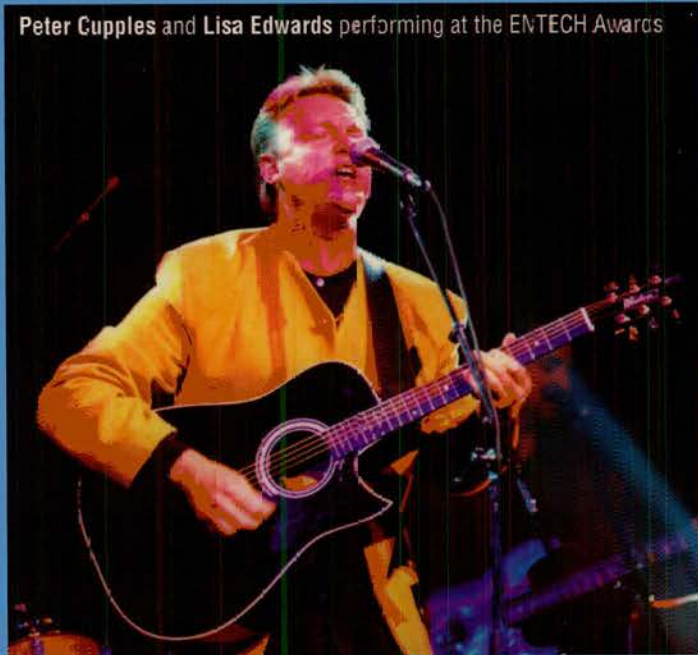


MERIDIAN: ADAT GETS A BIG BROTHER

Connections

Australia's Entertainment Technology Monthly

Peter Cupples and Lisa Edwards performing at the ENTECH Awards



1997 ENTECH AWARDS: THE WINNERS



Print Post Approved, PP 2550003/00751

ISSN 1320-5595



07

MAY 1997

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SCM810 AUTOMATIC MIXER

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Shure's SCM810 Automatic Mixer provides all the performance and features you want for about half the price you might expect. And it's simple to use. Screw it into the rack, plug it into the wall, and turn it on. Just like that, you'll get seamless automatic mixing.

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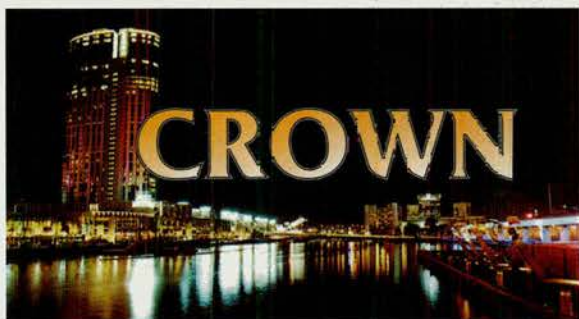
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Connections

5th year of publication

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- *Out late this month due to ENTECH- sorry!*



The Beat Nightclub • The Roxy • Squeeze Club • Grand Orbit • Dog House Blues Bar • The Edge Broadbeach • Sheraton Hotel • Accurate Acoustics • Entity • Free Spirit • Foxannes • Nightlife Video • Paddo Tavern • The Underground • Devonport Baptist Church • Fineapple Hotel • Bodyworks Gyms • Healthworld • AUS Concert Systems • Eratic Productions • Wooloongabba Hotel • Physco Therapy • Red Zedz • Mick James Electronics • Australian Audio • Images at Alexandra Hills Hotel • Abundant Life Fellowship • Rhema Bible Training Centre • Powerhouse Niteclub Orange • The O.U.T. Club • The • Gig Night Club • Buzz Bar • Moorondah Assembly Of God • Devonport Baptist Church • Evangelical Arts Foundation • Shooters Saloon Bar • Canerra Hotel Lismore • Runcorn Christian Church • The Pumhouse Nightclub Greymouth NZ • Universal Lighting & Audio - Gold Coast • Tco Hot To Handle the Disco • Capalaba Ten Pin Bowling Alley • Espresso 124 Christchurch NZ • Julia Creek Blue Light Disco • Players Nightclub Gladstone • Fortunes at Jupiters Casino

what do these venues, retailers and pro users have in common?



FRO-1

• ENTECH '97 AWARD WINNER • BEST NEW SOUND REINFORCEMENT PRODUCT

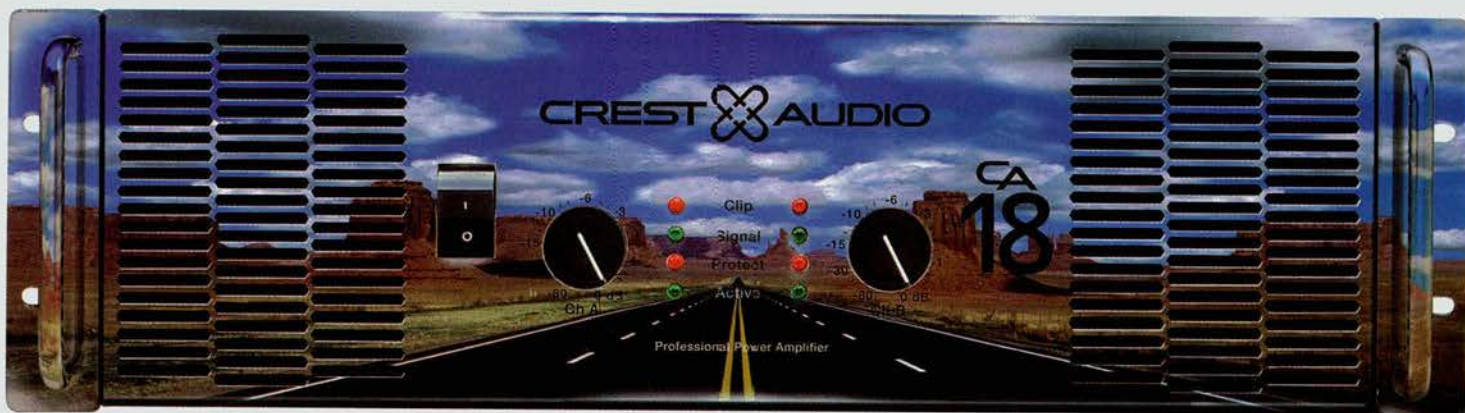
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road tested



Introducing the CA18 power amplifier from Crest Audio

Crest products are born for life on the road. Back in 1979, we began making amplifiers specifically designed for the demands of touring concert sound. Today, Crest amplifiers and mixing consoles are the first choice of leading concert sound rental companies. Now, Crest adds the all-new, 5000-watt* CA18 to its acclaimed CA Series.

This established line of affordable amplifiers delivers superb, undistorted sound consistently - even into 2 ohm loads - thanks to Crest's legendary "overbuilt" power supply.

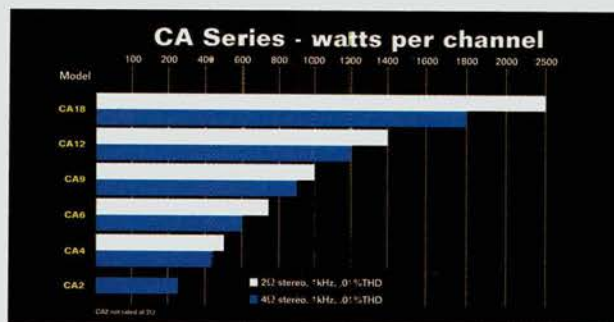
CA's keep their cool with the industry's most effective thermal management system, and provide fail-safe operation with Crest's unique TourClass® protection circuits. Every amplifier is subjected to the most rigorous quality control and testing procedures.

To top it all off, all CA amplifiers come with a five year warranty at no extra charge.

Call for your copy of the complete CA story.

Crest Amplifiers: the road tested choice of touring professionals worldwide.

*Power at 4 ohms bridged, 1kHz, 0.01% THD+N.



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

Connections

MAY 1997. Number 43

ENTECH WINS IN MELBOURNE

By Buck Freeman

Before I made the absurdly long journey from Detroit (LA, Auckland, Melbourne - 23 hours) the ENTECH organisers fax streamed the world press a release which previewed the show. They talked about a target of 4,000 visitors and stressed the number of seminars and conferences. Reading between the lines they perhaps seemed worried about running the show in Melbourne for the first time.

I missed the last ENTECH in Sydney, but I'm a veteran of the first show. Melbourne ENTECH was worlds ahead, brimming with confidence. That first trip I found exhibitors and trade trying to come to terms with the notion that lighting, staging, vision and audio was all one 'Entertainment Technology' industry. Now just a few years later everyone was unified. And the organisers got 4,600 trade, even if 400 of them were the venue managers attending the VMA convention alongside.

One interesting argument I didn't entertain until Melbourne is that the PRO is disappearing from pro audio. Lock at products on the floor of the show. Audio Werk 8, cheap (or affordable) but real and tangible recording on your PC for a grand or so. Then Behringer, fast building an audio empire on the strength of low cost but well built products. Mackie, who started the

drive to lower cost mixing. Digidesign, who displaced many a DASH equipped million dollar mixing suite with an Apple Mac based system. Roland with their VS 880, Yamaha with the Pro Mix digital console family. And every microphone manufacturer in the free world releasing newer lower cost more versatile analogue microphones.

I saw and heard the depth of Australian technical talent in the seminars and conferences, even if the DVD conference seemed wholly loaded with international presenters. At least the chairman was an Aussie.

The lighting business in Australia is intriguing too, your electrical safety standards are way more exacting than we are used to in the USA, and it still takes me a while to get my head around 240 volts. But you have the best the world offers and a healthy local group of manufacturers who make a lot of noise

around the world. Jands, LSC, Bytecraft, Selecon and Lee Conlon builds all those GAM tools too. I didn't know that.

So you need to be proud of ENTECH. It rates up with the best shows I attend, which are AES New York, IDI and Repli Tech USA.

And best of all it costs way less, for all these shows hit you hard to exhibit and charge you money to get in as well



ENTECH '97 FACTS

Trade: 4,636
Exhibitors: 100
Products: 3,100
Value \$13m
Size: 10,500m²
Hote room nights: 2,370



Brian May dies at ENTECH

Composer, Musician, Technologist.

July 28, 1934 - April 25, 1997

It was Friday morning at ENTECH, esteemed composer and musical director Brian May was on the floor shopping for audio. He was building a studio



The late Brian May

in a Gold Coast high rise and needed a 32 channel, 8 bus recording console with a long list of accessories. Mick James Electronics were to build the studio.

At a quarter to one he ducked out of the show - at half past he left us shockingly suddenly.

Tributes poured in to his Gold Coast home.

Brian May was most recently known as a movie composer, with over 40 movies and 17 soundtrack albums to his credit. He was also the king of Australian show bands in earlier years. He headed the ABC show band.

Brian May typifies the resourcefulness of many Australians. He continually transformed himself and his career ~ and readily embraced technology.

Brian May leaves behind a widow and four children. CX

~DISTRIBUTION~

● **Scan Audio** is now the sole Australian distributor for RUNCO video projectors. RUNCO is an American manufacturer of home cinema video projectors. The distribution contract commenced from February 1st
Scan Audio Melbourne: T 03 9429 2199, F 03 9429 9309.

● HHB Communications London have appointed **AWA Distribution** as their Australian Agent for Advanced Media Products and HHB Hardware, including the Portadat. The Portadat TC (Time Code) will however be exclusively available from Audio Sound Centre in Sydney. All enquires to Alistair Dewar, Product Manager 02 9898 7666

~DISTRIBUTION~

● For the record: The magnetics division of BASF will now be known as **EMTEC Magnetics Australia** and it is emphasised that the BASF brand and product will continue as usual. Part of the KOHAP group, EMTEC is short for European Multimedia Technologies and has its headquarters in Ludwighafen Germany. EMTEC will distribute BASF consumer audio, video, data media and professional record-

ing media throughout Australia and New Zealand. Contact: EMTEC Magnetics Australia Fourth Floor, 700 Springvale Road, Mulgrave, Victoria 3170. Toll free 1800 805 691

● **Laservision** has recently signed up an exclusive Indian licensee in Bangalore which has set an aggressive target of sourcing \$50 million in Australian and Laservision goods and services over 5 years. Laservision also have a web site address: laservision.com.au

● **AAV Duplication Services** recently became the first duplicator in Australia to achieve ISO 9002 certification.

● **Intercity Gearhouse** have announced the acquisition of two Perth and Adelaide franchise operations trading under the name Intercity Staging. The purchase follows release of Half Year Results showing a 55% increase in profit to December and an 82% increase in turnover. An additional 40 full-time staff have been employed in the eastern states, since the July takeover.

● **Wavelength Corporate Communications** has become part of Caribiner International, a business communications service provider

listed on the New York Stock Exchange. Some of Wavelength's services include conference management, product launches, multimedia, video & film production and award presentations. Caribiner International is a producer of meetings, events and training programs around the world. It is expected that the acquisition will give Caribiner a strategic position for expansion into the Asia Pacific region. Caribiner Wavelength is based in Sydney and has offices in Melbourne and Wellington New Zealand. T 02 9417 1677

● As of Monday the 28th of April 1997, **Edensound Productions** will no longer be situated at studio RBX in Richmond but will be operating from their new address at 180 Bank St, South Melbourne. They believe they have truly found paradise in the beautifully crafted sonically sound control room of the late great Studio One. Contact Martin Pullan on 03 9682 9066.

● **Musiclab** is moving to bigger and better premises (with car parking). The new address as of 10th March is: 12 Commercial Road, Fortitude Valley, QLD 4006.
T 07 3252 2188,
F 07 3252 7199.

● **Production Audio Services** has moved to larger premises in NSW. The new Sydney office is: 323 Pacific Hwy, Crows Nest NSW 2065. Phone numbers remain unchanged. National Sales Manager, John Musch's new mobile phone number is 0411 749 218.

● New Zealand company **Audio Video Wholesalers** main office is now located at 31 East Tamaki Road (1st Floor), Papatoetoe, Auckland.
T (+) 09 279 7206,
F (+) 09 2799 7146.
Email avw@avw.co.nz

● **Showtech Rigging** (Melb) would like it known that as of the 24th of March 1997 the first 4 digits of their mobile contact phone numbers will change. The new numbers are: Tiny Good - 0412 337 743
Truck Ashby - 0412 392 611

~PEOPLE~

● **Kevin Lacey** has been appointed as Manager of the Edit Suite at the Sydney Convention and Exhibition Centre. Mr Lacey has worked as an independent executive producer and director for 10 years. He has also had a long association with the AFTRS as a guest lecturer.

● **Alison** from Staging

Connections Publishing Pty Ltd ACN 058443182

All Mail to: P.O. Box 439, Epping NSW 2121 Australia

Our Office is at: Century Plaza, Level 2, 41 Rawson St, Epping, NSW. (Mon-Fri 8.30-5.30)

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Finances: Jenny Royal

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DIAL 1-800 635-514

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Publisher: Julius Grafton.
(Unrelated to 'Graftons Sound & Lighting')

Printed by: Maxwells

Film: Omnicon, Dulwich Hill

Newsagents Distribution:
Newsagent's Direct Distribution

**Music Store, Direct Outlet
Distribution: 50% disc. (Aust)**
Call us direct: 1-800-635-514

SCHEDULE/DEADLINES:
Published early each month, 11
months a year- except January.
**Deadline 15th, month prior. ie:
June 15th for July.**

SUBSCRIPTIONS

Free call: 1-800 635-514
or +61-2-9876-3530 from O/S

**AUSTRALIA: \$39.90, (12
months) or \$58 (2 years)**

NZ: NZ\$65,

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Rentals has left the firm and has been replaced by **Caroline Stewart** who will take over the role as front reception in charge of Dry Hires. **Christopher Hilditch** has joined the firm as a full-time staging technician.

● **Peter Grubb**, Director of System Sound and his partner **Robyn** are very proud parents of a healthy bouncing baby boy Oliver William who was welcomed in to this world on 15/3/97 weighing in at 3.2Kgs.

