Barnes and Joe Cocker. As a backing singer she has had an extensive 20 year career in touring as well and as a result is more than



Colin Baldwin suggests to Richard Kershaw that it may sound better if....

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GIRLFRIEND

qualified to become a tour manager. Being a martial arts expert, Maggie's first tour with Girlfriend was as their security person as well as voice coach. The next tour she was offered the position of Tour Manager which she accepted as that was basically what she did anyway!

"My job is a job of many hats," she said. "Not only making sure that the whole tour runs smoothly with Colin but also looking after the girls - make sure their makeup and clothes are together, cuddle them when they are not well etc. They are very professional girls, in fact the most professional act I've ever known, and it's a pleasure working with people that can carry off the gig the way they do and still be such nice people. What you see is what you get and that's not a rave, that's the truth. I've seen Siobhan get banged in the nose, come off in tears but still do the show. I've seen Lorinda fall 6ft off the back of the stairs but go straight back into the dance routine which is really high pressure stuff. I make sure the whole of the backstage area is secure as well as front of the stage. We require a minimum of six security. Having such a young audience means there's no smoking, no alcohol, no fights which is great."

"I've watched the audiences grow from a small curious crowd to 2,500 screaming teenagers. One time in Brisbane we had 5000 children in the enclosure and there were another 5000 outside. When we get to the regional areas the kids frighten the hell out of me. I have to make sure the security is so tight. It's a phenomenon that grown ups don't see - they underestimate kid power. In the last six months we've been getting more fourteen year olds but at that age they start to try to be cool and think Girlfriend is just for kids. They still come along because the music is infectious and very positive. The more exposure Girlfriend get the more across the board the age limit becomes."

Other Crew Members:

Rob Crawford Lighting tech

Joe Paratene Crew chief

The first thing you'll notice about the SRV-330 is the vast array of different types of reverb effects found among the 256 patches, with multiple algorithms available.

What really sets the SRV-330 apart from conventional reverb units is its ability to place early reflections in up to 20 locations within a 3-D soundfield.

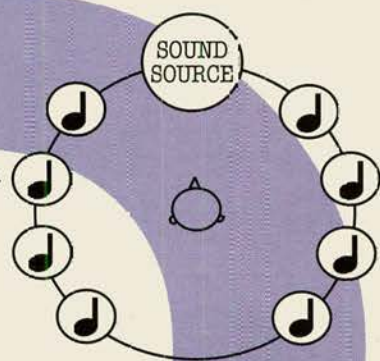
SRV-330

Dimensional Space Reverb

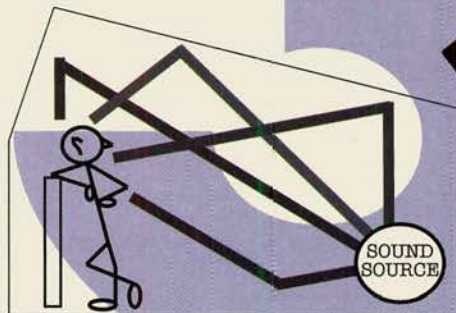


Another eye-popping feature is the "parameter-scroll". When editing a patch, simply turn the data dial and you'll see all of the available parameters roll across the screen! You'll also find up to 100 seconds of reverb time available per patch. You can control any of the parameters with up to five MIDI controllers.

30-bit Internal Processing
16-bit A/D/A Conversion
20Hz-20kHz Frequency Response
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As a delay unit, the SDE-330 is unsurpassed in quality, versatility, and performance. You'll find a total of 256 patches, 128 of which are user-programmable. Within the various algorithms you'll find up to eight individual delay taps, each with up to 2800 milliseconds of delay time. You'll also find plenty of control over EQ, Feedback, Panning, and even Phase Level.



The delay has the ability to place each individual delay tap not only left to right within a stereo soundfield, but actually around you anywhere within a 360 degree radius. The resulting delay taps can actually start in front of you, and end up back in front! This incredible effect is achieved without the aid of additional speakers or any kind of decoding process.

SDE-330

Dimensional Space Delay



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- Mannys Music, 410 Smith St, Collingwood. Phone (03) 416-1564.
 - Soundcorp, 30 Gold St, Collingwood. Phone (03) 419-8111.

- QUEENSLAND**
- Palings, 173 Elizabeth Street, Brisbane. Phone (07) 229-2155.
 - Australian Academy of Music, 122 Leichardt St, Spring Hill. Phone (07) 831-0283.
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ARX DI Units (4). \$150 each. Rock & Roll Music 008 804994 Free Call.

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ARX EQ60 Duel 31 Graphics (4) \$1200 each. Rock & Roll Music 008 804994 Free Call.

ARX Parametric EQ \$800. Rock & Roll Music 008 804994 Free Call.

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ARX Xover \$400 each. Rock & Roll Music 008 804994 Free Call.

Astro Spiders \$500 each; Astro Disco in Case \$1000; Astro Sphera \$500 each; Storm Troopers \$550 each. Grafton Lighting (02)698-7777.

Australian Monitor AM-1000 Amp \$1600. Grafton Sound (02)698-7777.

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Grafton Sound (02)698-7777.

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

Avolites by 2; 72 Way Dimmer Racks with Power Distribution Rack and Tails. \$12,000. Phone Showcorp (02)878-1799.

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CCT Minuet Profiles (8) \$200 each. Rock & Roll Music 008 804994 Free Call.

1K Profiles \$250 each; 2K Profiles \$400 each; Pallas 4 \$750 each. Grafton Lighting (02)698-7777.

CCT1K2 Spot Light with Stand \$600. Rock & Roll Music 008 804994 Free Call.

Cobra Bins \$1700 each. Rock & Roll Music 008 804994 Free Call.

Coemar Pilota 2K Follow Spot with Stand and Roadcase \$1000. Rock & Roll Music 008 804994 Free Call.

DBX 161 Stereo Comp/Limiter \$1000. Rock & Roll Music 008 804994 Free Call.

EV Entertainer 100M Mixer/Amp \$1800. Grafton Sound (02)698-7777. Event 48 Ch. Desk in Case \$6000. Rock & Roll Music 008 804994 Free Call.

Ex-Rental Lighting Equipment. CID Follow Spots. \$1000 each. Grafton Lighting Waterloo (02)698-7777.

Factory Roadcases by 2 for Yamaha CP70 Electric Grand Piano. Aluminium/Session Catches, \$250. Phone (08)297-3741.

H-H M900 \$1200. Rock & Roll Music 008 804994 Free Call.

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Jands 920 \$1200. Rock & Roll Music 008 804994 Free Call.

Jands Aurora 48/24 Lighting Desk \$1550 o.n.o. Also Sony U-Matic V07630 NEVER USED and Projection Screen 6Mtrs. wide by 3Mtr. Phone John, Zenith Theatre, Chatswood NSW. (02)411-7088.

Jands RD3 32/12 Foldback Desk \$2500. Rock & Roll Music 008 804994 Free Call.

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	9	12	5
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24Chan-2	>ADV03<		
24Chan-3	>--SMITH01--<		
FOG-1	>ADV03<		

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Jands SR3000 Amps (3). \$2300 each. Rock & Roll Music 008 804994 Free Call.

Jands Stagmaster 12 Ch. Desk \$600. Rock & Roll Music 008 804994 Free Call.

JBL 2445 Horn Drivers \$700 each. Rock & Roll Music 008 804994 Free Call.

JBL E120 Speaker \$250 each. Rock & Roll Music 008 804994 Free Call.

JBL K120 \$200 each. Rock & Roll Music 008 804994 Free Call.

JBL Systems 1400 \$2500 each. Rock & Roll Music 008 804994 Free Call.

Microphone Boom Stands. NEW with CLIP. \$65 each. Grafton Sound (02) 698-7777.

Mike Stands from \$40. Rock & Roll Music 008 804994 Free Call.