● **Emmanuel Ziino** managing director of Show Technology and **Gina Ziino**, Finance Director, have finally had the long awaited and slightly overdue daughter Isabella. Their first child. She was born during ENTECH, necessitating a fast dash from Melbourne by Emmanuel who was back in Melbourne the next day.

● **Andrew & Lisa Scott** (Andrew is a Sydney based Digital Audio consultant) also had an addition, their second child. Mitchell Keith Scott is a healthy baby boy.

● **Graham Rowlands** joins Electric Factory as National Manager - Audio Division. Graham was formally Operations Manager at Sound Rehearsal Studios in Melbourne. His previous experience includes tour and artist management. The new Division will concentrate on further developing Electric Factory's presence in the professional audio market.

● **David Lewis** has left Philips Lighting and has formed his own consultancy called "Scene the Light". T 02 9144 2562

● TDK has appointed **Brett Campbell** as National Business Manager - Commercial Products. He was previously a sales representative handling major accounts in Sydney's

west, Central Coast and Newcastle areas.

● It is with sadness that R&K Lighting notes the passing of one of its casual staff **Darren Giles** on April 9 1997 aged 21 years. Darren was new to the industry and showed great enthusiasm and talent. He started his career like many of us working on school productions. He had a great ability dealing with clients and getting the job done. Darren passed on under tragic circumstances and will be missed by the many people he came into contact with in his short but brilliant career.

● **Simon Garrett** has left Selecon NZ after many, many years as Australian sales manager. He is to work for Oceania and is happy to be back 'on the coalface' doing shows again. He was extremely well regarded by his customers, and by us here at Connections who will miss dealing with him. Good luck you little mongrel!

● **Tony Hambling** is the new Chairman of the AES Melbourne Section after the AGM at the end of April. Contact for the AES: (03) 9887-3765.

~PEOPLE~

● **Soon- Lighting Seminars** The Illuminating Engineering Society of Australia & New Zealand's upcoming technical meetings:

June 3 — *Night Zoo - Taronga Zoo Lighting*. Phil Dunesky.

July 1 — *Fluorescent Lamps, Past Present Future*. Anthony Papallo, Public Works Dept.

August 5 — *From switch panels to Full Building Automation in 10 years*. John Gunton, Dynalite.

For more information contact: T 02 9553 7881 or F 02 9553 8471.

● **Annual Theatre Party** One for the diary: planning for the second Barratt Bash get-together (in memory of

Roger Barratt) is under way and will be held from 11.00am on Sunday 15th June at The Joan Sutherland Studio, Opera Centre, Elizabeth Street, Surry Hills Sydney. This is an opportunity for everyone involved in all aspects of theatre to get together and catch up with theatre and industry people in a relaxed setting. Ticket price is \$40.00 per head includes wine and food. For catering purposes tickets have to be pre-paid.

Contact Christine Dunstan (02) 9552 3648 or David Kentish (02) 9439 8188 or Ian Baseby (02) 9906 6262. Correspondence to P.C. Box 873 Artarmon 2064.

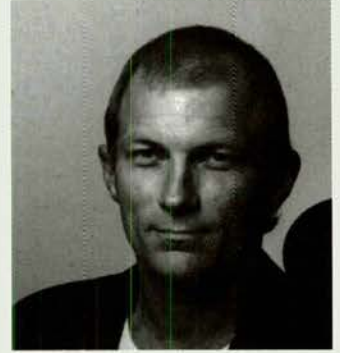
● In Western Australia **PROAV 97** will be held for two days at the Claremont Showgrounds, Claremont Pavilion and is a trade exhibition for the audio visual industries. Details: May 20 - 21 1997, Tuesday 10am - 8pm, Wednesday 10am - 5pm. T (09) 354 3185

● Award Bestowed **Dynalite** have been voted best new product by members of IAIE at the recent Lightshow Awards 1997 in London. The International Lighting Product Award recognises innovation and design achievement in the lighting product field. Dynalite were nominated for their Dimtek CE series of Dimmers which is software based providing user scene setting control from a touch screen. In a recent IES newsletter Managing Director of Dynalite, John Gunton said, 'Embedded control networks are not yet fully appreciated by many people as advances in the field have been rapid. The time has come for Dynalite to spread the word about the capabilities of our product range and the benefits of installing embedded control networks.'

Dynalite also have a web page: www.dynalite.com.au

Vale Denis Stokes

Hire Manager, Brisbane Sound



Denis Stokes died on April 12th after suffering a sudden aneurism at a gig in Brisbane. He was sitting listening to a band as he was a keen musician himself. His first beer turned into his last, and just 2 days later the life support was switched off.

Aged 43 Denis was survived by his wife Donna.

Denis worked for Nigel Line at Brisbane Sound for a good many years. He had a commitment to training, which is how I came to see him. He turned up at an Ausmusic function in Sydney, taught audio and computer skills at TAFE, and gave a lot of people the greatest gift you can give anyone in the industry - knowledge.

Denis grew Brisbane Sound consistently to the extent it now operates as a highly credible regional audio rental company, with Turbo Flashlight cabinets and a broad support inventory. Through his hard work the firm grew despite the close proximity of Australian Concert Productions, which is considerably larger and longer established.

Rest in peace Denis. -JG

News: Dan Cole, fax (02) 9876-5715, email mail@conpub.com.au

ENTECH 1997

That was the show that was

WHY ENTECH?

To best understand why the industry embraces ENTECH, you need to know that Australia and New Zealand are not like anywhere else. Stating the obvious perhaps, but being the most isolated markets on earth we need to be - and are - generally self sufficient.

As designers, technicians and operators we don't readily get invited to factory training sessions, because most of the technology we use comes from North of the equator. As residents in a market where entertainment is a bigger priority, we have more entertainment technology. And as our export markets grow we find ourselves exporting our expertise as well as our films, music and equipment.

ENTECH captured the notion of drawing together the often disparagated elements which are now recognised under the Entertainment Technology banner.

How an industry integrates

- Any Convention venue has an Audio Visual Department incorporating lighting, audio, staging and video.

- The Outside Broadcast technician deals with Live Audio as well as broadcast.

- Music technology and DJ technology are as close as music is to MIDI.

- Theatre today is increasingly built on automation.

- Show lighting is fast migrating outdoors as designers and architects discover the medium.

- Ethernet is poised to be the common carrier of most protocols.

- Corporate Theatre is the new career for more technicians than ever before as business marketing trends change.

Just some parts of the Entertainment Technology industry.



This is our warts and all full wrapup of the 1997 ENTECH Tradeshow, which attracted over 4,600 trade to the new Melbourne Exhibition Centre. Connections writers Jaqueline Molloy, Mandy Jones, Cat Forcer, Daniel Cole, Howard Jones and Julius Grafton circulated amongst the 100 exhibitors spread over space equal to several football fields to compile this report. And if an exhibitor said 'QUOTE ME', we did, because it's important to be honest! (The publishers of this mag own ENTECH) All pictures are by Marty Williams.

A&A AIBA are insurance brokers who operate an entertainment industry division. Ken Killen has headed the team for over a decade, and was on hand at ENTECH to advise all and sundry. He is very good at estimating the risks one could face which are in many cases insurable. He has probably prevailed in the industry because he doesn't twist arms or try to sell life insurance to people who don't ask for it! **JG**

Abbey Sound the Victorian based manufacturer had a good ENTECH, founder Ross Nichol showing me their range. Abbey make PA gear with the ASB-15 subwoofer on the stand producing extraordinary bass. Ross says the issue with any PA is to balance levels from the bass upwards, the AS-12 satellite box atop the ASB-15 sub produced the right amounts of mid and high. H/F is handled by a Motorola piezo de-

vice, Ross says the trick is balance and a brief listen confirms his system is worth of an audition. Abbey amps and products on stand were only joined by one foreign device, a Spirit Mixer. "I want an Abbey mixer too, and I don't care if I lose money building it" asserts Ross. **JG**

ABC TV Marketing had the neatest stand, really nicely designed. They are selling production expertise, and can rent you OB, film or video units, make sets, and offer costume hire and making. **JG**





a touch of excellence

DS-15	Frequency Response	45Hz - 20kHz
	Power Handling RMS	300W
	Programme Power	600W
	Sensitivity (1W/1M)	100dB SPL
	Nominal Impedance	8Ω
	Enclosure Material	Polypropylene

FACTOR 8	Frequency Response	45Hz - 20kHz
	Power Handling RMS	100W
	Programme Power	200W
	Sensitivity (1W/1M)	91dB SPL
	Nominal Impedance	8Ω
	Enclosure Material	Polypropylene



FACTOR 12	Frequency Response	35Hz - 20kHz
	Power Handling RMS	200W
	Programme Power	400W
	Sensitivity (1W/1M)	94dB SPL
	Nominal Impedance	8Ω
	Enclosure Material	Polypropylene

FACTOR 5	Frequency Response	70Hz - 20kHz
	Power Handling RMS	80W
	Programme Power	160W
	Sensitivity (1W/1M)	90dB SPL
	Nominal Impedance	4Ω
	Enclosure Material	Polypropylene



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Magna Systems & Engineering

A trading division of Silklore P/L. ACN 004 904 997

Unit 2/28 Smith St., Chatswood, NSW 2067. Phone: (02) 9417 1111 Fax: (02) 9417 2394

Write in Reader Service Number: 144



This quality line-up is just part of the great new range of powered and non-powered mixers from Inter-M. Featured here from left: the CA8220 8/6 ch. 200w + 200w rack mount mixer; the CMX 2464 24 ch. 4 bus; the CMX 1642 16 ch. 2 bus CMX series mixers; the PC 1225 12 ch. 250w + 250w power mixer with digital sound processor; and the MX 1242 12 ch. rack mount mixer.

Quality-Mix

interM

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Write in Reader Service Number: 143

THE 1997 ENTECH AWARDS - WINNERS!

The first ENTECH Awards were held in a film studio in Sydney before 200 people. Last year 300 people (a sellout) sat down for dinner at the Metro in Sydney. And on Thursday April 24th, 400 people (another sellout) were at the PLAZA ballroom in Collins street for the 1997 ENTECH Awards.

The surroundings were plush and you had to duck outside for a gasper. The night kicked off with Lisa Edwards, and John Blackman had some cute industry jokes lined up.

But on with the Awards -

There were 3 sections to the 1997 ENTECH AWARDS.

First is the CLASSIC or MOST POPULAR PRODUCTS section, which were the subject of voting by readers of Connections Magazine and Sound Australasia magazine.

Nominations were first received from manufacturers and distributors, who provided end user references. This created a lot of paperwork, so if you gave a reference we thank you!

Readers voted for the winners on forms in a recent issue of Connections and also in Sound magazine, the voting forms were returned as originals. No copies or faxes were accepted. The votes totalled 937, and were verified by the returning officer, accountant Bruce Rowland.

Most Popular 'CLASSIC' Products :

1. Most popular Moving Light Enhanced: Cyberlight ; by High End Systems. Distributed by TechScape.
2. Most popular Microphone: SM 58 ; by Shure Distributed by Jands.
3. Most popular Mixing console: XL 3 ; by Midas Distributed by Electro Voice International, (Australia).
4. Most popular Moving Light; Compact Roboscan 812: by Martin, Distributed by Show Technology.
5. Most popular Amplifier: Powerlight 1.8, by QSC Distributed by AR Audio Engineering
6. Most popular Luminaire: Performer MSR 1200 followspot by



The ENTECH Awards - before they started 400 people eating and drinking and



It's John Blackman, Awards MC, with Greg Simmons from Sound Australasia magazine



Patrick Woodroffe (right) announces Lighting Designer of the Year awards

EXHIBIT WRAP

AC Lighting. Alex Cross, Australia's representative for AC Lighting, always seemed to be busy. So much so, that I was never able to talk to him at Entech. I guess the show must have gone well for him. He had an impressive little display of Chroma-Q DMX colour changers con-

tinually doing just that as well as a Wholehog 11. **CF**

Acoustic Technologies from Brisbane were glowing in the aftermath of the ENTECH Awards, where they took the prestigious Best New Sound Reinforcement Product award for their compact FRO-1 speaker cabinet. This 12" & horn box is heavily user endorsed and already is installed in a LOT of sites. AT had their latest SR offering, the FRO-8 on show, with amplifiers and speakers being their entire thrust these days. AT have been around for a very long time and now focus on core business, which includes looking for distributors outside home turf. New is their website, at www.acoustic-tech.com.au, which is very good in my view. Sometime soon AT should/could start exporting. **HJ**

Acoustisearch represent Bag End, the USA makers of very smooth looking and sounding speaker systems. They recently installed a Bag End ELF subwoofer system in Soundfirm, which is Australia's largest post production house. Acoustisearch also represent Jensen transformers and Harrison consoles. **JG**

Active Lighting. For Tim Hall and Peter Hough of Active Lighting, ENTECH was a good opportunity to catch up with contacts and clients. Their stand was simple and welcoming. "We've been happy with our stand - we've had a lot of people through. We decided to keep the stand pretty simple - a few show pictures, a bit of truss, a rack. The posters have worked well because people get to see what we've

Is this your microphone?



CK 77-3 Miniature lapel microphone
Winner of 1995 Austrian Chamber of Commerce Merkur Award

Maybe it's this...



C 391B Studio microphone from modular Blue Line series

C 3000 Studio microphone.
Winner, 1996 ENTECH Award for
Technical Brilliance



or this?

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microphone system

...either of these?

D 230 Omni interview
microphone



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Most Popular Products

Selecon, Distributed by Selecon

7. Most popular Studio Monitor:
SCM 100A, by ATC Distributed by AR
Audio Engineering

8. Most popular Recording Product:
Pro Tools by DigiDesign distributed by
AVID Technology

9. Most popular Lighting control prod-
uct: Event range of lighting consoles by
Jands Distributed by Jands

10. Most popular Audio product
EQ 60 by ARX Distributed by ARX

11. Most popular Loudspeaker
SX 200 by Mark IV Audio Distributed
by EVI (Australia)

12. Most popular Lighting effect
Dataflash by High End Systems Distrib-
uted by TechScape

13. Most popular Lighting product
HP 12 dimmer by Jands Distributed by
Jands

14. Most popular DJ product
MC 303 Groove Box by Roland distrib-
uted by Roland

EXHIBIT WRAP

done before and the kinds of things we
can do. A lot of our existing hire clients
have dropped in and said hello so its
good for them to see we're still here and
involved. Even if they're just picking up
the latest price list its good that we're
here. Active also supplied all the lighting
for the ENTECH Awards Diner. **MJ**

Alcatel showed the Easy-in-Line acces-
sory series which comprises a range of
XLR barrels containing attenuators, RFI
suppressors and a phantom power tester.
The well known 'Jaws' series will now
accept cable sizes up to 8mm as standard
on 4-8 pin XLR connectors and as an
option on 3 pin connectors. Also, they
announced that all XLR connectors are
optionally available with machined pins.
A quote: "... number of people coming
through has been quite pleasing..." **HJ**

Altronic Distributors are
headquartered in Perth, but have quite a
network which includes a Victorian of-
fice. They build REDBACK brand public
address equipment, (amps, amp mixers,
etc) which in an interesting twist takes
the sting OUT of buying PA! (That's a
Connections journalist joke, don't choke
laughing, folks!) Seriously, their Mipro
wireless megahorn is a new twist, put

the megahorn bit up somewhere and use
the supplied wireless mic to do the talk-
ing. Retail: \$850. Their wireless VHF di-
versity system costs a very keen \$900
too. Their main man was very happy to
see me, "excellent, very good show for
networking, etc". **HJ**

Amber Technology were displaying
Dynaudio studio monitors for the first
time, a range which includes powered
monitors (the current trend) and which
has a good reputation worldwide. The
OTARI PD 80 hard disk recorder was
attracting a lot of attention, Essentially
a stand alone system, it is targeted at
audio editing for video and radio station
use. It will lock in a VTR, has a neat
dedicated control panel, and does 8 ana-
logue or digital inputs. Also new - the
NEAR range of waterproof speaker en-
closures for contractors. Neutrik had
some smart tools on show, the NC 10 is
a precision sound level meter and room
reverb analyser. Finally Neutrik have the
smallest 20amp mains connector I've
seen, the Power Con looks not unlike a
Speakon, but of course is different to
avoid your speakers getting a 240 volt
enema! **JG**

American DJ. Rick Chisholm said the
response to American DJ products was
overwhelming and he insisted that any-



MAJOR TRADE SHOWS

- **Pro AV**, May 20, 21, Perth. Call (09) 377-3988.
- **MIDEM Asia** May 23-25, Hong Kong. Call +33 01 41 904-439
- **Music Instruments & Dance Tech '97**. May 23-25, Singapore.
Call +65 337-5574
- **PALM CHINA '96**, 25 - 28 May, Beijing. Call +65 227-0688.
- **SHOWtech**, 3-5 June, Berlin, Germany. Call +44 171 486-1951
- **REPLItech Int**, 3-5 June, San Jose, USA. Fax +1 914-328-2020
- **INFOCOMM**, June 5 - 7, LA Convention Centre. +1 703 273-7200
- **NIGHTWAVE '97**. June 7 - 10, Rimini, Italy. +39 541 711-249.
- **AES 8th Regional, Japan** June 25-27, Tokyo. Call +81 45939-7009
- **Exposhow & Pro Audio '97**, June 24-27, St Petersburg Russia.
Call + 7 812 325 6245.