Mitec Performer Series of mixing consoles have landed. Standard Formats 16 ch. into 2/2 \$5000; 28 ch into 4/2/2 \$8000; 32ch into 8/2/2 \$9000. All formats have 5 AUX's, MIDI Effects Controller, 2 Masters L/R or can be used as a Matrix or Extra Sub Group. These consoles have to many features to list here. Call Chris or Andy today for a demo. Grafton Sound (02)698-7777.

Multicore 27 Way FB Split. 27 Way and 8Way Return in Full SESSION Roadcase \$2400. Rock & Roll Music 008 804994 Free Call.

NEW Par 56's \$108 each INC. LAMP. Ex-Rental Par 56's \$65 each. Grafton Lighting Waterloo (02)698-7777.

New Bar Cases \$650; New Packing Cases \$570; New 19" Equipment Sleeves from \$60 each. Grafton Lighting and Sound (02)698-7777.

PA Yamaha EMX200 8 Channel with built in Delay, 500 watts; Plus 2 matched Yamaha Speakers. AS NEW \$2900. Phone Ray on 686-1384.

Peavey 16 MkIII \$1600. Rock & Roll Music 008 804994 Free Call.

Perreux 6000C \$1600. Rock & Roll Music 008 804994 Free Call.

Perreux 8000 \$2000. Rock & Roll Music 008 804994 Free Call.

PTM 950 \$1000. Rock & Roll Music 008 804994 Free Call.

Renkus Heinz B1, 2*15 and 2" Horn \$750 each. Rock & Roll Music 008 804994 Free Call.

Roadcases for 4 Profiles (2) \$180 each. Rock & Roll Music 008 804994 Free Call.

Roland RE301 \$300. Rock & Roll Music 008 804994 Free Call.

Ross 16Ch. Desk in Case \$1200. Rock & Roll Music 008 804994 Free Call.

SM57 Mic \$130. Rock & Roll Music 008 804994 Free Call.

SM58 Mic \$150. Rock & Roll Music 008 804994 Free Call.

Soundcraft 200 24/4/2 \$4000. Rock & Roll Music 008 804994 Free Call.

Stands Case \$150. Rock & Roll Music 008 804994 Free Call.

STUDER B67 2 Track Recorder. Excellent Condition. \$2500. Phone (07)369-8733.

Studiomaster Session Mix 16Ch. in Case \$2000. Rock & Roll Music 008 804994 Free Call.

Tape Machines: Ampex ATR 102 1/4"

2 Track \$2000; Sony DTC 55 DAT Recorder \$1000; Marantz Studio Cassette Decks \$100 each; Call Marshall on (02)660-8776.

Theatrelight 48 Control Desk \$2500. Grafton Lighting (02)698-7777.

Theatrelight TL Showmaster 12 Ch. Desk \$1100. Rock & Roll Music 008 804994 Free Call.

Tri-Truss (4) Sections \$200 each. Rock & Roll Music 008 804994 Free Call.

Trumpet (No Mouthpiece); Trombone; Flute; Clarinet; Violin; Acoustic Guitar. All in Good Condition. Best offers accepted. Call Jim or Jeannine on 891-4699.

Urei LA22 Comp/Limiter \$1500. Rock & Roll Music 008 804994 Free Call.

Weiland Bars and Cabling for 60 Cans \$6000 COMPLETE. Rock & Roll Music 008 804994 Free Call.

Yamaha 24/8 Foldback Desk \$4000. Rock & Roll Music 008 804994 Free Call.

Yamaha 1532 in Roadcase \$6000. Rock & Roll Music 008 804994 Free Call.

Yamaha DMP11 Digital Desk \$2000. Rock & Roll Music 008 804994 Free Call.

Yamaha SPX900 \$1000. Rock & Roll Music 008 804994 Free Call.

ZPE 1000 \$1500. Rock & Roll Music 008 804994 Free Call.

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Yamaha desk, MR1642, as new with road case \$2350, Etone 1507s \$1850, multicore \$350, Yamaha R1000 reverb \$200, microphones and leads from \$12. (042) 83 3056.

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Roland E35 current model intelligent synthesizer, \$1700. (08) 298 5936.

Yamaha TG100 midi interface tone module \$550 or near offer, Yamaha DX21 midi synthesizer 4350 or near offer, Roland TR505 drum machine \$120 or near offer. (08) 263 1035.

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Electro Voice wireless microphone, good condition, 6 months old, \$1600 negotiable. (08) 364 4032 or 018 82 8874.

Electro Voice monitor wedge, 15in speaker, plus horn, good condition, \$850 or near offer. (08) 379 9841.

PA for sale, 10 and 15in JBLs and Jands 600 amplifier, \$1800 or near offer. (08) 232 6380.

PA system complete, JBL composite system, 16 channel, 1000w stereo, 600w monitors, rack, Shure microphones, stands, multi-core, plus all leads and accessories, road cased,

\$12,000 or near offer. (08) 379 0371.

Casio FZ1 digital sampling synthesizer, 8 outputs \$1500, Ensoniq ESQ1 synthesizer with powerful sequencer and expanded memory \$700, Casio CZ101 synthesizer, great bass sound \$300, or \$2200 for the lot. (08) 31 1475.

Amplifier, Jands SR3000, 1500w per channel, 3 months old, \$1995. (08) 331 9605.

Postex L382 300w 12in bass speaker, new, 4300. Tannoy L300 bass cabi-

nets \$650 pair, Tannoy LNX mid range cabinets \$400 pair. Phone (079) 22 7335.

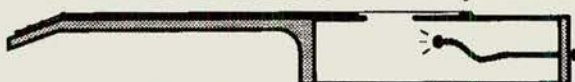
Yamaha EMX 2300, 12 channel, 500w stereo, powered mixer as new \$2300 including road case, Yamaha PB1 base pre amp \$250, phone (079) 22 7335.

Jands J700w power amp, \$850. Phone (03) 742 6885 BH, (03) 742 6778 AH.

Shure SM10A headset microphone, very little use, with hard case \$200. (053) 34 2353.

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MUNCHY

ytes

Well, the impossible is possible. The move of the Phantom from the Princess Theatre in Melbourne to Sydney has been completed and by the time you are read this, the Phantom of the Opera will have opened at the Theatre Royal.

An incredible feat of organisation saw some 27 semi-trailers thundering up the Hume virtually hours after the last night in Melbourne.

Murray Rogers has been heading Bytecraft's team (including Andy Latimer, Darren Irving and half the Melbourne staff) to ensure that Bytecraft's State stage movement system was successfully transplanted and recommissioned. Add Bytecraft's lighting contribution and the numerous other crews with audio, lighting, sets and costumes etc., and it was a mammoth effort deserving high praise. Congratulations to all.

As reported elsewhere in this issue, Bytecraft has signed an agreement with Ushio U-Tech of Japan. Under this agreement Ushio will distribute Bytecraft's Intelligent Dimming System (IDS) products into the Japanese market.

Commissioning of Bytecraft's State flying control system in the Hong Kong Cultural Centre is near completion thanks to the efforts of engineers Mike Bauer, Hugh Stevenson, Andrew Parker and Mike Munday (some guys get all the breaks). Installed to control the existing hydraulic flying system, this distributed processing control system will provide the Centre with world standard flexibility and performance.

By the way, I can't let the opportunity pass without a reference to Dr Light's side swipe in the last issue. For obvious reasons there is more than one version of the new Strand catalogue to cater for the different conditions that exist around the world. The catalogue you received with Lighting and Sound International was a northern hemisphere edition. Just to ensure that you are fully informed, an autographed personal copy of the local edition, with Bytecraft in the directory, is in the mail to you.

Some people have all the luck. Queensland Business Development manager Geoff Biggs has been enjoying a lovely holiday touring through northern Queensland. Next month we will find out if he has actually been working when he files his Who, What, Where and When report.

It is good to see John Rayment back in Melbourne, this time with the Sydney Dance Company and *Beauty and the Beast* at the Princess.

Architecturally speaking, Bytecraft is now completing the installation and commissioning of the lighting control system for the ANZ Bank's world headquarters in Melbourne. Some 30 floors with more than 25,000 fluorescent lights and not a single switch. This advanced control system ensures optimum lighting conditions throughout the building, adapting to variables such as tenancy, ambient light and time of day. Specialist push button panels at strategic locations provide a range of user selectable options.

Bytecraft is the sole Australasian Strand distributor & also manufactures high technology lighting control and stage movement control systems. Phone (03) 587 2555.

Buyers Guide

Studio Mixing Consoles

This month we detail STUDIO MIXING CONSOLES, and MOVING LIGHTS. Do not try to connect the two together, they are incompatible!

Some distributor info is at right, along with a quick list of the brands that didn't make it into the Guide this month because of either shifting distribution or the details not making it to us by deadline. (We must be serious about our deadlines, sorry!)

STUDIO CONSOLES & DISTRIBUTORS

** indicates not shown at right.*

Alesis

The Electric Factory (03) 480-5988

Allen & Heath*

Studio Connections (03) 723-4300

AMEK/Langley

ATT Audio Controls (03) 379-1511

ART

Dynamic Music (02) 939-1299

BiAmp

Production Audio Services (03) 852-0900

DDA

Syncrotech Systems Design (02) 417-5088

D & R Electronics

Arlcom Systems (03) 720-5711

Fostex*

Syntec International (02) 417-4700

Harrison*

Thirkell Holdings (03) 568-4022

Mackie Designs

Aust. Audio Supplies (02) 879-6788

Mitec

Australian Monitor (02) 816-3544

Neotek

Arlcom Systems (03) 720-5711

Neve*

Syncrotech Systems Design (02) 417-5088

Otari

Amber Technology (02) 975-1211

Raindirk*

G.U.V.T. (08) 363-0454

Soundcraft

Jands Electronics (02) 516-3622

Soundtracs

Amber Technology (02) 975-1211

Studio Master*

Pro Music (07) 369-8144

Tascam

Teac Australia (03) 646-1733

Wheatstone*

AR Audio Engineering (02) 299-3666

Yamaha

Yamaha Australia (03) 699-2388

Moving Lights

We have listed the most common, popular fixtures of the 'waggly mirror' variety. You may ask about Vari*Lite and Pan Command - these are essentially very up market by comparison. Pan Command have a new range, the Pro Spot, which brings 360° rotating moving light technology down to affordable levels, circa \$8,000 plus per fixture. The original Morpheus PC Spot,

for example, sells at about \$27,000 plus tax. Vari*Lite isn't for sale - you can only rent them. Now there is a third contender in the fully robotic, 360° moving light stakes - and it's the ICON from L.S.D. in the UK, shown below.

ICON isn't likely to unseat the waggly mirror brigade, anything that moves in 360° arcs costs a lot more.