- **SMPTE**, Sydney Exhibition Centre. July 1 - 4. Call (02) 9977-0888
- **PALA '97**. July 14-16, Singapore WTC. +65 227-0688
- **PLASA 1997**. Sept 7-10th, London. Call +44 323 410-335
- **AIMS '97**. Aust Int Music Show.

NOTE NEW DATES Sept. 19-22. Ph (03) 9867-4222

- **AES 103rd**. Sept 26-29, New York. Fax +1 212 682-0477.
- **LDI '97** October 24-26, Las Vegas. Ph. +1 212 229-2965
- **REPLItech Asia, new dates**: H K, Nov 5-7 Fax +1 914-328-2020
- **Vision & Audio '97**, Nov. 4-6, Earls Court, London.
- **ENTECH 1998**, April 23-25, Sydney. Fax + 61 2 9876-5715
- **AES 104th**, May 16-19, 1998. Amsterdam. Fax +1 212 682-0477.
- **AES 105th**, Sept 26-29, 1998. San Francisco. Fax +1 212 682-0477.



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We saw new ideas, better exhibits, effective communication and most importantly - enthusiasm and commitment from everyone.

We are now deep in planning the 1998 ENTECH, which returns to the Sydney Exhibition Centre next April. At this time we are surveying and discussing ENTECH with all our exhibitors - our customers. If you attended Melbourne, or any of the previous ENTECH trade shows in Sydney, we would like your suggestions too, because you are also our valued customers.

Some of our events include SEMINARS • CONFERENCES • TRADE PROMOTIONS • TECHNICAL TOURS • SOCIAL EVENTS • PRODUCT DEMONSTRATIONS • AWARDS • AND MORE!

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Projection for the Performing Arts

By Graham Walne.

Written in non-technical language and lavishly illustrated, this book gives a brief historical overview of early projection attempts, then goes on to look at equipment and the planning and design of every kind of live performance, both inside and outdoors. 139 pages, 1995.

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Sound Reinforcement Handbook

Written for Yamaha by Gary Davis & Ralph Jones, this handbook provides a useful reference for those wishing to learn about the basics of sound reinforcement. Presented in an easy-to-read format with clear diagrams and an index, this manual is a must for anyone working to bring better sound and music to the world. 412 pages, 1989.

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Practical Studio Techniques (with CD)

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A book full of practical recording information for anyone interested in studio audio. Includes CD, a practical demonstration of a complete studio mixdown session including setting up effects; uses of the compressor; gating of sound; various types of equalisation; selecting reverb settings and much more. 102 pages, 1994.

SORRY NO SUBSCRIBER DISCOUNT ON THIS ITEM

The Best of Duncan Fry

\$11

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Connections Magazine popular columnist Duncan Fry chronicles his road stories, including some XXX rated, never before published! Dunk writes about life at the gig, after gig, and nowhere near the gig - it is sometimes a chronicle of the world through his eyes. Duncan ran his own PA and Lighting rigs through the 'golden era' of the Australian Rock Industry. Today he is co-owner of ARX, the Australian PA equipment manufacturers. 100 pgs, 1995.

SORRY NO SUBSCRIBER DISCOUNT ON THIS ITEM

\$35

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Sound & Music for Theatre

By Kaye & LeBrecht.

This book is for anyone interested in creative sound and traces the complete process of sound design from the original concept through to the finished plan. It covers development, research, cues, recording and various techniques. Also included is a director's and playwright's forum where they express their views on sound, design and its impact in today's theatre. 196 pgs, 1992.

SORRY NO SUBSCRIBER DISCOUNT ON THIS ITEM



Music Business

By Shane Simpson & Colin Seeger.

A book about the business side of the Australian music industry by two top industry lawyers and deal makers. Shows how and why things are done as they are in the industry & what to watch out for in negotiating deals. A comprehensive guide for both the novice and the industry professional. 496 pgs, 1994.

SORRY NO SUBSCRIBER DISCOUNT ON THIS ITEM



Concert Lighting

By James Moody.

This hardcover informative book places special emphasis on rock and roll concert lighting equipment and techniques. Of particular interest for the touring professional lighting technician and designer it covers every aspect including the design stage, cuing the music, road safety, equipment designed to travel and practical examples of techniques. 191 pgs, 1989.

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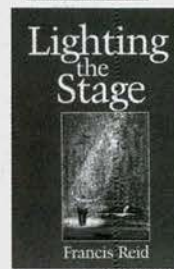


Revolutionary fully interactive CD-Rom Disc featuring tests of 66 popular & classical mics with 33 different instruments. Includes: Specs with frequency response diagrams and polar patterns; audio samples of selected mics and instruments; directory of mic manufacturing and list of current models. Works on Mac or PC including Win 95. An excellent tool for students and professionals.

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Lighting The Stage

Written in an informal style, Francis Reid draws on his many years experience as a world renowned lighting designer and teacher to pass on tips and pointers which will interest and stimulate all those concerned with using designed light on stage. Ideal for directors, choreographers, set designers, costume designers, stage managers and specialist technicians. 114 pages, 1995.

SORRY NO SUBSCRIBER DISCOUNT ON THIS ITEM

\$45

SAVE \$10
normally \$55

Out of print, last copies



Lighting by Design

By Fitt & Thornley.

A full technical guide to the basic theory and practice of lighting for practitioners of lighting in the entertainment industry, including stage, film, television and still photography. Included is a thorough coverage of equipment and a look at design requirements, writing specifications, awarding contracts and purchasing of equipment. Emphasis has been placed on safety and its current legislation. 321 pgs, 1992.

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NEW PRODUCTS AWARDS

This is the second section of the 1997 Awards, and the most prestigious as it reflects new products as opposed to classic or established products.

New products are chosen from nominated entertainment technology devices released onto the Australasian market during 1996.

These products were nominated by manufacturers and distributors, and assessed by a voting academy which included journalists and users.

Choosing the following winning products is not an exact science and the winning products are not necessarily marketplace leaders.

We are keen to add genuine pro users onto our voting panel for next years awards. Please call Nicole (02) 9876-3530.

1. Best new AV / Video product

V1 Random access video recorder / player by DRM. Distributed by Syncrotech Systems Design • Reason for winning: An innovative hard disk recorder

2. Best new Pro Audio product

Media Matrix Mini Frame by Peavey Architectural Acoustics. Distributed by Audio Telex • Reason for winning: Finding considerable favour with contractors and consultants.

3. Best new Sound Reinforcement Product

FRO-1 speaker cabinet by Acoustic Technologies. • Reason for winning: heavily user endorsed.

4. Best new recording product

VS-880 digital studio workstation, by Roland. • Reason for winning: takes the 'all in one box' concept a step further

5. Best new Lighting Product

Studio Colour automated wash luminaire by High End Systems. Distributed by TechScape. • Reason for winning: The first of the next generation of robotic lighting.

6. Best new Lighting Control product

Obsession ML Lighting console by ETC. Distributed by Jands • Reason for winning: A departure from conventional operating systems

7. Best new Lighting Effects Product

Hydrasonic 2000 by JEM. Distributed by Show Technology Australia • Reason for winning: Innovative technology.

body in Australia who hadn't heard of them, sure would have by now. He was on the look out for dealers and it looks like he secured some. The most popular items were the Extreme intelligent lighting fixture, the Fog Hog smoke machine and the Mini Gem. CF

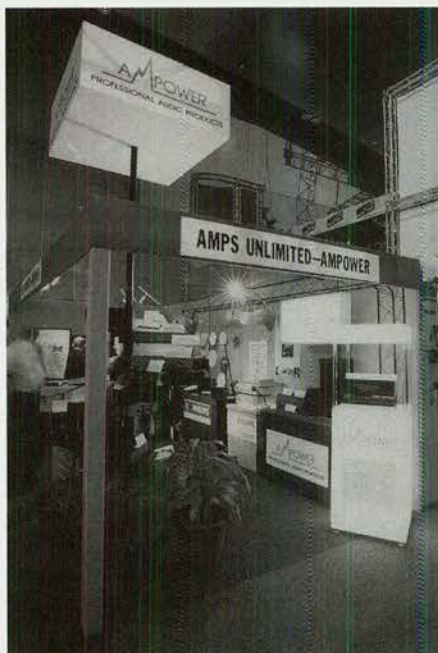
Amps Unlimited announced the release of the very interesting Muzicom background music system at ENTECH. This is a PC based hard disk waveform system which can handle up to 8 different zones each with 8 different sets of material. Special events can be pre-programmed for set times. It uses MO discs running on a Zip drive to upload music tracks provided by Ampower and licensed by ARIA. The software provides extensive music selections by mood or style. Designer Trevor McDonald makes hard disk replay systems for Juke Boxes, so the software is tried and proven. Ampower also has their growing range of Aussie made amps and amp/mixers on hand, with Philips P.A. range filling out their offerings. The firm is now a 'whole line' audio contractor supplier. HJ

Apogee Sound had a large commitment, sharing a stand with fellow Californian's Total Fabrications. Apogee president Jim Sides headed the team, with distributors Graeme McGeorge and John Monty of ESA Audio on hand. Apogee have had huge success in Japan recently, and are looking to build on an already respectable presence in Australia. They showed the new AmpNetx amplifier control software, which allows your PC to monitor the system. Apogee also offer digitally controlled amplifiers, and have a new D-1 digital loudspeaker controller. New in

the loudspeaker dept are the AE-7 concert loudspeaker and sub, and the ACS (Apogee Contractor Series) has an enclosure for smaller to mid sized jobs. JG

AR Audio Engineering had an interesting product - QSC's RAVE which stands for Routing Audio Via Ethernet. This created great interest because it allows you to convert up to 64 channels of analogue audio into digital audio, and then 'squirt' it down your bog standard (100 base TX) Ethernet cable! Now Ethernet is as common as anything and dirt cheap to wire up. The QSC system includes analogue ion and analogue out models, and importantly offers 'full bandwidth'. One small consideration - at this time there is a tradeoff for all this, and the tradeoff is a slight delay, notably 7.6ms fixed. It wouldn't worry me. QSC also had monster PowerLight amps on show, winning Most Popular Amplifier at the ENTECH Awards with the Powerlight 1.8. AHB products included the DR1-2-8 12 in / 8 out audio (everything possible) processor, and the WZ 16:2 mixer - designed to take on Mackie. New Martin PA cabinets and all AR Audio's staple products completed a good display. JG

ARX featured their universal 'international' stand look, with almost their entire product range on show. The Quadcomp II has super accurate meters, showing more graduations - 6 led's instead of 4. The DI-4 is new, as were the little Ambience contractor speakers. "We import them from Korea but load them here" said Duncan Fry, "for quality control - and they have a nice real crossover on a circuit board, not just a capacitor



PEOPLE AND INSTITUTION AWARDS

These awards honour technical brilliance and achievements during the past year, these awards are given to people and companies active in the Australian market and based here.

The winners were nominated by industry professionals, by end users, by practitioners. We also called for nominations from readers of Connections and Sound Australasia magazines.

The winners were chosen by a voting academy which included journalists and end users. We are keen to add genuine pro users onto our voting panel for next years awards. Please call Nicole (02) 9876-3530.

1. Lighting Designer of the year Film/TV:

Joanne Donahoe for Frontline
Joanne has been Lighting and 2nd Camera on all three series of the ABC's acclaimed series 'Frontline'. She has worked on other projects with the creative team behind Frontline, including 'Funky Squad' and the new Australian Film 'The Castle'. On 'Frontline', Joanne is in charge of lighting from pre-production and design, right through to post-production.

2. Lighting Designer of the year Stage/Concert :

David Murray for the Puccini Spectacular. David is one of this country's most respected lighting designers having worked for many of the major theatre, ballet and opera companies. Last year he had the difficult task of lighting the Puccini Spectacular in the round, a challenge he succeeded in.

3. Live Sound Engineer:

Angus Davidson for Crowded House Live at the Opera House. Angus' career spans many years both in Australia and abroad. He co-designed and built Sing Sing recording studios in Melbourne but this Award is for his live work, in particular Crowded House's Farewell to the World Concert held on the forecourt of Sydney's Opera House.

4. Sound Editor Film:

Julius Chan. A dedicated, clever all rounder, who is passionate about technology. He has a good rapport with directors and actors, works well in a team, and is well organised.



on the horn. I can't believe how many we've sold!" Ambience comes in two sizes to date, and with a transformer version. ARX also won the Most Popular Audio product award for the EQ-60. **JG**

Audio Telex were riding the Peavey AA boom train with Media Matrix a popular demo. The Media Matrix Mini Mainframe won 'best new audio product' at the ENTECH awards. Audio Telex have expanded their product mix carefully in recent years, with handy audio tools from Oxmoor - and expansions to the Symetrix, Sabine, Auditel and Switchcraft lines. Peavey AA filled out the products Audio Telex offer, where the firm is traditionally strong in wireless and contractor products like its own amplifier range (built in Sydney), Peavey added microphones, mixers and larger speaker enclosures. All are eclipsed however by Media Matrix which has found favour with many leading consultants and as such is now installed in a lot of major projects. **JG**

Audiology is a new distributor, Bruce Fozzard was a rep with Mark IV Audio before it became E.V.I. and he now represents the Danish firm MACH in Australia. Mach is a subsidiary of Martin, the lighting manufacturer. They make speaker cabinets, ranging from a little 4" with soft dome tweeter installation model, through 12" and 15" 3 way boxes to dual 12", 15" and 18" models. MACH also took part in the PA Crescendo which happened when the show

closed each day at 6pm. **JG**

Australian Audio Supplies had a busy show, and now present a broad portfolio headed of course by Mackie. The Mackie Nerd Kit given to media and dealers was a big hit, it is a plastic pocket liner loaded with a nerd comb, a screwdriver (cheap), pen marked as if from Greg Mackie's desk, and a pencil. Included is a "cheap screwdriver, which will probably break the first time you use it". The nail file is a fitting conclusion, "Sleazy Sam's - grind us for a great deal on crummy stuff". Aside from the ever expanding range of Mackie consoles, new Mackie HR 824 active nearfield monitors created considerable interest. The stand also featured CAD microphones, a working Spectral Audio Prisma workstation display, and AAS's latest line, Omnix studio furniture. **JG**

Australian Monitor had some new offerings, Stuart McLearn and Angela Kobeck were on hand to do the honours. New - Opal Monitor, the S1-A and S2-A. LM Stage Systems feature JBL drivers, and the Pyramid Satellite speaker system has just been installed in huge numbers in Crown Casino just across the road



M-1400 AMPLIFIER • SR SERIES MIXERS • SR40•8 LARGE FORMAT CONSOLE



MACKIE DESIGNS SETS NEW STANDARDS IN PROFESSIONAL SOUND REINFORCEMENT VALUE...