MOVING LIGHT DISTRIBUTORS

** indicates not shown at right.*

Abstract

Universal Lighting & Audio (075) 290-688

Coemar

Coemar DeSisti Australia (03) 467-8666

Clay Paky

Lights Audio Video Aust. (02) 816-4444

Lightwave Research/Highend Systems

G.U.V.T. (07) 358-5022

Martin

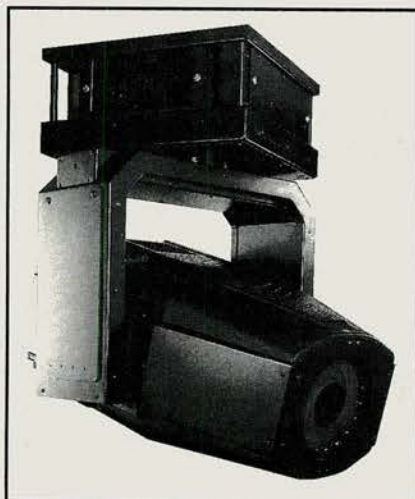
Lights Audio Video Aust. (02) 816-4444

Pan Command*

Concert Lighting Systems (03) 529-5019

TAS

Coemar DeSisti Australia (03) 467-8666



Buyers Guide

August 1993

Studio Sound Mixing Consoles

Product Name	# ch.	# sub groups	# aux sends	# Tape returns	Inline Yes/No	EQ & type	Auto-Mation	Auto Faders	MIDI	Price
Alesis 1622	16	2	6	8	No	3, 1 sweep	No	No	No	\$1,999
Alesis X2	24	8	6	24	Yes	4, 2 sweeps	Mutes	No	Yes	TBA. Late '93
AMEK Langley BIG	28-44	8/16VCA	8	24	yes	4, 2 sweep	Yes	Yes	Yes	\$45-59k
AMEK Einstein	48-64	24/16 VCA	8	48-64	Yes	4, 2 sweep	Yes	Yes	Yes	\$52-62k
AMEK Super Einstein	48-80	24/16 VCA	8	48-80	yes	4, 2 sweep	yes	yes	yes	\$89-107k
AMEK Hendrix	28-56	24/16 VCA	12	28-56	yes	4 para	yes	yes	yes	\$160-246k
AMEK Mozart	40-56	32/16 VCA	16	32	yes	4 semi para	yes	yes	yes	\$263-364k
AMEK G2520	24-68	24	8	24-48	yes	4 para	yes	yes	no	\$250-560k
A.R.T. Phantom	16/24/32	4	8	16/24/32	no	4	no	no	no	\$3250.3795.3995
Bi Amp Legend 2016	20	16	4	20	-	3 sweep	-	-	-	\$20,016
Bi Amp Legend 3216	32	16	4	32	-	3 sweeps	-	-	-	\$30,960
Bi Amp Legend 3224	32	24	4	32	-	3 sweeps	-	-	-	\$32,400
DDA Interface	8-40	4	6	insert	no	4	VCA mod	No	Dig.in	from \$4800
DDA Forum	24-40	8	6 & direct	24	no	4	VCA mod	No	Dig.in	from \$16,700
DDA QMR	to 56	12	6	24 & EQ	Split	4	MIDI mute	No	No	from \$36,000
DDA DMR	to 56	12	8	24	split	4	Midi & m/file	No	No	from \$58,000
D & R Electronics Stylyx	18-40	4	4	option	No	4	No	No	option	\$6-18k
D & R Electronics Triton	16-48	16 trk	10+	4, opt.8	Yes	4 para	option	option	option	\$45-95k
D & R Electronics Marillon	24	24	8	8	option	4 para	option	option	option	\$60-110k
Mackie Designs 16:8	16	8	6	16	yes	4 & para	TBA	TBA	TBA	\$7,995
Mackie Designs 24:8	24	8	6	24	yes	4 & para	TBA	TBA	TBA	\$9,995
Mackie Designs 32:8	32	8	6	32	yes	4 & para	TBA	TBA	TBA	\$11,995
Mitec Performer 16	16	4	5	16	no	4, 2 sweep	-	-	Yes	from \$5,285
Mitec Performer 28	28	4	5	24	no	4, 2 sweep	-	-	Yes	from \$8,200
Mitec Performer 32	32	8	5	24	no	4, 2 sweep	-	-	Yes	from \$8,900
Mitec Studio Server	16	-	2	32	no	4, 2 sweep	-	-	-	\$5,800
Mitec Studio Server	24	-	2	32	no	4, 2 sweep	-	-	-	\$8,590
Neotek Elite	32-64	16	6	\$ & opt	Yes	4 para	option	option	option	\$140-240k
Neotek Elan	32-40	-	6	opt	yes	4 para	option	option	option	\$75-95k
Otari Concept 1	32-48	automation	10	32-48	yes	4, sweeps	yes	yes	yes	\$155-220k
Soundcraft Spirit STUDIO 16	16	8	6	16 + 8	Yes	4, 2 sweeps	No	No	No	\$8,495
Soundcraft Spirit STUDIO 24	24	8	6	24 + 8	Yes	4, 2 sweeps	No	No	No	\$11,995
Soundcraft Spirit STUDIO 32	32	8	6	32 + 8	Yes	4, 2 sweeps	No	No	No	\$15,995
Soundcraft Spirit AUTO 16	16	8	6	16 + 8	Yes	4, 2 sweeps	Yes	No	Yes	\$12,995
Soundcraft Spirit AUTO 24	24	8	6	24 + 8	Yes	4, 2 sweeps	Yes	No	Yes	\$18,495
Soundcraft Spirit AUTO 32	32	8	6	32 + 8	Yes	4, 2 sweeps	Yes	No	Yes	\$22,995
Soundcraft Delta 8, 20 - 36	20-36	8	6	Ch + 8	No	4, 2 sweeps	No	No	No	\$27-43k
Soundcraft Sapphire	20-52	8	6	Typ.32	Yes	4 w/sweeps	Avail	No	No	\$48-100k
Soundcraft 3200	32-36	Vari	12	64	Split	4 sweep	Mutes	No	No	\$211-275k
Soundtech Panoramic TJO	24-40	24	10	24/32/40	Yes	6, 4 sweeps	Option	No	Yes	\$25-35k end '93
Soundtracs Megas Studio	20-40	16-24	6	16-24	no	4 & sweeps	-	-	yes	\$28-\$63k
Soundtracs SOLO Logic 24	24	8	6	24	yes	4,2 sweeps	yes	yes	yes	\$25,995
Soundtracs SOLO Logic 32	32	8	6	32	yes	4,2 sweeps	yes	yes	yes	\$29,995
Soundtracs Quartz 32-48	32-48	Vari	6	24	yes	4 swept	yes	no	yes	\$63-\$80
Soundtracs SOLO MIDI 16-32	16-32	8	6	16-32	yes	4 & sweeps	yes	no	yes	\$12-18k
Soundtracs JADE 24-48	24-48	8 VCA	12	24-48	yes	4 para	yes	yes	yes	\$81-125k
Tascam M-700	40	32	12	32	Yes	4 para	Opt	Opt	No	\$134,000
Tascam M-600	24	16	8	16	No	4, 2 sweep	No	No	No	\$33,260
Tascam M-3700	24-32	8	6	24-32	Yes	4, 2 sweep	VCA	Yes	Yes	\$34-\$40
Tascam M-3500	24-32	8	6	24/32	Yes	4, 2 sweep	no	no	no	\$19-23k
Tascam M-2500	16-24	8	4	16/24	yes	3, 2 sweep	MIDI	no	mutes	\$6790-\$8990
Tascam M-1516 & M-1508	8-16	4	3	8-16	yes	3, 1 sweep	no	no	no	\$2649-\$4162
Tascam M-108	8 & 2 stereo	4	3	8	no	2	no	no	no	\$2,075
Yamaha MR842	8	4	3	2	No	3, 1 sweep	No	No	No	\$2,495
Yamaha MR1242	16	4	3	2	No	3, 1 sweep	No	No	No	\$2,895
Yamaha MR1642	16	4	3	2	No	3, 1 sweep	No	No	No	\$3,295
Yamaha DMP 11 (Digital)	8	-	2	-	No	3, 3 sweeps	Yes	Yes	Yes	\$3,995

Prices shown are including sales tax, list or retail, and correct at July 1993.

Moving (Programmable) Lights

August 1993

COEMAR	Colours	Gobos	Lamp	Lamp life	Lamp cost	Iris	Dimmer	Sugg.range	Pan angle
Microscan 650al	4 & white Tilt angle 10°	5 Length 775mm	T26 650w Height 160mm	500 hrs Width	\$43.35 ex DMX standard? Yes	no Other Rotocolour, Rotogobo, adj.	no	2.5 - 10m	170° Price \$2,250 ex tax
COEMAR	Colours	Gobos	Lamp	Lamp life	Lamp cost	Iris	Dimmer	Sugg.range	Pan angle
Microscan 400MSR	4 & white Tilt angle 10°	5 Length 775mm	MSR 400 Height 160mm	750 hrs Width	\$372.70 ex DMX standard? Yes	no Other Rotocolour, Rotogobo, adj.	no	4 - 8m	170° Price \$2,950 ex tax
COEMAR	Colours	Gobos	Lamp	Lamp life	Lamp cost	Iris	Dimmer	Sugg.range	Pan angle
Microscan II 1000al	9 & white Tilt angle 110°	10 Length 775mm	1000TH Height 160mm	500 hrs Width 245mm	63.70 ex DMX standard? Yes	no Other Rotocolour, Rotogobo, adj.	yes	2.1 - 10m	170° Price \$2,550 ex tax
COEMAR	Colours	Gobos	Lamp	Lamp life	Lamp cost	Iris	Dimmer	Sugg.range	Pan angle
Microscan II 575MSR	9 & white Tilt angle 110°	10 Length 775mm	MSR 575 Height 160mm	750 hrs Width 245mm	412.80 ex DMX standard? Yes	no Other Rotocolour, Rotogobo, adj.	yes	4 - 21m	170° Price \$3,740 ex tax

Buyers Guide

Moving (Programmable) Lights

August 1993

Manufacturer	Colours	Gobos	Lamp	Lamp life	Lamp cost	Iris	Dimmer	Sugg. range	Pan angle
COEMAR Samurai 700 MSR	11 & white Tilt angle 110°	12 Length 1115mm	MSR 700 Height 220mm	750 hrs Width 335mm	\$430 & tax DMX standard? Yes	Yes Other	Yes 34kg weight	4-30m	170° Price \$5550 ex tax
COEMAR Samurai 1200MSR	11 & white Tilt angle 110°	12 Length 1115mm	MSR 1200 Height 220mm	750 hrs Width 335mm	\$595 & tax DMX standard? Yes	Yes Other	Yes 23kg weight, ballast sep weight 15.5kg	4-30m	170° Price \$6550 ex tax
CLAY PAKY Miniscan	8 Tilt angle 110°	5 Length 582	150HTI Height 280	1000 hrs Width 238	\$245 ex DMX standard? Yes	no Other	no Pan & Tilt inversion options	16m	150° Price \$2,500 ex tax
CLAY PAKY Golden Scan 2	8 Tilt angle 110°	16 Length 1015	575HMI Height 330	750 hrs Width 430	\$385 ex DMX standard? Yes	yes Other	stopper Gobo & lens options, rotateable mirror head	40m	150° Price \$6,275 ex tax
CLAY PAKY Golden Scan 3	24 Tilt angle 110°	4 rotating, 16 opt Length 1015/1140	1200/575HMI Height 330	750 Width 430	\$385/\$495 ex DMX standard? Yes	yes Other	yes Various options.	40m	150° Price \$7,820 ex tax
CLAY PAKY Super Scan	Infinite Tilt angle 110°	16 Length 1320	1200HMI Height 230	750 Width 430	\$495 ex DMX standard? yes	yes Other	yes 3 prisms, rot. mirror head	40m	150° Price \$9,890 ex tax
CLAY PAKY Super Scan with multi rotating gobos	Infinite Tilt angle 110°	4 rotating Length 1320	1200HMI Height 230	750 Width 430	\$495 ex DMX standard? yes	yes Other	yes 3 prisms, rot. mirror head	40m	150° Price \$10,750 ex tax
CLAY PAKY TIGER Scan 575/1200 HMI	8 Tilt angle 110°	4 rotating Length 1015/1140	575/1200HMI Height 330	750 Width 430	\$385/\$495 DMX standard? yes	no Other	no 4 lens options, rot. mirror head	20m	150° Price \$5860/\$6860 ex tax
CLAY PAKY Bazooka 1200HMI	8 Tilt angle 110°	5 Length 1970	1200HMI Height 370	750 Width 330	\$495 DMX standard? Yes	optional Other	no Can be used outdoors as a searchlight	160m	150° Price \$5,800 ex tax
ABSTRACT Futurescan 150	7 & white Tilt angle 100°	5 Length 500mm	A1/232 Height 180mm	300hr Width 140mm	\$18 DMX standard? no, own protocol	no Other	no Strobe shutter, stand alone operation	4m	180° Price \$915 retail
LIGHTWAVE RESEARCH Trackspot Comes complete with lamp	10 inc white Tilt Angle 110°	10 inc open Length 650mm	QT8500 Height 178mm	500hr avg Width 221mm	\$24 inc tax DMX standard? yes	no Other	yes 10.4kg weight, High res. protocol available	-	170° Price \$3,128 Inc tax
LIGHTWAVE RESEARCH Intellabeam 700MX Comes complete with lamp	12 inc white Tilt Angle 110°	12 inc open Length 925mm	MSR700 Height 207mm	1000hrs avg Width 330mm	\$567 inc tax DMX standard? yes	yes, vari speed Other	Yes full range 25.9kg weight, high res. protocol available	-	170° Price \$9,186 inc tax
LIGHTWAVE RESEARCH Emulator, laser simulator Comes complete with lamp	12 inc white Tilt Angle 60°	infinite patterns Length 620mm	Xenon Height 210mm	650hrs Width 330mm	\$744 inc tax DMX standard? no	Iris Scales Other	yes Emulator control	-	60° Price \$7,040 inc tax
MARTIN Roboscan Pro 1220	2 x 9 mix Tilt Angle 83°	2 x 10 mix Length 1330	1200MSR Height 450	1000hrs Width 450	\$570 ex DMX standard? DMX option	yes Other	yes Zoom focus, prism, strobe	40m	175° Price \$6,500 ex tax
MARTIN Roboscan Pro 218	18 Tilt Angle 90°	18 Length 530	200MSD Height 280	2000 Width 185	\$380 ex DMX standard? Optional DMX	no Other	no Multicolours, strobe	30m	180° Price \$2,500 ex tax
MARTIN Roboscan Pro 805	4 Tilt Angle 90°	4 Length 560	150w HLX Height 130	500hrs Width 110	\$18 ex DMX standard? optional	no Other	no	7m	180° Price \$1,600 ex tax
MARTIN Robozap 1200MSR	10 Tilt Angle 70°	10 Length 626	1200MSR Height 280	1000 Width 445	\$570 ex DMX standard? optional	no Other	no Will operate stand alone or with controller	40m	90° Price \$4,990 ex tax
TAS Mini Ultra Scan 250	9 & white Tilt Angle 110°	10 Length 650mm	ENH 250w, ELH 300w Height 160mm	175 Width 245mm	\$25-27 ex DMX standard? yes	no Other	yes	3-12m	170° Price \$2,190 ex tax
TAS Mini Ultra Scan 200 MSD	9 & white Tilt Angle 110°	10 Length 775mm	200MSD Height 160mm	2000 hrs Width 245mm	\$346 ex DMX standard? yes	no Other	no	3-12m	170° Price \$2,225 ex tax
TAS Symbol 700	11 & white Tilt Angle 110°	12 Length 1122mm	700MSR Height 405mm	750hrs Width 441mm	\$430 ex DMX standard? yes	no Other	yes	4-25m	170° Price \$5,350 ex tax

Prices accurate at July 1993, subject to change. Note some INCLUDE sales tax, some don't. Also check if price includes a lamp.

Buyers Guide Coming Up

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

September

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Lighting Control

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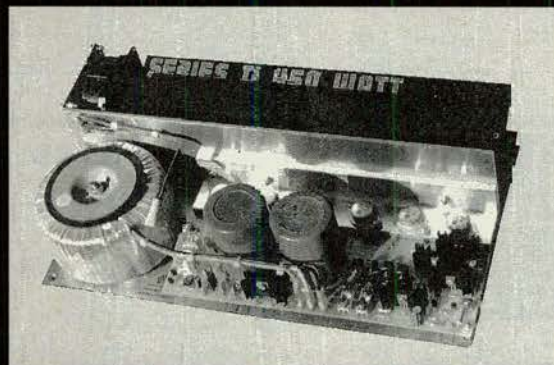


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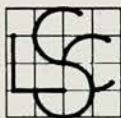
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DMX 512 Explained.

By Gary Pritchard

Part 5

What is DMX-512?

EARTH LOOPS (continued)

It is thus essential for good signals that the system common should only be connected to mains earth at only one point at most. At LSC we take the approach of isolating the common wire in both our dimmers and desks from mains earth thereby eliminating any potential problems. Other manufacturers do not do this and if you are using multiplexers or demultiplexers the problem can sneak into the system. It is one to watch for and if in doubt, speak to the manufacturer of the equipment for clarification.

CONTROL RESOLUTION:

One of the more recent criticisms of DMX512 is that it does not provide enough resolution. We saw before that using 8 bits of information gives us a resolution of 0.39%. For the majority of cases this is more than adequate, however

some people are now starting to use DMX512 for things other than controlling dimmers. Things such as colour scrollers. Here our resolution on an 11 gel scroll is only 35mm or 1.5". Also there is a plethora of moving light systems that could possibly be controlled by a DMX512 signal but the resolution is just not sufficient to be able to position the fixture accurately enough for these systems.

One can take two possible views on this argument. DMX512 should be adapted to provide control for these products or alternatively it should be left alone since its original scope as stated in the standard is for the "transmission of data between controllers and dimmers".

DMX512 has the scope to be modified to communicate with alternative devices however it seems that everyone is more than happy to

leave well enough alone. At recent DMX512 committee meetings, the last of which was in Boston in February 1991, there was a clear majority among those members present that the DMX512 specification should be left as it is.

CONCLUSION

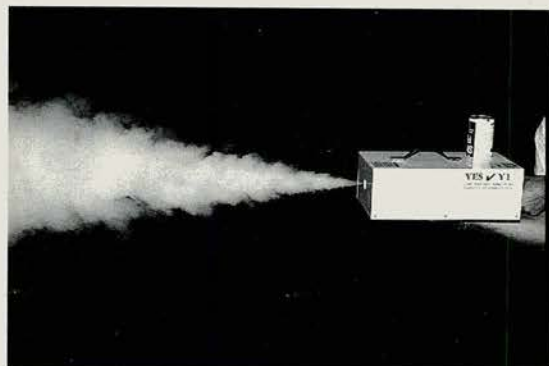
Therefore looking down the road a little, it is not too hard to see that we as an industry will require some means of being able to control moving fixtures, colour scrollers, dimmers and who knows what else, preferably from one central operating point. A number of people have put forward proposals to solve this problem but at this stage no one system has been accepted. There will certainly be a new standard, but who will propose it and when is yet to be seen.

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JANDS

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

Measurement of Directional Characteristics (continued)

We now combine the two equations, eliminating the $10 \log(\text{eff})$ term:

$$DI = \text{SPL}_{(1-W, 1-m)} - 109 + 94 + 10 \log(1660) - 10 \log R - \text{SPL}_{\text{rev}} - 10 \log R$$

$$DI = \text{SPL}_{(1-W, 1-m)} + 17 - \text{SPL}_{\text{rev}} - 10 \log R$$

As an example using this method of measurement, we will consider a JBL 2360/2445 combination. The 1-watt, 1-meter rating is 113 dB-SPL, and the combination has been observed to produce a reverberant level of 108 dB-SPL in a live room with $R = 18.6\text{m}^2$. Using this equation:

$$DI = 113 + 17 - 108 - 10 \log(18.6)$$

$$DI = 113 + 17 - 108 - 12.7 = \underline{9.3 \text{ dB}}$$

The value compares favorably with the published 10.8 dB. (Note: In explaining the foregoing method of using a live room for determining directivity, we have introduced the concepts of reverberation and room constant without defining them. These topics will be covered in detail in Chapter 5. It would be wise for the reader to go over these examples again after Chapter 5 has been studied.)