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SR24•8 AND SR32•4

MORE HEADROOM • BETTER PREAMPS • 60MM FADERS
GREAT EQ • LOW CUT FILTER • VLZ CIRCUITRY
SR24•4 \$3995 RRP • SR32•4 \$4995 RRP

If you don't have a good mixer, you don't have good sound. The mixer is the absolute centre of your sound universe. Everything is plugged into it. Everything goes through it. Its sound quality is an indelible part of anything you record, mix down and perform.

Whether it's an acoustic set at a local club, a huge concert, the best possible mix at next Sunday's worship service, or a self-produced album, your work deserves the finest mixer that you can afford.

That's where Mackie Designs comes in. Our mixers deliver impeccable sound quality, without costing an arm or a leg...or an ear. That combination - plus a reputation for making rugged, bulletproof gear - has made Mackie the overwhelming choice of professional worldwide.

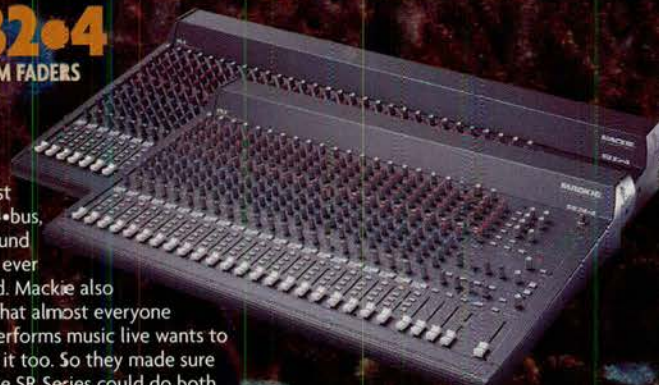
Mackie designed the SR24•4 and SR32•4 mixing consoles to be

the best value 4-bus, live-sound mixers ever offered. Mackie also knew that almost everyone who performs music live wants to record it too. So they made sure that the SR Series could do both equally well.

Once you've weighed all your options, you'll choose a Mackie SR24•4 or SR32•4. And when you find yourself sporting your new board at gigs and in your home studio, or your church, community centre, or wherever, you'll be glad you made it a Mackie.

The SR24•4 and SR32•4 include the following features:
Ultra-Compact 4-Bus Design • EQ:

Swept Mid (100Hz - 8 kHz); 2kHz Hi Shelving; 80Hz Low Shelving • Low Cut Filter @ 75Hz • High Headroom Microphone Preamps • AFL/PFL • 6 Separate Aux Sends Per Channel • Channel Mutes • Channel Solo • Tape assign to Monitor or L/R mix switch • Double bussing to feed 8 tracks at once • 60mm Faders • Global Phantom Power • Balanced XLR and 1/4" Main Outputs • PCA Tape Inputs and Outputs



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ULTRAMUTE™ MUTE SECTION

Both the SR40•8 and SR56•8 feature UltraMute, a computerised group muting system that stores and recalls the particular mute states of the console. UltraMute encompasses all mic inputs and stereo inputs A1-A4, as well as aux, sub and matrix outputs. In Group mode you can assign inputs to a mute group and turn that group on and off at any time, and you can mute multiple groups simultaneously.

Snapshot mode comes in handy for things like plays, musicals, corporate presentations, etc. Since these events are scripted (planned in advance), in Snapshot mode you can store a sequence of mute groups which correspond to scenes, dialog or other cues during an event and recall them in that order.

The world's first affordable large-format live sound mixers!

With features normally found on \$60,000+ mixers, Mackie Designs' new SR40•8 and SR56•8 large-format, centre-master-section mixing consoles break the high-feature/high-price barrier. From elaborate EQ and routing flexibility to group muting and a built-in matrix mixer, these no-compromise consoles are loaded.

How can Mackie offer these feature-packed mixing consoles at such unheard-of prices? Because

they specialise in mixers - not pianos, motorcycles, powered water skis and mixers. Their investment in modern world-class manufacturing technologies, including radial, axial and surface-mount parts insertion machines, keeps their manufacturing costs low. These consoles are equally at home as the prime front of house mixer in an auditorium, church or other large venue.

Call (043) 291 711 for detailed information and the location of your nearest Authorised Mackie Dealer.

M-1400 FR SERIES AMPLIFIER

- 1400 WATTS, 4 OHMS BRIDGED
- 700 + 700 WATTS INTO 2 OHMS
- CONSTANT GRADIENT T-DESIGN COOLING
- BUILT-IN SWEEPABLE CONSTANT DIRECTIVITY HORN COMPENSATION
- SWEEPABLE HIGH PASS FILTER
- BUILT-IN SWEEPABLE LOW-PASS SUBWOOFER CROSSOVER
- \$1495 RRP

There were good mixers around before Mackie started making them. They just cost too much. Until now a really good reliable amp was by definition expensive. Just as Mackie's mixers redefined the mixer market by combining high performance and great value, Mackie's FR Series amplifiers set a new benchmark for sound reinforcement amplifier value. In terms of specs, features, durability and build quality the M-1400 is a "money is no object" amplifier. Yet in terms of "watts per dollar" it is far better value than comparably priced stripped down models.



The FR Series Engineering Team is supervised by Greg Mackie and headed by Cal Perkins. Cal has definitely written his share of modern amplifier history. He received a degree in electrical engineering at CalPoly. After a stint at JBL, where he specialised in 'blowing up speakers', Cal went on to design and build amps for Marantz, amps and powered mixers for Fender, and contributed to what eventually became Ramsa's line highly respected contractor amps. Cal went back to JBL and helped develop their EON™ line.

Compare the feature set, compare the specs, compare the price, but most of all, let your ears be the guide. You'll pick the Mackie FR Series amplifier.



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PEOPLE & INSTITUTION AWARDS

5. Sound Mixer Film:

Roger Savage for *Romeo & Juliet*
Roger has defined the industry. He is a guru. At his studio, Soundfirm in Melbourne, he has mixed Babe, Romeo and Juliet, Muriel's Wedding, Strictly Ballroom, and many others.

6. Sound/Location Recordist :

Guntis Sics for *Children of the Revolution*. Meticulous, thorough, and always gets good sound. Guntis has worked on *Children of the Revolution*, *Babe*, and *Priscilla*.

7. Film Sound Designer:

Gareth Vanderhope for *Romeo & Juliet Only 27*, Gareth has already designed the sound for *Shine*, *Romeo and Juliet*, and *Dark City*. The boy wonder spends his spare time recording water, birds, and wind. He takes lions roars and galahs calls, and turns them into eerie atmospherics.

8. Outstanding Music Technologist: *John Roy*

Working from his home studio on the NSW Central Coast, John Roy represents the new wave in audio, where MIDI and digital technology, used PROPERLY deliver the goods. He is a gun for hire, a freelancer who is comfortable with music technology. JR makes radio advertising, records with well known session musos and acts as a high tech audio software installation consultant

9. Best Live Production Manager:

Geoff Cobham for the Adelaide Festival. Geoff has worked extensively in theatre and has also been Production Manager for the Sydney Festival. Last year he worked tirelessly to make the Adelaide Festival the success it was.

10. Road Warrior of the Year:

Arthur Allayialis. (Sydney) Almost since the dawn of time Arthur and his truck have plied the byways of Australia, delivering sound, lighting and staging to anyone who pays. In recent years he has worked almost exclusively with The Enormous Horns.

11. Best AV Tech.

Matthew Kenny of *Wavelength* (Syd) Matthew is keen, willing, knowledgeable and down to earth. He is one of the army of multi tasking technicians who today draw on lighting, audio, video, staging and computer skills to perform their tasks. Matthew typifies the Entertainment Technology Technician.

ently Stuart and Angela were approached at the AES show in Melbourne last year and won the Crown contract as a consequence. Finally the AM 3002 monster amp was on show. **JG**

Australis are one of the top five distributors to the M.I. market, via possibly the strongest dealer network across Australia and New Zealand. They handle Peavey products (except Peavey AA) and Akai, which are pro audio targeted. New for Peavey is the Impulse range of compact PA enclosures which give Peavey an answer to the JBL Eon range. Impulse have Speakon and 6.5mm connectors, and dual Sound Guard high frequency protection which protects the high-end from thermal overload and amplifier clipping. Peavey are probably the market leaders in MI PA products locally. Akai professional is the other main brand in the Australis Pro Division, the new DD8 digital dubber was popular with a major film sound facility poised to buy several when I visited the stand. Akai have a powerful range of hard disk recorders and editors. **JG**

AWA Distribution showed the HHB range for the first time since recently acquiring distribution rights. Alistair Dewar was keen to point out that the HHB PortaDAT TC (Time Code) product will be exclusively handled by ASC in Sydney, but the standard HHB PortaDAT and all other HHB products (including the Genex 8 track m/o recorder, the Pioneer 96kHz DAT, and all the media) are now distributed exclusively by AWA. This sits very neatly with AWA's range, including Denon (con-



Apogee Sound and fellow Californian's Total Fabrications shared an impressive stand

sumer and pro products like MD recorder/players); TOA contractor products, and AKG microphones. AWA are enjoying something of a product led renaissance of late, and have expanded their team to service the business. **JG**

Behringer was the reason Music Link had a stand, "to get the message across - that the problem is price" said Ian Flowers. The price is too cheap, and so people are wary of Behringer according to new Music Link product support person Sid Shukla. An example - the MX 2004 16 channel mixer retails at \$999, and it's fully featured. The Feedback Destroyer has 24 variable filters and interfaces with your PC - all for \$499 Sid was in agony explaining and demonstrating the features and the build integrity - price is definitely NOT the problem! **JG**

Beko Raks are European manufacturers of media - blank tapes, CD's and electrical goods. They made their ENTECH debut to promote various media products like DAT tapes, cassettes and VHS tapes.

BOSE had an impressive stand which featured Crown amplifiers and mi-

Australian Audic Supplies



EASY SOLUTIONS

BOSE 151™ ENVIRONMENTAL SPEAKERS A Contractor Story

The Whether About The Weather...

You don't think about environmental speakers until you get a brief where the need for weatherproofed speakers is obvious. Then you worry about whether they really ARE up to the weather. Getting the product choice right is usually restricted to convincing the client that the brand is right, and then worrying about the logistics. Outdoors or indoors, architectural or environmental acoustics (or just plain distributed background sound systems) is mostly about specifying an inconspicuous speaker and then working out the cable and amplifier details. You are also banking big time on the ability of the speakers to handle the elements. Because you don't want to go back to the site ever again (unless they decide to buy some extra equipment!) But when it's all up and ready, how will it actually SOUND?

The Story Of A Routine Installation

Perta AudioVisual (owned by Peter Blewitt) got a call from Waldecks Nursery in Kingsley. They already had a public address system which also ran background music but needed to expand it, and of course the speakers were all either outdoors directly in the elements or subject to a daily watering from the sprinkler system.

Brendon McDiarmid recommended replacing the existing speakers and in adding extra models, the Bose 151 was the chosen type. The client recognised the brand, the job was done. Perta AudioVisual did the work, and the customer switched on the system.

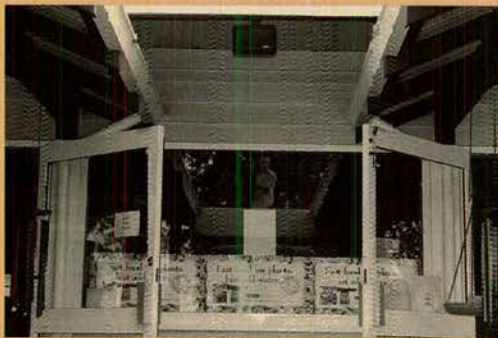


The 151

There's not a lot to know, except that the 151 is tough. It sailed through the Salt Fog Test and lasted 66% longer than the Marine Industry Standard. Bose tested the 151 and rate it to resist snow, rain, salt water and temperature extremes. The 151 is a full frequency, full range environmental loudspeaker system. It features a 4.5" proprietary Bose driver with a Kevlar composite cone with silicone coated surround.

Size: 155 x 231 x 150mm (6.1" high x 9.1" wide x 5.9" deep). Weight: 1.8kg.

Compatibility: use with any amplifier that produces 10 to 80 watts per channel, rated at 4 to 8 ohms.



Not Such A Routine Outcome

"They were really impressed, and so were we" said Brendon. Because the system ran to full frequency response. All the bass was still there, despite the Bose 151's being matched to 100v line transformers. The customer was in the perfect position to judge system performance, having had the previous system on site for some time.

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PEOPLE & INSTITUTION AWARDS 1997

12. Lighting Design Architectural/Theming : *Roger Foley* for Sega World. Most of us know Roger who has just completed the mammoth task of lighting Sydney's latest attraction - Sega World. On a limited budget, Roger used his true ingenuity to produce an environment that's out-of-this-world. Roger was one of the founders of the psychedelic lighting industry in Sydney in the late 1960's.

13. Lighting Design Club/Installation: *Con Biviano* for Metropolis Concert Club. A well known face in the industry, Con designed the lighting for Metropolis with JB Lighting, Abstract and Le Maitre products. Metropolis is Australia's newest purpose built music venue, with a capacity of 5000. It is located in Northbridge, West Australia.

14. Audio Design Installation: *Rutledge Engineering*. For their work as Audio Visual consultants responsible for the design of BHP's facilities at their new Global Leadership training and conference centre, a contract worth \$1,200,000. The award is also for several of the audio visual packages at the new Melbourne Casino Complex, totalling over \$6,200,000. For example, the elaborate Atrium Special Effects Show has a spectacular audio component including 112 loudspeakers driven by a media matrix system, supplied and installed by Rutledge Engineering.

15. Audio Design Theatre/Stage: *Peter Ratcliffe* for Beauty & The Beast. Peter Ratcliffe has designed audio for many productions, corporate theatre events and large scale concerts. He is the audio director at Jands Production Services, the largest audio rental firm in the southern hemisphere. Peter wins this award for sound design for Beauty and the Beast, the Australian production staged in Melbourne and now Sydney.

16. Best Corporate Staging Company *Austage Sydney*. Austage is dedicated to excellence and service in the design and management of presentation technology. They aim to ensure the success of any conference, product launch, roadshow or special event, where ever it may be held.

17. Best Recording Studio: *Sony Music Studios*



Apparaphones, and extensive Auditor demonstrations. In a clever move Bose also had a stand close by just inside the entrance to the Venue Management Association trade show hall, run alongside ENTECH. Venue Managers could then traipse a very short distance to the Main Stand 'Mother ship' and experience the demo. Auditor is an extremely powerful tool causing much heartburn amongst other distributors. It allows Bose to demonstrate different configurations of speakers within a proposed project from anywhere inside. So an arena manager can hear the sound in row X, or what it sound like on the field. Kurt Wagner from Bose was on hand to handle dealer inquiries, for Bose are working hard with dealers to utilise Auditor across the region. Crown had the new K2 amps on show, and announced a major sale to Mick Privitera's Australian Concert Productions at ENTECH. **JG**

Bytecraft See report in Lighting, p 74

C.M.I. Australia are a large distributor in the music trade, and were recently awarded Asia/Pacific distributor of the year by DOD/Digitech. They had this growing range on show, with new inclusions all tube powered as is the current trend. CMI also distribute Eminence loudspeaker components from the USA, with many system and instrument cabinet builders locally buying this brand. A big debut for CMI is the Munro Design System, a compact pro loudspeaker package developed by Stuart Munro. Stuart asserts that in field tests with live music acts, a drummer actually raved about the system performance. Without getting started about those who drum, I did hear the system, (satellite box atop a compact sub) albeit briefly, before the ENTECH noise police ("84dB(a) at the

stand boundary NOW or we turn you OFF!") arrived looking businesslike. **JG**

CC's Light & Sound P/L Roger Claptor was eagerly awaiting the anticipated Friday arrival of the disc jockey crowd when I spoke to him on the Thursday. "They really are my traditional buyers and I'm targeting them". He'd had a good couple of days with the interest in his second hand equipment catalogue which is now in its ninth year of publication. "I think we managed to make a lot of new people aware of the catalogue which was great" "We have gained a lot of contacts through the (on stand bar code) scanner system. We will have to wait 6 months to see what the pay-off from this is. Our profile is reasonably high already. The fact that the items on our stand show prices means that we are attracting extra interest." **JM**

Postscript - at presstime Roger Claptor from CC's asked us (on his ENTECH survey form) to publish these comments "My first ENTECH as an exhibitor - very precious compared to other exhibitions I have been involved in." Roger reports he had a series of unfortunate logistical problems including power, stand access and the scanner wand system, which are now being investigated by the organisers. He wasn't happy with the security floor staff, show management, or promotion of the show to the DJ market.