For HF drivers and their associated horns, there is a variant of the above method, shown in Figure 3-10. Here, a PWT replaces the live room. The standard PWT used by most manufacturers is 25.4mm (1") in diameter, and the reference input is 1 milliwatt. Under these conditions, a 100% efficient driver would produce a level of 123 dB-SPL in the PWT. This degree of efficiency is not possible, and ratings of 117 or 118 dB are common. Again, the comparison is made with the 1-watt, 1-meter rating of the horn-driver combination:

$$\text{SPL}_{(1\text{-watt}, 1\text{-meter})} = 109 + 10 \log(\text{eff}) + DI$$

$$\text{SPL}_{\text{PWT}} = 123 + 10 \log(\text{eff})$$

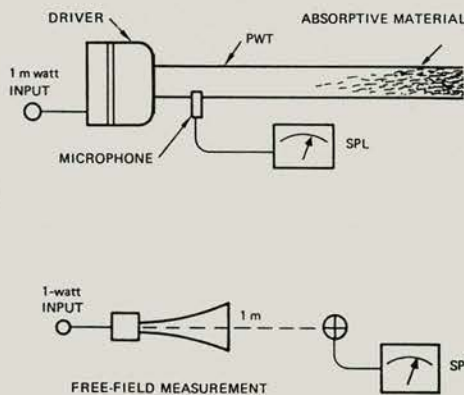


FIGURE 3-10

Eliminating the $10 \log(\text{eff})$ term:

$$DI = \text{SPL}_{(1W, 1m)} + 14 - \text{SPL}_{\text{PWT}}$$

As an example, the JBL 2445 HF driver is rated at 118 dB-SPL on a 25.4mm PWT with a 1 mW input. The 1-W, 1-m rating on the JBL 2365 horn is 115 dB-SPL. Thus:

$$DI = 115 + 14 - 118 = 11 \text{ dB}$$

This compares favourably with the published value of 12.9 (+1.7, -1.7) dB.

Using Directivity Information

A knowledge of the coverage angles of a HF horn is essential if the device is to be oriented properly with respect to an audience area. If polar plots or isobars are available, then the sound contractor can make calculations such as those indicated in Figure 3-11. The horn used in this example is the JBL 2360 biradial. We note from the isobars for this horn that the -3 dB angle off the vertical is 14° . The -6 dB and -9 dB angles are 23° and 30° respectively. This data is for the octave band centred at 2 kHz. The horn is aimed so that its major axis is pointed at the farthest seats. This will ensure maximum reach, or "throw", to those seats. We now look at the -3 dB angle of the horn and compare the reduction in the horn's output along that angle with the inverse square advantage at the closer seats covered along that

axis. Ideally, we would like for the inverse square advantage to just match the horn's off-axis fall-off, but this is not always possible. We similarly look at the response along the -6 and -9 dB axes of the horn, comparing them with the inverse square advantages afforded by the closer-in seats. Where the designer has flexibility in choosing the horn's location, a good compromise, such as that shown in the figure, will be possible. Beyond the -9 dB angle, the horn's output falls off so rapidly that additional devices, driven at much lower levels, would be needed to cover the front seats.

Aiming a horn as shown here results in a good bit of power being radiated at the back wall. Ideally, that surface should be fairly absorptive so that reflections from it do not become a problem.

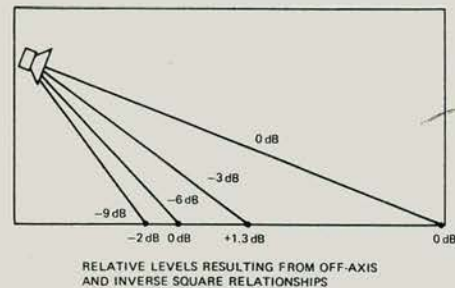


FIGURE 3-11

Directional Characteristics of Combined Radiators

While manufacturers routinely provide data on their individual pieces of hardware, most provide little, if any, data on how they interact with each other. In general, at high frequencies, horns will act independently of each other. If a pair of horns are played so that their -6 dB angles just overlap, then the response along that common axis should be smooth, and the effect will be nearly that of a single horn with increased coverage in the plane of overlap. Thus, two horns with 60° coverage in the horizontal plane can be played to give 120° horizontal coverage.

(Continues)

Making The Sound System Suit The Auditorium

We were interrupted in our efforts to understand the particular qualities of sound systems that are important for speech reproduction last month, by the end of the page. It's a shame that, cause the punch line was coming up.

Hi - ho ... on we go.

The big differences between designing speech and music systems is that the speech system requires huge acoustic gains and quite often very wide dynamic ranges ... more so than music systems.

Acoustic gain

The onset of acoustic feedback often limits amplifying the orator enough for him/her to be satisfactorily understood. The main reason for this is that the person often wants to stand back from the mic and speak as if they are in normal conversation with the fellow next door, and so requires a lot more amplification than if they were to project their voice like you had to in the old days. This is quite a different situation from the vocalist who likes to wet the microphone diaphragm with his vocal chords. Even though a music system runs much louder, the required acoustic gain is much less because of the much reduced mouth to mic distance and just how loud the singer shouts. Check out the graph.

As you can see, you can get a lot more level by sticking the microphone down the throat of the performer. The difference in sound level between a person talking or singing at 0.5 metre and one at 20mm is 30dB ... that's a lot of gain you don't have to make up for in a music system. Add to that the singer screaming 10 dB or so louder, and you start to get more worried about mic channel overload than acoustic gain.

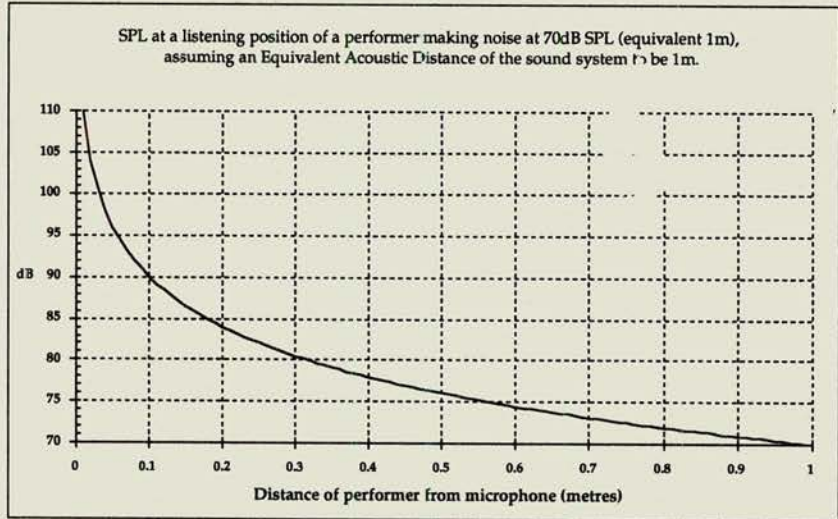
Dynamic Range

Another factor that limits speech systems is the dynamic range.

Beranek says that the sound level range from a 'normal voice' speaking to a

'loud as possible speaking' (without straining the vocal chords) is 12 dB. If that person then shouts you can add another 6 dB.¹ giving an operating range of 18 dB. This gets a lot bigger

Without limiters, the maximum SPL, dynamic range and noise floor requirements of the sound system would make speech very difficult to amplify indeed.



when you have to accommodate the person speaking (or different orators) standing at difference distances from the microphone (say from 1m to 0.1m). The required operating range can be in the vicinity of 38dB and when normal headroom is added, the overall dynamic range can be huge.

Speech vs Music

A music system, on the other hand, places more emphasis on 'tonal quality'. What makes a sound system reek of quality? This and more next paragraph.

(continues)

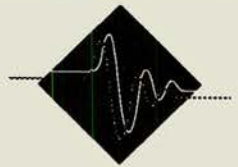
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(continued from previous page)

There's not much point arguing about what really defines sound quality, the arguments can be endless. Our work in both hi-fi design and professional loudspeaker system design have brought us to the conclusions that the major contributions to sound quality (metaphorically speaking the front row of the circle if you like) are *amplitude* and *power* response. Phase response has been relegated to the back of the stalls of influence and other obscure qualities such as *transient* response and wire crystalline structure is being discussed in the ticket office by the marketeers while the show goes on ... because they make very little difference to sound quality, particularly when you are sitting in the reverberant field.

Don't take my word for this perhaps seemingly oversimplification of the case ... check it out yourself. One fellow who conducted extensive tests and experiments regarding the subjective quality of loudspeakers (involving psychological as well as physical conditions) is Floyd E. Toole,

whose continuing work has gone a long way towards explaining what we hear and what we measure in a reliable and repeatable manner.

Mr Toole says about his experiments, 'In many ways the outcome is a relief, in that it is a kind of reaffirmation of *motherhood*. Given the proper circumstances, experienced listeners with normal hearing prefer loudspeakers with wide bandwidth, flat and smooth amplitude response, and uniformly wide dispersion.'

A few enthusiasts get themselves tied up in knots with phase response, rise time, transient response, etc. Well, transient response is inextricably linked to the frequency and phase responses, and can't be separated. A typical high quality hi-fi loudspeaker has about 600-1000 degrees of phase shift between 200 Hz and 20 kHz, and this is a lot more than the uninitiated expect.

Mr Toole said about this, "The advocates of ac-

curate waveform reproduction (phase criteria), are in a particularly awkward situation. In spite of the considerable engineering appeal of this concept, practical tests have yielded little evidence of listener sensitivity to this factor."

Okay. So we've now got a loudspeaker with flat power and frequency response from 20 to everything, and it's the right colour and sounds perfect. But stick it in an auditorium and everything seems to go wrong. It now sounds like an Aurotone in a bathroom with a gigantic boxy resonance in the lower mids. Your cat's blanket sounds better. What could have gone wrong?

Next month we get on with what *really* makes a difference when it comes to auditoriums and sound systems ... stay tuned.

The Acoustician is a continuing series by Dave Connor from Elecoustics, a Sydney based firm of specialist acoustic engineers.

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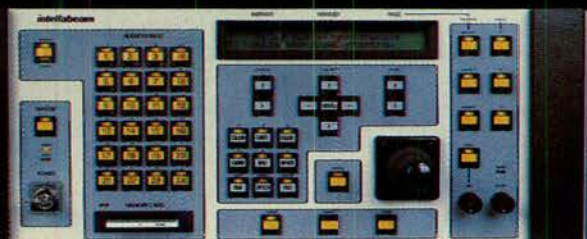
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WORKPLACE HEALTH & SAFETY

Following on from the June/July column, I have received many calls regarding electrical safety in the workplace and how, or indeed whether it has been implemented nationally or on a state by state basis, (refer to Hire Biz Buz this issue). The only concrete responses received have been from Queensland Dept. of Employment, Vocational Education, Training and Industrial Relations - Workplace Health and Safety division, who have published an excellent short form hide called "Employers Guide To Electrical Safety In The Workplace", publication No.5105/9/92, available from GOPRINT (Queensland Government Printing) and from Workcover NSW who have recently enforced the adherence to AS3760, AS3000 and AS3012 by gaffers in the film and television industry. I whole heartedly support the enforcement of health and safety legislation, however I believe that to be truly effective the "entertainment industry" needs to have a voice within the planning committees who develop these strategies.

As current experience has shown, not all companies who are effected by this legislation have commenced or indeed planned to commence the introduction of a pro-active health and safety program. This has been the industry's greatest fear, only those with a high profile (no - not a stoned spotlight) have been "looked at", leaving the small fry to slip through the net.

In recent discussions with the Workcover people in NSW, it was stated that they have had all hire companies (builders plant hire and handy man hire operations) under the microscope and that all hire companies, including entertainment hire companies, must comply with AS3760 "In Service Safety Inspection and Testing of Electrical Equipment". In particular the frequency of testing, which in the case of hire equipment is "before each hire" and at least once every six (6) months a complete test and tag. If this legislation effects you, do yourself a favour, get onto your local workcover people and get the info- and if you want a voice in the application of legislation, write to them.

You might also have a look at the carpet cleaning, floor scrubber hire point at the check-out of your local supermarket you will discover as I have, that they do not test the devices prior to hiring them to you, they do not tag them and in the case of my local supermarket they don't repair frayed cords and/or loose plugs!

This is Mike Tanner, the Jands Electronics lighting guru/product specialist. Call him on (02) 516-3622 and disagree with anything written above at your peril!

Activity Page

'The Punter', known to many for his (futile) dreams regarding motorsport (and familiarity with the inside of courtrooms, yuk yuk!) has piked, and stated he will no longer produce crosswords for us unless we offer a prize to the reader who is first to return a correct and complete one. Because we need to get permits and haven't done a prize ever in Connections, we are still thinking about this!

Crossword answers from last issue:

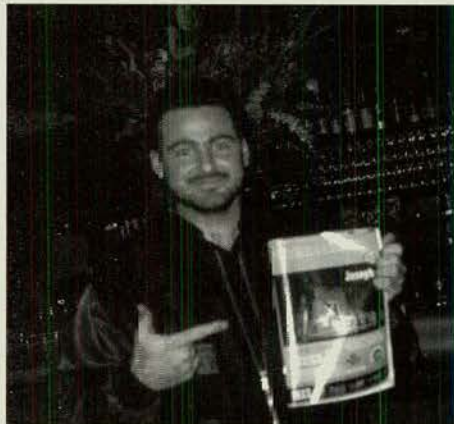
Across:	20. Cop	Down:	13. ACT
3. Bush	21. Pentridge	1. QC	15. Boggo
4. Backhander	23. DUI	2. Gavel	16. Schoolgirls
5. Incarceration	24. Log	3. Bond	18. Trial
6. Record	26. Brief	4. Bribe	19. Inquiries
8. Barrister	30. Ripoff	7. Dob	22. Groupies
12. Rata	32. Foreman	8. Beak	25. Parole
14. Bail	34. Verbal	9. Soliciter	27. Finger
15. Bluey	35. Speed	10. Jury	28. AOC
17. RBT	36. Case	11. Murphy	29. Radar
			31. Felon
			33. LBJ



PEOPLE



Michael "Gaffy" Gaff - Lighting Technical Supervisor at Burswood Resort and Casino.



Paul Checkley - Connections Reader, also works with Adasound when not reading!



"Smiling" John Culverhouse of Ashton Admore, new Cerwin Vega distributors.



(Left) Mike Collins-Syntec, (Centre) Fleur Warnock- Syntec, (Right) Peter James-Bose.



(Left) Andy Ciddor-WA Uni Theatre Lecturer/ The Kilowatt Co., (Right) Rory Miller- Stagecraft.



(Left) Neville Limpus- Adasound and (Right) Stan White- Ashton Admore.

CONNECTIONS took time out to visit our Western Cousins in Perth recently. They seem a friendly bunch, despite those threats to secede from the rest of the country!



Greg Garbellini and Nicolè Goldsmith of Kosmic, could it be love that possesses Gregs heart?



(Left) Doug Forbes with (Right) Nick Manfredini.