PEOPLE & INSTITUTION AWARDS 1997

Based in Darlinghurst, Sydney, Sony Music Studios recently rebuilt their facility. The complex now is extremely functional with dubbing, foley and midi room facilities augmenting the main studio. While nowhere near the largest or most lavish facility in Australia, Sony Music nevertheless is efficient, heavily booked, and staffed by complete professionals.

18. Best Mastering Facility:

Studio 301 The longest established recording facility in Australia recently was completely refurbished after being sold to a staff consortium. Long regarded as a leading mastering house.

19. Best Duplication House: *Dex Audio*

For over 17 years DEX AUDIO have been delivering the goods in Melbourne. With over 35 staff, DEX today is primarily involved in cassette duplication. Without announcing grand plans for huge CD or DVD lines, DEX represent best of the coal face of the local manufacturing industry.

Chameleon. A striking feature of this stand was the caravan! Gavan Swift explained that they were going for the concept of "packing the caravan and taking off on holidays" though he assured me they hadn't really towed it all the way from Sydney. The deckchairs on the stand continued through with this holiday theme. Gavan explained that "we wanted a stand that was going to be a bit different and something a bit simple". Besides deckchairs the stand also featured the Altman Shakespeare profile range and Whitelight's new WaveFX. JM

Clearlight Shows. Sam Redston described the client base that ENTECH draws as one of the show's most important features. "We're here to focus on our hire and production services - we do sales as well, but we figured as agents of most major products internationally, those products are already well represented here by our suppliers who always give us good product support. As a result of that, we thought the most appropriate thing to do was to concentrate on our own services. By setting ourselves apart by not approaching our stand in the same product oriented fashion, we

have had astounding success. We've found that ENTECH is very much a people show, it has worked well - I think being in Melbourne is part of what has made ENTECH such a friendly vibe." (Clearlight assisted with gear for the Stage Lighting Master Class - thanks!) MJ

CLS. Underneath the huge suspended ball of circular truss, Lee Greig described the CLS stand. "We're displaying most of our rigging equipment - all the little bits and pieces that make everything work a bit easier. We're not really into 'showing' anything because you can find it everywhere else by the actual supplier. "What we do have is power distribution systems and motor control systems we make ourselves so we've got those on display. We've made quite a big feature of the circular truss and it seems to be working. We've had quite a few inquiries and people seem to be genuinely interested in it. Its something different to straight truss and its a bit more versatile with the archways and the range of sizes from a 2 - 7 metre radius. We are getting a lot of inquires so over the next month or so we'll be able to reflect on what sort of sales were generated by this show. MJ

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"The self-powered speakers mark a new beginning for both Meyer and the live sound industry."

—Mix Magazine, August, 1996

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Winner! Jim Taig (MD, Studio 301) with Bill Foster (editor, *One to One* magazine), and ENTECH staff Miss Sarah and Amanda Garland

20. Sound Production Company:
System Sound

Yet again System Sound were the most heavily nominated sound production company of the year. They are now building a market exporting their expertise, with recent work in Hong Kong and Asia. They have recently moved premises, and represent the very best of Aussie technical expertise.

21. Lighting Production Company:
Jands. From theatre to rock'n'roll to corporate events, Jands dominated the year of 1996. Experienced crews, the latest lighting gear and well maintained equipment make them a winner.

22. Best AV Company:
Intercity Gearhouse As we have found out this year at ENTECH, our award winning AV company really have earned this award. They supplied AV for many of the ENTECH events. Recently sold to the Gearhouse Group, Intercity Gearhouse embrace excellent staff standards, and now have fresh inventory of a very high standard.

23. Best Venue for Technical Crew Support
Fairmont Resort
Sited in the upper Blue Mountains above Sydney, Fairmont is host to many conventions and product launches. The crew have a reputation for helpfulness and resourcefulness. Corporate clients return for more.

24. Export Achievement Award:
Digital Studio Processing (dSP)
This Sydney based firm have won export sales to Japan and Asia with their digital audio recording equipment. They

EXHIBIT WRAP

CMC Music had new products - the new Azder UHF systems are running hot as UHF prices tumble. The new Phoric power amplifiers are a whole new series offering a lot of professional features at very affordable prices, e.g. \$995 - 1550 RRF. John Goldsmith of Kosmic in Perth told us he is spec'ing these into quite a few installations these days. According to Pat Bohan, one time UK soccer star: "The show has been as expected. We have acquired some new Victorian outlets...we feel numbers are down from last year, but we weren't expecting to write large amounts of business. This is a flag waving exercise for us and we've gained extra profile by being here..." **HJ**

Coemar De Sisti Australia- I saw a cute looking piece of equipment called the Projector Slide which takes four slides and would be "great for parties" for something a bit novel. I can imagine it being a big hit for 21st's, the traditional embarrassing photo could be projected on the wall for all to have a good laugh at. Also on display was a slender, lightweight fluoro film/video soft light unit which features a new reflector designed for optimum performance. **JM**

Command Systems is a Sydney based firm who manufacture touch screen control systems to rival Crestron (Crestron are in play at present, with a new distribution agreement pending after some chop and change on the local scene) and AMX. The Vide Commander is a distribution network for anywhere clever switch routing is required. The Theatre

have recently started exporting their latest product, the Postation, to Asia and afield. Recently they launched their product at the NAB show in the USA. DSP represent smart ideas engineered into commercial reality.

25. Retailer:

Sound Devices (Sydney)

Sound Devices sell recording and MIDI equipment including hard disk recording systems and other high tech products.

26. Best Systems Servicing Tech

Darren Irving

Darren is a pleasure to work with, generous with his time and he has considerable expertise. Patient and dedicated, you can be confident that equipment he repairs or serves will function beautifully afterwards - or he'll be back until it does! He works for Bytecraft.

27. Technical Services to Fringe

Theatre Roger Hind

Roger is known as 'The Patron Saint of Sydney Fringe Theatre'. Through his genuine care, extraordinary helpfulness and willingness, Roger has become a father figure in the Sydney theatre lighting domain.

Exhibitor Wrap

mander with LCD colour display touch screen. Mal Christie told me the firm has been exporting its product to Asia, and they also operate as A/V resellers for all boardroom, theatre and audio fittings. **JG**

Connections Magazine had all their books and T Shirts on sale, with an on-stand demo of the Allan Sides Microphone Cabinet CD-Rom. Because the staff were somewhat distracted with events elsewhere, the stand was mostly staffed with ring-in agency types, who fielded reader inquiries gallantly. EG: "Can you tell me which issue had the John Lemon interview?" "Err, terribly sorry, have a look over there". Sorry to anyone who didn't get the answers they were looking for. **JG**

Crew Room and **Gig Power** shared the best stand at ENTECH. If you like golf. In one three metre wide stand they laid out a practice putting strip, with a prize if you potted three balls in succession. The handy combo tool prize was very

alluring, as was the attendant. Sadly it seems no-one, not even Jerry from Crown USA, could pot the balls. Something to do with the construction of the thing. One delegate got frustrated and slammed for a hole in one, the golf ball burying itself in the shell scheme wall **JG**

Digidesign were demo'ing Pro Tools 4 non stop - when I visited the stand every Mac on hand was in-flight. PT 4 seems to have unlimited interest from those ProTools 3 (an ENTECH award winner) users and non users looking at jumping directly into the product. It possibly finds greater use in Post Production here in Australia than elsewhere which makes the penetration of the product higher here in terms of market share. This is because it is also very popular for music production and general audio recording and editing users. **JG**

Disco World. This stand featured what is allegedly the smallest smoke machine currently in existence called The Goblin. Designed by some of the guys who were part of the R & D team for JEM, who have since set up their own company, The Goblin is part of a range of smoke

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machines that also includes The Terminator, The Predator and The Gremlin. I wonder where they got the inspiration for the names! Dom Marano from Disco World believes the machines are "very innovative and well made from guys who listen to what the industry is saying". JM

East Coast Audio were showing their whole range of Aphex signal processing products. Tony Conroy had a lot of leads to disseminate, and product demo's to do once the show was over. Their stand was located opposite a very large Lighting stand which wasn't terrific in Tony's view. At the next ENTECH separate zones for Audio and Lighting have been offered, to give exhibitors like East Coast the chance to locate in an area of similar product interest. In addition, East Coast are resellers in Melbourne of AKG and Denon products. JG

Electric Factory were at ENTECH too, with the dual mission of launching Celestion Road Series PA enclosures (made from Polycore) and getting the Emagic Audio Workshop tour under way. Audio Werk 8 is the new ultra competi-

tive digital recording option for Mac or Win 95. At \$1399 it comes with a card with 2 analog audio inputs. The card has daughter board take off points for future options, and 8 audio outputs. Naturally the software is all you'd expect, David Field told me Audio Werk 8 sits ahead of Audio Media 3 and not too far under Pro Tools in the market generally. The Emagic Workshop tour runs all over Australia and New Zealand this month - watch the street press for details. It's increasingly amazing what a low cost product can actually achieve. JG

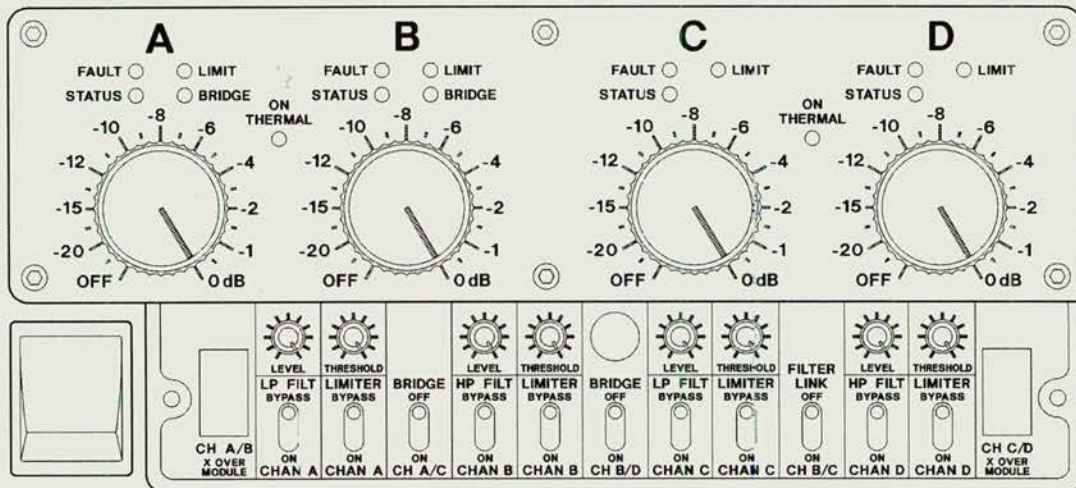
Electrosonic Systems. A lot of interest went to the Maris Pico, a tiny DMX riggers remote which retails for about \$950 inc tax. The Celco Ventura with new software was well received. The Electrosonic 2x view is a low cost videowall, it displayed what was happening on the stand, and in particular who had a bald patch! The editor kept well clear. CF

Elsta. I felt it was fitting to spend the dying moments of ENTECH inside a black box squashed against other techies viewing a laser and light demonstration

that showed off the *Stingray blue argon laser*, (manufactured in Australia) and the *Laser ShowSystems Starbeam 5* (world wide release) to name a few. Outside the black box I and many others had been treated to a virtuosic techno DJ display demonstrating DJ mixers from the UK company *Intimidation*. JM

EVI Audio is the new name for Mark IV Audio, ENTECH was the first public debut for the new name and it comes with fresh breath being injected into the group by the new owners too. The vibe at EVI was very bullish, with a six page 'what's new at ENTECH' booklet detailing new product offerings. Briefly - new EV S-Series loudspeakers; EV T221 biampable 12" 2-way, new Deltamax models with proprietary controllers, and EV kW series power amps. The SX 200 won most popular loudspeaker at the ENTECH Awards and was joined onstand by the new SX200-A active 2 way self powered speaker system. From the EV microphone dept, the N/Dym kick drum mic, and RE500 true condenser handheld vocal mic. Vega wireless intro'ed the U2020 100 channel UHF sys-
(continued over)

MULTI-CHANNEL MULTI-TASKING



- CX100** 6 by 100 watts
- AM1200** 4 by 300 watts.
- AM1200S** 4 by 400 watts.
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intro'ed the U2020 100 channel UHF system, and the R672 UHF wireless system. University sound and Altec had new speaker products, and DDA showed new mixing consoles with left-centre-right assignment. Notable new product is the Merlin ISP-100 Integrated Signal Processor, for digital control of almost anything - too new for me to understand just yet. Finally, MIDAS showed the new 50 input XL 200 console with a MIDI package, drawing on the automation success of the XL-4. The XL-3 won Most Popular Console at the ENTECH Awards too. **JG**

Gemini Lytequest Australia. The introduction of the Motorhead light, PT2000 and PT1000 turntables and 9800 CD player were all draw cards to this stand. The Motorheads can do a full 360° rotation, 274° in the opposite direction. Gemini do a wide range of DJ audio products too, including professional dual CD players, disco mixers and samplers. **CF**

Glantre Engineering. "The main thing we're showing is the Spiralift which we distribute in Australia. We're currently installing four in the Sydney Harbour Casino in the showroom so they'll be the first Australian installation, and we're obviously hoping for more. Otherwise we're promoting our general project management. We work worldwide on lighting and sound installations, stage machinery, and we do a lot of cruise ship work. Its difficult to say how much business we're getting out of being here - its really about renewing contacts and finding out what's going on. We've found out about a few jobs we didn't know about. "I've noticed that ENTECH in general is a little bit lower key than last year in Sydney." **MJ**

Horwood Australia had the team on hand minus Ian 'Woodie' Woodhouse who was o/s. Klipsh continues to do well for the Sydney based firm, who advise a container load of the Arkansas made loudspeaker enclosure's were installed in the new Sega World project in Sydney by Greater Union Village Technology. Klipsh has close links with Australia as its president Ian Thacker is an ex-pat Melbourne boy making it big in the USA. Horwood's GM Brad Smith was assisted on stand by Graeme Harrison and Cameron Dunn, and they had a new line of tube products from Bellari, said to be somewhere equal to Summit (a brand revered by live engineers worldwide) but less expensive. Horwood also handle Atlas / Sondolier products for the Asian region, and Furman, White, Rolls Corporation, Astatic and other audio contracting lines. **JG**

Image Design Technology. Kaz Seed had one of the best jobs at ENTECH - she was in charge of the video games on the massive cube wall. "Not everyone has recognised the cubes for what they are, but everyone has been saying how big and beautiful the screen is. It's been very successful - we've had so much response to the stand." The other main component of the IDT stand was an



archway video wall which served as an entrance to the stand itself as well as a medium for advertising the company and its projects. "There has been a lot of interest in the videowall archway. Its perfect for stands at exhibitions and better than just a slab of a normal video wall. Its very versatile." IDT were extremely busy at ENTECH, not only with their exhibit during the days, but also running the 3x4 Video Wall at the ENTECH Awards Dinner. **MJ**



Imported Theatre Fabrics. The stand for Imported Theatre Fabrics may have only been small, but Kevin Nicholls and his team sure managed to put together a thorough range of theatre fabrics and associated products. "For me being here, I'm totally different to everyone else. They're all into lighting or audio - I'm very much an accessory to that industry, whereas a lot of people don't realise it until they walk past my stand and say 'we do use that'." "We're the only ones here that have got it, so of the inquiries I'm getting I would say I'm looking at an 80% success rate - and that's people from everywhere around the country. There's definitely a lot of business coming out of me being here. I've always worked on word of mouth. that is the way my business has grown, but it got to the point where I needed to be there and advertise, so ENTECH was the perfect foothold. I might even look at doing ENTECH in Sydney to give me that second run. I've met a hell of a lot of people that I've

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Hootie & The Blowfish (1996 tour) Southeast Audio Specialists. Photograph illustrates Hootie's 1996 are-a system. Arrays for other venue types may vary.

Write in Reader Service Number: 123

always good." **MJ**

INLITE. This was a small but well designed stand which showed off the Irideon automated colour changing architectural luminaires to the maximum. Irideon is a division of Vari*Lite, who astutely picked the current buzz of adapting effects lighting for architectural use some years ago. Thus this division offers industrial and weatherproof versions of traditional Vari*Lite technology complete with computer control. **CF**

Jands Electronics had an impressive stand which drew together the lighting, MI and pro audio streams of product the firm represents. Lit with some brutally bright white lights in an overhead grid, the stand drew people in like a moth is drawn to light. New for Shure: the Personal Stereo Monitor PSM system, in ear monitors either wired or on UHF wireless. Ear moulds are coming via a national hearing aid manufacturer, the mould goes onto the Shure Universal Ear Piece. The (steel) beltpack receiver has limiting protection and can be switched from stereo to 2 channel mono so you can use one stereo transmitter to send source to 2 people if the budget is tight. Jands had new devices from Soundcraft, Sprit, DBX, the new JBL HLA concert speaker system was there, and products from Crest and Rane completed the offerings. (See Jands lighting coverage on page 74). **JG**

Laser Theatre Lighting. Here to show off their Alpha Laser Controller with its new 4-channel PCAOM plus other laser products. They have redesigned some of the laser features

such as the scanhead which is now much smaller and very slick looking. **JM**

Lightmoves Professional. The Lightmoves PES stand featured functioning representations of the technology being used in current Lightmoves projects such as the Victorian Art Centre Spire, and the Crown Casino. Braham Ciddor from Lightmoves said that rather than just displaying the products they wanted to show the fibre optic systems in specific situations, and the architectural dimming and decorative lighting actually doing things. "We've been really busy so fitting ENTECH in at this time of year has been difficult, but it's been good catching up with contacts. "All the people that work for us come from within the industry so it's good to catch up with people we haven't seen for a while, which is important because they are potential customers. **MJ**

Lightmoves Technologies. The sexiest looking product for my money was the K series of Projectors from **Optikinetics** in the UK. Imported and distributed by **Lightmoves Technologies** they resembled something from *Star Wars*. One of the popular events at ENTECH had to be the *Le Maitre* pyrotechnics display hosted by Jonathan Ciddor several times a day at the rear of the stand. The highlight of the display for me were the stunning gold and silver *Flash tubes*. I'm looking for an excuse to include them in my next production. **JM**

LSC. There was a lot of interest in the DNA products (the DMX patching and distribution) which were shown for the first time in Australia. The Axiom 48 received a lot of atten-

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tion and you'll be pleased to know it'll be shipping by the end of May. The Proplex DMX cabling, which is being installed in the Melbourne Casino, from TMB was popular as were the free socks they were dishing out. It may not be the cheapest cabling but TMB point out 'if you can't afford it, you don't need it. But if you need it, it doesn't matter what it costs'. **CF**

Magna Systems had a neat surprise in the form of the Sanha Integrated Lectern. A very neat idea because it incorporates the speaker and amp under the lectern top, so mic, amp and speaker are as one. Lightweight too. DAS loudspeakers from Europe continue to do well for Magna with 100v line models and commercial installation boxes joined by PA and professional boxes too. Magna have had particular success in Brisbane with high end DAS product. Inkel have changed name to InterM and Magna had the range of mixers, amplifiers and contractor products on show too. **JG**

Major Music Wholesale had new products - Osiris plug-in sonic restoration software for tripleDAT which includes de-noiser, de-clicker, sub-bass enhancer, psychoacoustic exciter & spectral analyser, all of which can be run simultaneously to restore old recordings in real time. Also, the computer can be used for it's effects programs only, without writing samples to disc. From LA Audio came the release of the Millenium series, which are entry level products aimed at project studios. These include the MXP1 mic processor, GCX2 dual gate/compressor, MLX2 dual mic/line amplifier with DI & EQX2 dual 3 band parametric EQ. **HJ**

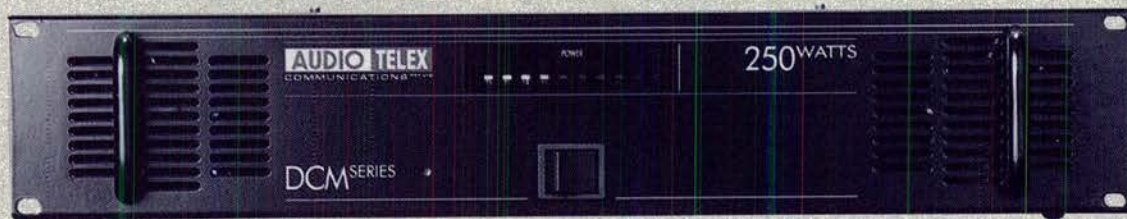
Mediavision. Or. display were some new Lee gobos which Trevor Chirchiglia had creatively displayed in several hand-made murals with assorted coloured gels as backgrounds. One small boy was so taken by them he said to his Dad "that's what I want". So much for all the high tech flashy equipment that was on display elsewhere. I think Trevor told the Father to come back at the end of ENTECH and make him an offer! **JM**

Meyer Sound returned to ENTECH to consolidate their position on the local scene where they are represented in almost every state. New reps Steve Devine and Harley Richardson (Richardson and Devine) were never too far away. Meyer continue to shift to self amplified speakers with the little HM-1, designed for installations. It draws remote power, 48v in fact. It has a co-axial speaker, a departure for Meyer who have done a lot of research into the effects of inter modulation distortion caused by the low frequency driver on the high frequency section. Mark Johnson told me the low driver is moving (of course), and so it is a moving baffle for the tweeter. Meyer put a foam lined dish behind the tweeter instead. The power supplies for the HM-1 come in 2, 10 or greater powering versions. **JG**

Miller Professional Products. Mitch Patterson wasn't too happy as he thought there was a lack of film and TV people at ENTECH. The new Bug-Lite HMI from K 5600 was on display, as was the Balcar studio fluroscent. These are finding considerable favour in video production and corporate communication video suites - where newer, lower light camera

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ENTECH

technology and reduced availability of high ceilings and power mean Fluro studio lights are The New Thing. Miller also handle GAM colour medium. **CF**

Moore Music had a neat row of stands for the ENTECH debut, with a stand for Studiomaster, a stand for Vestax, and one for The Rest of their lines. Studiomaster had a broad range on show, with Powerhouse powered mixers boasting a lot of amp and features. Mixdown is the classic 8 bus mixer, Pro 2 is the midrange offering and Club the mini mixers. Vestax is hot for Moore, with the PDX-d3 a digitally controlled turntable - it gives you +/- 50% pitch, the readout lets you precisely beat match. Shane Pullen from Moore says DJs are now 'turntabl-ists'. A neat term? The little Vestax PMC 06 pro is a tiny mixer which sits between to turntables. Nothing gets in the way. CDX-12 is a dual CD. On the 'everything else' stand Moore had MOTU (Mark of the Unicorn) products and heaps of pro audio software. **JG**

Music Connection: Tony Moir from Music Connection wasn't happy with the coffee prices at the Cafe, his habit was costing \$25 per day. Music Connection and Harmonic Developments shared a stand, Tony looked relieved when told the promoter had free coffee on tap at the organisers office. Music Connection (Moodville SA) distribute Carvin products from the USA, along with other brands for the MI retailer. Harmonic Developments (Keon Park VIC) are the Australian distributors of Altai products, Sound Lab mixers, and other products for the club and mobile sound industry. **JG**

Musitronics are the importers of RCF. Sadly the keenly awaited RCF in ear monitors didn't make it to the show on time. RCF had new speaker boxes getting a good reaction. The 300A is bi-amplified with a new 12" woofer, and a new N350 titanium driver. It has RCF's thermal and over-exursion speaker protection. The amplified model

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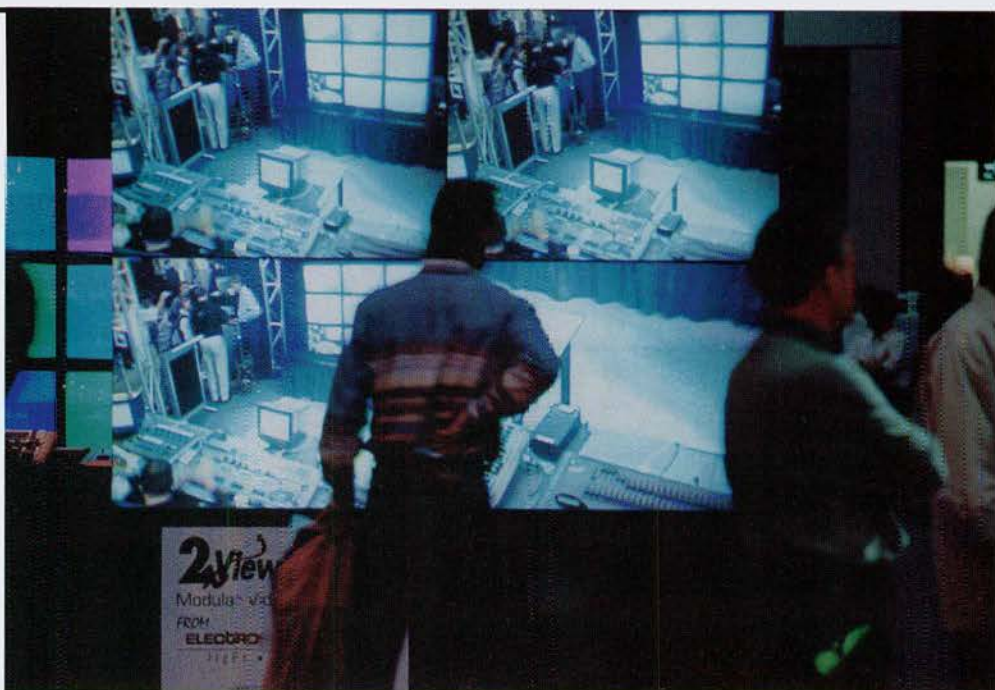
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Electrosonic stand with the 2xview

has a limiter circuit. Other hot models are the 600w powered or unpowered subwoofer with a 12" woofer. These all come in an extruded polypropylene enclosure. The smaller versions are called 200A and 200AM - which has a 3 channel mixer built with EQ. Connecting to a proprietary bus with a 6.5mm jack cable you can join up to 4 of these models together for a total of 12 inputs. All are flyable and stand mountable, and also shaped for foldback. Roger Kelly told me that RCF Video projectors generated huge interest. "We had a laser disk with outtakes from the movie The Abyss. It stopped a lot of people. The new 3001 projector gives 600 lumen, it's a 3 gun projector with SCART and Video input". **JG**



A VERY popular stand!

Nightlife Music Video attended their third ENTECH, with a very attractive stand that featured rotating signs up high. They offer a variety of music video services for venues and retail outlets, including programmable and set and forget versions. Nightlife currently use VCD, or video CD's for their compilations, or VHS video. In the VHS system a pair of decks are controlled from a PC, so while one plays the other rewinds or shuttles to the next selection. VCD has up to 18 tracks on one CD, offering immediate access to any track. Picture quality is adequate while sound quality is very good. Mark Brownlee from Nightlife told me before ENTECH that the current VCD releases are playable on DVD (they will as we demo'ed at the ENTECH DVD conference) and that when

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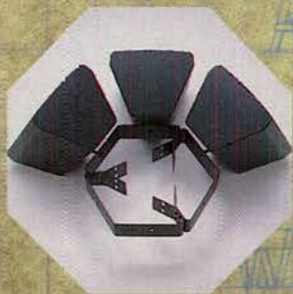
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enough software is available on DVD they will be ready too. **JG**

Oracle Laser Productions. You couldn't miss the Oracle stand. A white scrim suspended over the Cafe area of the exhibition floor showed demonstrations of the capabilities of the laser projectors and 3D graphics. Brian Mazlen from Oracle described their approach to this year's ENTECH. "We were at the last two ENTECH's in Sydney which we found were very good. We design and manufacture laser light projectors in Sydney, and our work is very strong in 3D graphics. We put on laser shows at theme parks, discos, dance parties, corporate launches - anything with water, such as the harbour, is spectacular. We have a whole range of these projectors from the small disco style, to the big ones we use for events like Super League." The graphics on show featured Oracle's current projects including Future Land at Sega World. "We can program it to do different shows all the time. Of the best results is in a full special effects show incorporating actors, music, choreography, pyrotechnics and lighting. It's big scale outdoor entertainment." Brian commented that ENTECH in Melbourne has attracted a very different clientele. "There have been a lot of locals and New Zealanders, whereas in Sydney we get a lot of international people from Asia, India and Europe. Everybody is always interested in what everyone else is doing." **MJ**

Osram. Warner Lulofs gave a great belly laugh when I asked him to tell me something glamorous about his products, I thought I was going to have to administer CPR but he finally calmed down enough to tell me that there was a lot of serious interest in their discharge lamp series. "We are the market leaders in this area and we have had lots of interest, fewer people visiting the stand than last year but more serious interest in the product." **JM**

P. Audio System Company is a Thai manufacturer of loudspeaker components. They offer a variety of cone driver, with 15 models from 10" through to 18". In the high frequency dept, they have 11 compression drivers, 12 horns, and six combination tweeters. The compression drivers appear to offer compatible models to some USA devices, but P. Audio have wisely retained their own style and product numbering conventions. They didn't appear to be following the 'copy product' route some Asian manufacturers adopt. **JG**

Penn Fabrications. The Penn Fabrications stand featured road case and speaker box hardware, stage lighting equipment and stage trussing. Mark Dryden and Andrew Kushen explained: "What we're showing at our stand is a small trussing rig, and a cross section of all the parts we distribute." "This is our third ENTECH and we've found it to be the best so far, although the first two days were a lot better than the public day. There are too many non-trade people here and it ends up costing us a fortune in catalogues. "Its better to have exclusively trade people because its hard to qualify people. You don't always know who you are talking to and you can end up spending a lot of time on

someone who's just making general inquiries they'll never follow up. It is a trade show so make it exclusively a trade show - keep the public out. "ENTECH is good because its the only professional show where you get all the different media under the one roof." **MJ**

Performance Media publish a performing arts directory called APAD and are linked with ArtsLink. They offer advertising and promotional services to the performing arts business. **JG**

Philips. There was much excitement on this stand from Michael Power over their new CDM Mastercolour metal halide lamp. He believes this lamp is unique in that it has a ceramic light source in the centre which enables colour constancy even as the lamp ages. "We expect that it will have a major impact on the metal halide market," Power said. **JM**

Premier Lighting. Shane Jacobson from Premier Lighting described their different approach to exhibiting at ENTECH. "Business has been good - we stayed away from the idea of putting lots of gear on the stand because we figured we're preaching to the converted in terms of a lot of our customers are here. ENTECH is fantastic. The best thing about ENTECH is even if you didn't open the doors, if no-one came, it would still be a success because we spend our time talking to other dealers. The way it is with this industry is everyone's your friend as well as your working partner, or your competitor, but they're still your friend. Just the conversation crossover is the best part. We don't care if we don't sell a thing. At the end of the day its all about being here and talking to other dealers. It wouldn't matter if we all turned up and sat on milk crates and talked - the show becomes irrelevant, so in that sense the show is always a success. "Five years ago there was nothing of this type, so ENTECH is great - it makes us feel like professionals in the industry as opposed to hacks stuck in the entertainment world!" **MJ**

Pro Light and Sound are a Melbourne based (Clayton) outlet who retail DJ equipment. Lurking amongst masses of sound paraphernalia was the Bandlight lighting effects system which is ideal for small theatres, discos and schools. Consisting of one Bandlight Console desk and up to four remote 4-channel power modules, features include an 8 channel fader, sound triggered chaser, flash keys and a simple set up. Pro light & Sound were part of a growing representation of reseller / retailers attracted to ENTECH. They also had FANE Acoustics, the UK based manufacturer of loudspeakers and high frequency components on the stand. Fane are now locally represented.