(Left) Mark Whitehouse-ProCopy, (Centre) Cliff Blackburn-Sinclair Communications, (Right) Les Williams -Planet Studios.



(Left) Mark Sharmon, (Cent.) Caroline Grafton, (Right, "Georgous" George Gorga at Margaret Urlich MI Release, Vulcures Nightclub.



(Left) Paul Shapkaris, (Centre) Mark Sheehan, (Right) Jason Burns. Buddys one and all! (Or close touching personal friends? -Ed)

Our Photoshop expert Josh Luo has digitally reorganised some of these shots to group some people together.

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GREAT Mistakes

My Great Mistake is I'm guilty of taking work from a morally bankrupt cabaret performer when I could have had an easy weekend of indy bands in Sydney. I owned a production company in the early '80's, one of the larger outfits in town passed on this work. I should've smelt a rat.....

The indy band circuit was worth about \$250 a night to me, for that they got a single 4 way PA, 16 lights, and me in a truck. They lugged. This cabaret performer offered be \$300 a night, plus fuel, and it was a three night run. So I would be ahead slightly, I took the gig.

Only N.S.W. could have a cabaret circuit made up of RSL and Leagues Clubs, where the poker machines truly subsidised the 150 ageing punters who'd not been to a live show since last this subsidising artist had been to town. The show comprised a support singer of dubious vintage who hit the Gin before, during and after her set, four session muso's and the Musical Director, a confirmed alcoholic.

The session muso's were four of about twenty guys I'd bump into everywhere, they would typically get four nights and a couple of sessions a week, grossing about \$800 a week back then. They wore the same tux every night, and looked like musical penguins. To a man they were all heavy drinkers and dedicated rooters. This show didn't give them much to chase, but they tried! The main criteria for admission to his cosy clan appeared to be kinship, secret vows, respect for the bottle, and distant last - the ability to read poorly prepared charts, which the M.D. would carry around.

Out into the back blocks of NSW I travelled, and of course I was a one man crew, so I man-handled the 4560's and horns into position at the first gig in Coonamble. It'd taken 9 hours to get there that day, I was setup by 5, just as the Air NSW Fokker circled to land at the town airstrip. The band, backup and The Star arrived half an hour later, in a Falcon and a Fairlane. The AVIS agent had the Fairlane driven up from Dubbo for The Star.

As this was the first encounter, all went reasonably well, I was pandering to the 'talent', miking up the acoustic grand on stage, and The Star was telling me he wanted Reverb in his wedges. He then proffered the pre-arranged open reel of tape, which had a click track on board. To my surprise he produced a 16mm film projector, which I was to operate as well. Naturally I had to move the FOH desk and effects to enable the

projector to be positioned reasonably well, so this took 20 minutes. Now I had a reel to reel deck, and a projector.

The Star then sauntered back from the secretary managers office, where he had hosted a Jack Daniels one-on-one with the suited fart that ran this hovel, and tossed me a cassette on his way to the dressing room. Something approximating a soundcheck occurred, where the click track was successfully run. The left track had the music on it, with female chorus, and the right track had the click track, or metronome, so the drummer could keep time. This track went to a 5 watt amplifier I possessed for this application, into which a headset was plugged. It was always fun, because every drummer turned it up full bore at first, then quickly flailed at the thing once the track started, semi permanent ear damage often occurring. I loved this!

While the rheumy white wash brigade doddered in and got seated, the Stewards with cummerbunds affixed worked the tables with coloured aluminium trays, serving Porphrey Pearl, Sparking Star Wine, and Resches Old. The Star gave me my directions.

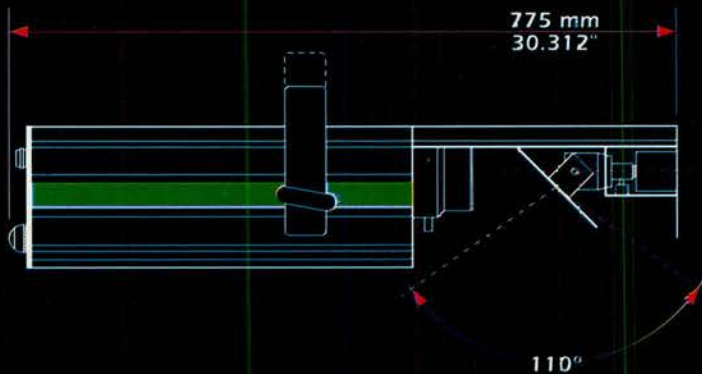
"Click track is song five. Film is song 10, watch me for the cue. The cassette is the last comedy sketch. Got that?" I assured him that was OK, but what was the cue for the cassette? "I talk about when I started in the biz", he directed, "and I'm at the audition. You run the tape, then stop and wait for the next part. Then you run it and stop, and do this a total of four times. Where's the drink Steward?"

Naturally I went to the front of house and listed to the cassette through the headphones before the start. It was one half of a pretty poor comedy routine, with about 4 seconds between each section.

The gig was punctuated by The Star demanding more foldback, and alternately more reverb every second song. The audience had their hands over their ears most of the time, despite the fact I had only voice and piano in the mix. The click track and film were despatched OK, and the comedy routine came and went. Of course it just didn't work. The audience didn't laugh. The Star castigated me backstage in front of everyone. I explained that in case he didn't realise, comedy was all about timing, and a routine with a cassette deck couldn't ever work.

Funny enough, years later I was comparing stories with another operator from that era. "Yeah, I did him too", my companion said, "and I had the same hassle with The Cassette. I reckon he just did it to give us the shits".

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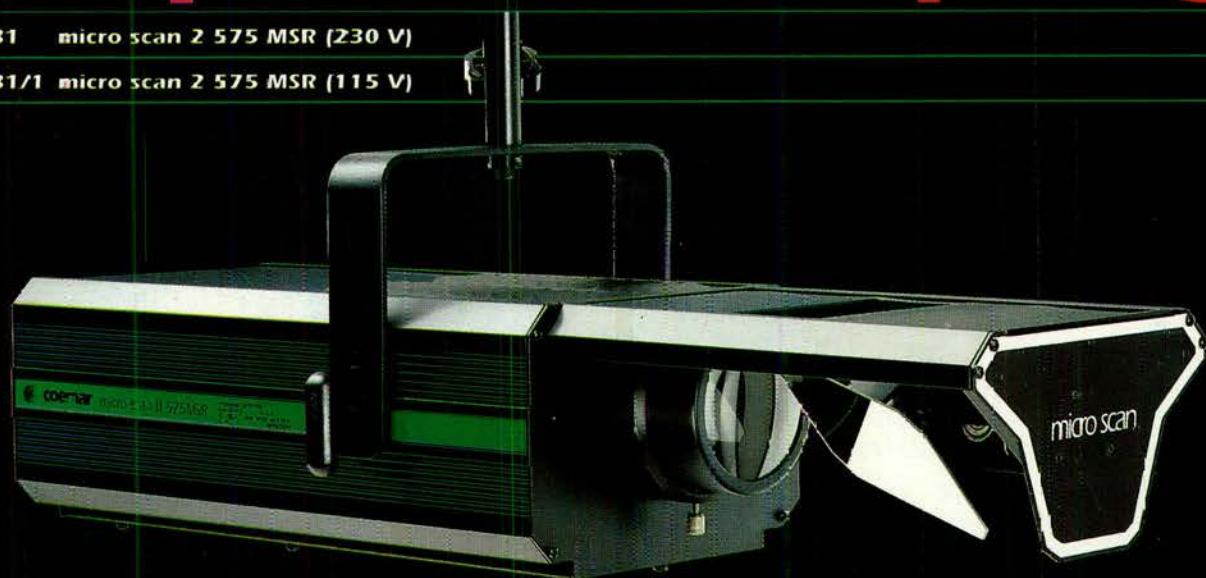


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