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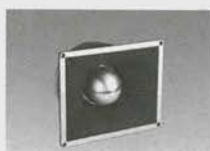
MODEL: PA-D72
109dB
60W-100W



MODEL: R12/76MB
12"
200W/400W



MODEL: PA-D45
105dB
30W-60W



MODEL: PST-787
116dB
75W-300W

Production Audio Services

were busy with Crest amplifier seminars and demo's, and new product launches. Audix showed a new kick drum mic, the D4 which had sadly left the show with the man from Audix, bound for home by the time I arrived on the stand late on the final day. Crest's new LMx monitor console was on show, with 22 sends from 40 channels. Crest consoles have a very nice ergonomic feel and are finding favour. The ENTECH Awards were mixed on Hugh McLean's Crest con-

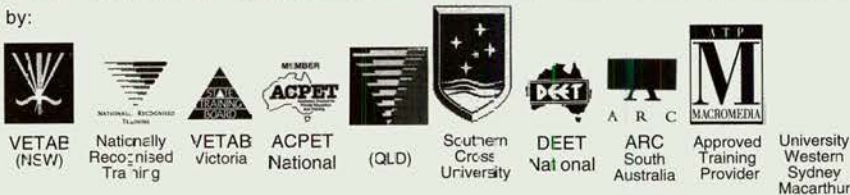
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LONDON PARIS MUNICH MILANO AMSTERDAM STOCKHOLM BERLIN GLASGOW SINGAPORE KUALA LUMPUR VIENNA ZURICH

Write in Reader Service Number: 141

ENTECH

sole! Leading USA speaker system manufacturer EAW's new LA 212 enclosure was on show with the rest of their range, and the EAW KF650e, and SB1000e were featured in the PA Crescendo each day at show close. PAS also now newly handle products from XTA Electronics, the UK based makers of equalisers and processors. Also on show products from Ashly Audio, Biamp Systems, Quam Nichols and RDL.

Q Engineering were a late addition to ENTECH, and have been manufacturing lighting products for around 20 years now from Sydney. They offer a new range of lighting control equipment for architectural or TV applications. On show - the Sunray cool soft light range, Gaff on-location dimmer racks, Dimmax architectural and studio dimmer racks, and Amra range of digital architectural lighting control stations for all applications.

Quantum Eflex. Situated near the cafe, this stand always seemed busy. Attracting a lot of attention were the Dancing Waters which sell for under \$500. A few were sent up to Frontier Lighting a couple of months ago and they are moving out the door so fast, they are now on back order. The Omega light was used to project the Quantum logo over the back wall of the exhibition room which proved good advertising. At \$130 a piece, the Mini Moons were also very popular and many were sold at the show. Glen Gitsham said that the products that were moving at the show, were the ones aimed at the mobile DJ's like the radio remote controlled smoke machines. Glen thought that the number of people at ENTECH was down on Sydney but that the quality of them was far above. **CF**

Quantum Springs Internet Services are a Melbourne based ISP who offer netsite design, programming, on-line shopping and a hose of other services, including 'Real Video' and 'Real Audio'.

Ritchie Productions. Formed 12 months ago, Ritchie Productions services the film industry with lighting including the massive 18Kw HMI fresnel and a range of Pars from 200w to 6Kw. Wayne Ritchie said that ENTECH had been successful for them as they had managed to gain good exposure in Melbourne. The editor thought Ritchie deserved an award for Most Product In One Small Stand. It was an eye-ful. **CF**

*Medical staff attended to tired exhibitor staff each morning at opening time
Australian Monitor's Stuart McLean gets the once over from nurses Sarah & Tracey*



Just hours to go, from chaos springs function

Roland Australia have new products - the CR-30 guitar synthesiser which is a continuation of the GR-09 with more sounds. The tracking has been vastly improved and there is an independent arpeggiator for every patch. Roland were also demonstrating the VS-88 digital studio workstation which now comes with the V-expanded software upgrade which gained an ENTECH award - for Best new Recording Product. This upgrade adds 200 new effects algorithms to make for a total of 600 on-board effects, plus gives real-time or snapshot automated mixing. Roland also showed the MC-503 groove box (which won the ENTECH Most Popular DJ Product award), the JP-8000 analogue modelling synth, the AF-70 auto feedback eliminator and the JV-2080 64 voice synth module. The 2080 accepts up to 8 sample expansion boards which means that a fully loaded unit has just under 3000 sounds. Dave Dwyer on the Roland stand thought that MOTU's Freestyle programme (which was showing on the Moore Music stand) was a very cool thing as, by plugging his GR-30 into the computer and playing, he could get it to write the score straight onto the screen! **HJ**

Showbiz Video offer the QMaster DJ Computer, a music on demand audio/video system. They shared a stand with Thorn who distribute audio visual equipment. Showbiz say they are ready for DVD - the QMaster system will do DVD once the software is in place. The ENTECH DVD conference heard Bill Foster detail the pcli-

tics of DVD audio which is still 'out there' to a degree, because Pioneer apparently want a 96kHz sampling rate, 3 channel system. The DVD movie system is AC-3 surround sound. Other manufacturers seek a sampling rate of 88.2 - DVD is slow coming but will be worth it when it arrives! **JG**

Show Structures. Based in Perth, Show Structures want the rest of Australia to know about their products - mainly the Constella Lighting range from England. At ENTECH they were on the look out for distributors and it appears that they were successful. David Clare was pleased to see that many end users came to his stand and recognised the products. New products included the Chameleon 2 and the hand held DMX controller. **CF**

Show Technology See report in Lighting, p 78.

Showcraft. From a user's point of view it was exciting to see the release of the Gam Commander II with LED display that shows channel and level. Lee Conlon said he spent about a year and a half on the research and development of this new feature. Showcraft have also just made their initial foray into the architectural market with their design and manufacture of an architectural colour scroller. The first gig for the DMX controlled scroller is providing the base colours for the Victorian Arts Centre's tower which is difficult to miss against the Melbourne night sky! **JM**

Sound Australasia Magazine had their ENTECH debut, with editor Greg Simmons talking to all who rolled up on the stand while publication manager Philip Spencer worked the floor. They were busy too, with copies of Sound left on various stands to give away and a lot of copies available on the stand. Sound is just 4 issues old, and a big success. It has given DIGITAL magazine a severe and major hiding in the marketplace since SOUND started in August last year. **JG**

Southern Cross Production Services do a neat cable guard product called Cableguard. Maxine Black will hire you or sell you these, they comply with a raft of standards and in this risky legal environment are the only alternative to carpets and gaff tape. Their motto? "We've got you covered!" **JG**

Stage Line travelled across the Tasman to be at Entech this year to exhibit their exclusive range of portable and collapsible stages. They range from a 4WD towable version to stadium sized, as used in North America, Europe, and the UK.

Stage Line technology was used at Atlanta Olympic Games and at Womad, and impressive they are. At Entech this year Stage Line had a scaled down working model of the standard semi-trailer stage, and like the full version, all that was required for its assembly was the pushing of a few buttons. Utilising hydraulic technology makes the stages extremely reliable, with the original, 20-year old stage still out there going strong. Stage Line will soon be opening offices in most states in Australia and will ship some mobile stages to this country for hire. It is expected that the Australian office will become the Australasian headquarters for the company by arrangement with parent company in Canada.

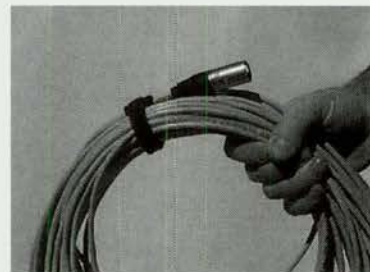
Stage Technologies are a UK based manufacturer of stage automation systems. Their products include the Acrobat and Juggler 3D control consoles with graphic interfaces, and the Explorer radio controlled truck system. Their controllers are currently utilised in productions such as Miss Saigon (London), Les Miserables, Sunset Boulevard and they have installations in places as diverse as Brunei. When I called Nikki Scott was having a chat with Glantre Engineering's Matthew Tonks who both felt that the final day - Anzac Day - was a waste of time for them in terms of lack of quality visitors.

Stage Whispers is the love child of Kerrie De Pradines, it is a monthly performing arts magazine which is well established. Kerrie is young and very professional, her mag tends to favour the amateur production market and has a writer called Peter Kemp, who we are certain is not the same as the one who owns Coemar DeSisti Australia. Stage Whispers is on newstands, so look out for it. **JG**

Sylvania. Ben Bath is hoping that the message visitors to the Sylvania stand took away is that the company is "growing, improving and becoming bigger and better". They have several new products that they believe will assist them in achieving this aim. They have just released their T series theatre lamps range and a re-engineered 240 volt powered MR 16 aimed at the domestic and display markets. "The engineers have been working for a while to try and get rid of the transformer and deal with the heat problem so we think this is a pretty exciting piece of technology." **JM**

Syncrotech Systems Design were having a good show too, the Soundtracs Virtua digital console was drawing the punters. With 32 mic/line inputs, 16 dig-

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ital inputs, 8 subgroups, surround sound capability and dynamics on every channel it is priced at \$39,990 plus tax. Syncrotech sold one to the School of Music in Canberra. A large Soundtracs live console was sold off the stand the day before I called. Also on show were a lot of Soundtracs mixers, a lot of Beyer mic's and those Beyer talkback headsets that sell themselves, Sonic Solutions (with Sonic's Japan based Koki Terui a major participant in the DVD conference the day before ENTECH), KRK monitors, and Doremi's ENTECH award winning (for best new AV / Video product) V1 hard disk video recorder. A nice product mix. **HJ**



Syntec International: Across the aisle Syntec International were making a welcome return to ENTECH with a stand loaded with Sennhieser, Fostex and Tannoy offerings. New sales manager David Green had a kit of drums setup to show Sennhieser's new BF504 universal drum mic (one size fits all). It has an extremely nifty integral clamp/clasp, and if it sounds like a Sennhieser should it's a winner at just \$279. New Tannoy S300 superdual loaded co-ax full range speaker was matched to a B400 sub, with 3 x 10", 3 x 12" and 2 x 18" subs on release. Fostex have several new timecode DAT player/recorders. The show? "I've got leads, at present they each need to return \$250 to make it worth while being here".


System Sales and System Sound were showing the Cadac J type console on the stand, and System had won THE award for best Sound Production Company the night before. On show was the Supernova LCS digitally controlled mixer and matrix, normally used to create surround sound for theme parks and interactive museum displays. The new version does hard disk replay and has full EQ on board. System has recently

Arcnitectura! and theme lighting the f.avour on the Lightmoves Technology stand

moved down their street, and of course offer a very full on audio rental and production service, joined in the recent part by System Sales who offer most leading brands including Meyer - for whom they are regional representatives. **HJ**

Techscape see report in Lighting, page 78.

The PA People are headquartered in Sydney with a Brisbane outlet and a Melbourne franchise. They also own Creative Audio, manufacturer of a lot of interesting contracting audio products. At ENTECH managing director Chris Dodds hosted a Seminar on Audio Integration. As contractors The PA People have taken on some complex and sophisticated contracts including the new stage management system at the Sydney Opera House. The stand had a swag of Creative Audio products onboard, and was located at the corner of the BOSE stand, strategically nice and near the Venue Management As-

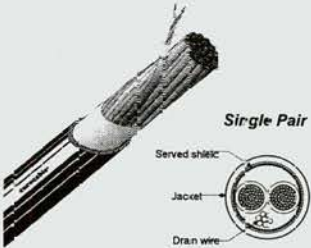


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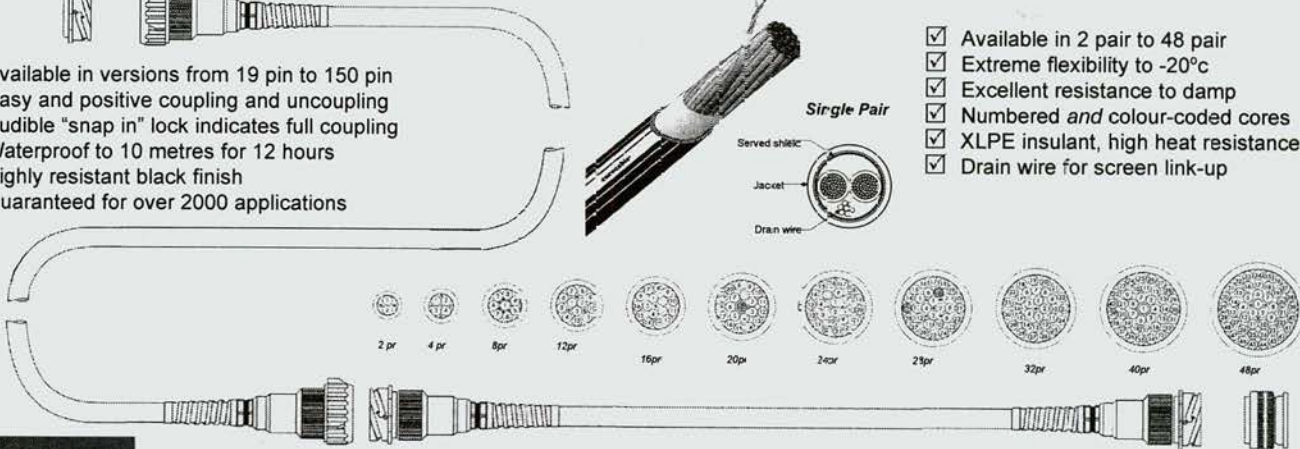



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sociation trade show entry. **JG**

The Resource Corporation were next to / with ARX, for whom TRC's Tony Hosking also acts as Victorian rep. It's cosy, huh? Tony has K & M microphone and other stands, Eurocable audio and mains offerings, and Link multiconnectors. He has connector panels, multicore bits, trollyes, mixer stands, and almost every snapdad and jimjam you'd ever need. Confession - on my way to interview Tony I got waylaid with Jamaican Duncan on the stand next door. Sorry! **JG**

Three Arts Services. Norma Hancock describes the many aspects packed into the Three Arts Stand. "The products that we're showing in the main are the Selecon and Rainbow products. Selecon having introduced its new 1250 watt Cyc Lights, and Rainbow their new 4" colour scrollers. Other products being shown are the more unusual type lamps which people are always asking me for. We've been looking after requests for HMI's, MSR's, HTI's and the more hard to get lamps so hopefully we'll help them with that. We've had some useful inquiries - I believe they have been genuine so as long as we do our follow ups the right way we should get some good business out of it. ENTECH has been good, everyone has done a fairly good job." The Three Arts stand also incorporated Stage Whispers magazine, Visual Coatings paint, and a range of Selecon lamps from ground rows to follow spots. **MJ**

Tomcat U.S.A. INC. The featured product on this industrial/techno looking stand was the stacking truss designed by Mark Fisher. The unique feature of the truss is how it stacks upon itself for storage or shipping thereby saving space. **East Coast Lighting** in Queensland have recently purchased a quantity of the stacking truss. **JM**

Total Fabrications. ENTECH is the first Australian 'gig' for Ian Coles, English President of Total Fabrications. "It's the first time we've been involved at ENTECH and we're hoping to capitalise a little on the millennium and the Olympics coming up. Our stand is made out of a 4 tonne tower ground support system. We're also showing our fold flat truss for the

first time in Australia which is interesting because it's actually an Australian invention and it has a new turnbuckle connector. Patents exist on it worldwide so we are paying royalties to an Australian for the manufacture which is good for local interests. "We're also trying to show off the kinds of events we've done before. They include the largest aluminium temporary structure ever put together which was for Nike at the Olympics last year. It was 45m x 100m with a huge cantilever off the side, and it was built to permanent building codes for the city of Atlanta so it would withstand an 80 mile per hour wind load." Ian said Wednesday and Thursday were their busiest days and they expect to sell at least one or two of their outdoor roof structures from the exhibition. **MJ**

ULA See Report in Lighting, page 71.

Yamaha Music Australia had a stand design which made the display look larger than it actually was - which is always a plus when you are spending expensive dollars on floor space at a trade show. They had the 02R, 03D and ProMix 01 on show. Creating interest was the surround sound capabilities of the 03D, which expands the useability of this mixer, the middle in the digital mixer range. Sooner rather than later many project and music studio engineers will mix for surround sound, with Pro Logic and AC 3 systems in more and more consumers homes. Joel Singer from Audio Technica was on hand to rev up the microphone dept. The MX 12/4 mixer, EMX 640 powered mixer, and REV 500 digital delay rounded off the display.

• Last but not least, several industry associations were granted space at ENTECH to expand their activities. **SHOWSAFE** had a lot of people wearing a huge badge. **Australian Screen Sound Guild** (ASSG) seeks more communication between practitioners of the various craft areas of screen sound. They are headquartered in NSW and made the effort to touch base at ENTECH. Another Association failed to turn up, despite a furnished stand awaiting them. Also the **Spectrum Management Agency** had a stand too.

• **VENUE MANAGEMENT ASSOCIATION (VMA)** operated a trade show alongside ENTECH with a further 40 exhibits.

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PURE AUDIO

MAY 1997

Alesis Meridian



ADAT gains a 20bit big brother. By Robert Alexander

The Alesis Meridian has been designed with 'no expense spared' to meet the demands of the professional recording industry for a top-end digital multitrack recorder that can offer all the convenience and ease-of-use and low maintenance costs, but at the same time offer no compromise in recording quality.

Alesis have listened long and hard to the demands of digital multitrack users from all over the world, who have told them the sort of product that they want.

The Meridian is an ADAT type format which utilises the same S-VHS tape for-

mat as the original ADAT and ADAT-XT models have for over 5 years now. As such, it is compatible with those 16-bit units, however it adds the option of recording in a new 20-bit format, called ADAT Type II. Alesis are anticipating A/D performance of up to 115 dB dynamic range, a dramatic increase from the 92 dB possible in 16-bit (now called Type I) mode.

Basics

It can record eight tracks of digital multitrack recording simultaneously, at 16-bit or 20-bit resolution with built-in SMPTE/EBU timecode synchronization and very quick and smooth transport operation. Individual Meridians within a multi-unit set-up may be offset from each other by any amount with single

sample accuracy using the onboard 10-key pad or by various methods of capturing an existing offset. This will allow digital copy-and-paste editing from tape to tape. Individual tracks may be delayed by up to 170 milliseconds (or 185ms at 44.1kHz sampling rate).

Auto punch-in and punch-out with pre-roll and post-roll are supported as is rehearse mode, with auto play and auto return used in conjunction with any of the 100 locate points in the Meridian's memory. All of the locate points are shown as an eight-character alphanumeric display and can be stored to the data header at the front of the tape. The internal routing system for digital data allows for editing and digital copying of tracks to any other ADAT in a given system, and the Meridian's pitch control

can range from 39.289kHz (-200 cents at 44.1kHz) to 50.85kHz (+100 cents at 48kHz).

Individual input selector switches are supplied on each track, which is a first for an ADAT-format recorder; these can be used to monitor a source or tape signal through the unit's electronics without disturbing any other tracks at any point during use. Simultaneous recording from a digital input onto one track, whilst recording from an analogue source on another, is also possible with the Meridian as the back panel of the device has both XLR balanced inputs and outputs and an ELCO-type multipin connector, both at the professional +4dBu level. Unlike its less-expensive cousins, there are no provisions for -10 dBV I/O. Internal input and output level trimpots allow selection of the desired recording level for nominal input/output, plus or minus 5dB from the ADAT standard (-15dBFS for a +4dBu input). A special fine display mode for the meters allows the user to set levels with 0.2dB of accuracy.

The transport system that Alesis have developed for the Meridian is quite different from that of the ADAT or ADAT-XT in that it is capable of wind speeds up to twice as fast as those of the ADAT-XT. Manufactured by Matsushita, the world's largest manufacturers of electronic equipment, the 'IQ' system, as it has been called, has been tried and tested within the top-of-the-range Panasonic editing VCRs and duplication Systems.

Alesis took this technology and adapted it for use within the Meridian, which boasts such features as a direct-drive capstan (for faster sync from stop and greater control in jog/shuttle mode); direct-drive real motors with no idler wheel to clean or replace and therefore no brake adjustments required; tension sensor arms so that the Meridian's internal software can simultaneously monitor and adjust the tape tension; twin tachometer output so that the software can precisely monitor the reel motor status; and an automatic head cleaning wand which will reduce the need for time consuming and costly maintenance.

Major New Features

Besides the new 20-bit Type II format, two major new features have been incorporated into the Meridian design that were not possible with the original ADAT units. The first is a jog/shuttle wheel with multiple speeds capable of giving previously impossible flexibility to tape control and editing of the tracks. The second feature is an analogue auxiliary track which acts as a ninth track on the ADAT Meridian for ultra-precise cueing

purposes. Alesis are quick to explain that both these features are designed to meet the needs of the professional high-end user and have been brought about as a direct response to user feedback in the years since the introduction of the original and hugely successful ADAT format in 1991.

Naturally, the ADAT Meridian will retain the ADAT optical port for communication with other Alesis devices and other ADAT-compatible units such as the Yamaha O2R console; the Meridian also has a slot on the back panel for an optional eight-channel AES/EBU interface card for digital data transfer between other digital devices. This means that the Meridian may be connected to VCRs, digital mixing consoles or external converters which use the AES/EBU standard interface.

Remote

An entirely new remote control autolocator, named 'CADI', has been developed for the Meridian which will feature an alphanumeric display and all the buttons found on the front panel of the new unit. This will include the jog/shuttle wheel and will offer direct control of up to eight Meridians or 64 tracks of digital multitrack capability. The CADI connects to the Meridian through an Ethernet-type connector, instead of to the ADAT Sync In jack, allowing longer cable runs between control and machine room. An additional new multiple meter bridge will be available displaying monitor levels of up to four Meridians at once, or 32 tracks of digital multitracking, as well as peak modes of various types set from the front panel of the master Meridian or from the remote control autolocator's front panel.

For location recording, the Meridian has been specifically designed with timecode use in mind, with SMPTE timecode, word clock, and video sync reference input and output connections on the back panel, not as an add-on option. A continuous read/write SMPTE/EBU timecode track allows for discontinuous timecode to be printed onto a special subcode of the tape without using up one of the precious audio tracks. In this way, different sections of the tape can be uniquely identified and synchronized without having to change offset settings between external SMPTE and the inbuilt sample-accurate ABS (absolute) timecode utilized in the ADAT format.

The built-in SMPTE/EBU reader/generator can operate at all the current frame rates (30fps, 29.97fps drop or non-drop, 25fps and 24fps), and the Meridian can even read and write 100 named location

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PURE AUDIO

points and SMPTE/EBU time offsets to the data section at the head of any ADAT tape.

Launch

Although the ADAT Meridian was launched to an unsuspecting public at the 102nd AES Convention in Munich, Alesis are keen to point out that the final units will not be shipping until late Summer 1997 and perhaps not before Autumn. The remote control autolocator and the meter bridge will also be available at that time.

I spoke to Dan Tinen, Director of Technical Communications at Alesis and one of the team involved in the development of the ADAT Meridian, about the development professional version of the digital multitrack recorder format: "By raising the bit-rate to 20-bits we could utilise the ADAT format, which we already knew was capable of handling the additional dynamic range, to give the professional user the kind of product that our research and feedback from over five years of ADAT use had indicated was needed.

"We firmly believe that the Meridian

offers a significant advantage for professional users over hard disk based systems which up till now have been able to offer 16 tracks of 16-bit digital audio, but face difficult throughput and storage challenges now that we've raised the stakes to 20-bit linear digital audio.

The Soul Of A New Machine

During my conversation with Dan Tinen we spoke of the secrecy surrounding the development of the ADAT Meridian and the completion of the hardware and software for the system: "We were very careful in choosing how we would introduce the system to the public and through which specific medium," he explained. "The hardware design is basically finished and despite the guys at Alesis having to work overtime to complete the Meridians that you saw at Munich, we had several there. Although the Meridian has a jog/shuttle control on it and looks like a video clock, we have not developed a 9-pin control feature which many might have expected a product aimed at the video market to have.

"However, by simply using the SMPTE timecode to lock to an external device,

the Meridian can lock and resolve with very little chase time because the transport is so fast. In fact, the new unit can locate to a position twice as fast as the ADAT-XT, so chase and lock will be accomplished in a few seconds after reaching the sync point and thereafter is locked to better than sample accuracy."

I asked Dan who he imagined would buy an Alesis Meridian. "Firstly, studios currently equipped with 24-track or 32-track analogue machines. Sure, there will always be the market for the analogue 24-track on the two-inch format but, on the whole, most professional users and clients are expecting more than these can currently deliver. Secondly, I expect that, despite the price of the Meridian, there will be a lot of project studios out there that will insist on having the best, especially when recording 24 tracks in 20-bit mode. It's more portable, instantly ejects with no upload or download time, and the storage media are very inexpensive compared to magneto-opticals.

"And thirdly, there will be many film production and post production facilities that will consider the Meridian as the only option for a tape-based digital

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multitrack recorder. The Meridian is ideal for these people as it offers the highest dynamic range that they require, low noise floor, low distortion levels — it can even be used outside as an outside location recorder. And, despite the fact that the tape length is still limited to 67 minutes of recording, it is quite easy for two machines to be offset so that reel one runs straight into reel two."

Conclusion

The ADAT Meridian certainly has a fine tradition to follow, with over 90,000 ADATs already out in the world. The Meridian has been designed to offer the features that professional users have been telling Alesis they need, and it would seem to have succeeded in providing these at a price that will be hard to ignore. Time will tell if it can prove as popular as its forerunners but, for now, Alesis have the bit between the teeth — all 20-bits in fact!!

Rob Alexander is editor of *Audio Media* magazine, where this article first appeared.

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Professional Music Production in Australia

ENTECH Seminar debates status of studios and music label approach

You would expect a Seminar with over 70 pro audio heads attending would represent a high technology uptake. So when asked how many were connected to cable TV (and subsequently broadband cable) the answer : one.

One person. The ENTECH seminar on Music Production in Australia did attract a technology based audience. And that little survey says a lot about the marketplace today.

Then John Woodroffe, manager of Savage Garden, asked the audience how many people present had purchased a CD through the internet. Answer: One.

Woodroffe stated his view on the future of record sales - people will buy the packaged product. "People's record collections are a big statement of themselves" he said.

Woodroffe was joined on the panel by producer Ross Fraser, Studio owner Simon Leadley, A&R Manager Mark Pope

and session moderator Andrew Scott.

The session explored the state of music recording today. Consensus view: the 'new' technology explosion has happened. It's pretty well changed the face of the studio market and what you see now is what you'll get.

Savage Garden are a classic case - their current #1 album was recorded on ADAT's in Charles Fisher's home studio and mixed at Gotham.

Pope and Leadley said that the time constraints and pressure of having a professional studio on hand at \$200 an hour are no more, artists can and do record at home when they choose. Increasingly releases are recorded this way then mixed at a professional studio afterwards.

Andrew Scott told how The Angeles are currently recording on the Roland VS 880 at their own schedule.

While recognising that technology has changed the face of music production



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Music Production In Australia

Panel at ENTECH

(continued from previous page)

and possibly for the better, everyone agreed there is a problem with lack of training. Although more people are using project studio technology, the training and interaction that once occurred in large studio facilities is no more.

The losers from the introduction of new technology have been heavily capitalised recording studios. Scott himself perhaps saw it all coming because he exited ownership of large Sydney facility Rhinoceros Recordings some years back.

The other marketplace losers have been middle ranked recording engineers who have lost their jobs and either moved to Asia, got a new career, or opened a project studio and got themselves listed in our BASF tracking guide.

Simon Leadley expressed a view that his facility, Trackdown Digital (Sydney) pretty well is equipped for the times, as they do work on animation, film post and have in house graphic design and writers for a one stop shop approach. He said that the studio market is going global, and the action is in video and post.

Generally the mood was upbeat, and the message during the one hour seminar was: "get on with it, there is no mucking around, technology is here, use it".

A theme: that Australia is increasingly providing software (music). The parts can be made here (on the DA-88 or whatever) and then taken overseas to be finished.

Closing words from John Woodroffe: "We require vision for success. See where the market is going, Have vision."

STUDIO PROTALK

Compiled by Dan Cole

It is hard to believe but so far ProTalk! has not looked at effect processors in the studio: What are studio professionals' favorite processors and why? How are they used and on what? General rules of thumb are also considered in this month's forum.

'Everything you do is an effects processor', says Kim Horne from PowerHouse Recorders, Adelaide, 'The acoustic space you record in, the microphones, type of cable, microphone pre-amp, choice of routings etc — its all about choices. As to specific units, everyone perceives the colour blue differently so part of the answer lies in having lots of colours to choose from but the most important ingredient is the imagination.'

Gordon Hervey from Charing Cross Studio, Sydney, says: 'My favourite FX is the old kerosene powered, black and white EMT 240 Gold Foil reverb. Like most mechanical FX it is adjustable only for decay time, but patching a delay unit on the input will provide pre-delay and make the sound more useable. The reason I like the old box is that the stereo image is very random & raw. Nothing electronic sounds quite like it.'

Dave Tozer from Crystal Clear Studios, Sydney: 'My favorite at the moment is my Lexicon 300 reverb. The reverb sounds 'real' and its transparency is 'crystal clear'; the parameters are extensive and work effectively and changes in parameters are easily heard. I mostly use the reverb over snare, kick drum, vocals, brass and acoustic guitars — even though I have a rack full of quality effect units. I can of-

ten do a mix just using the Lexicon 300. Sometimes a general rule is *Less is Best*. If the sounds going to tape are well recorded the need for lots of effects is not usually required and the result can be a realistic and polished reproduction of the way the band actually sound.' Mr Tozer suggests that well tuned drums and well placed room mikes on instruments can help here.

From Darling Harbour Studios comes this response: 'I'm using Zoom at the moment for a single unit that can cover most applications. I usually set up the quad processor on 'stereo room' for an overall room which gets sent a bit of everything for continuity. The other two patches can be used as another stereo either reverb or chorus or be split into two mono sends - usually a delay or reverb. I'm very impressed with its ability to link FXs. I can stereo delay a guitar then link that to a stereo reverb. My general rule of thumb is if you use it then make it EXTREME.'

'Whatever sounds best for the current project is my favourite,' says Greg Dixon of Aphek Studio, NSW. He continues, 'It can be anything from a high end digital processor to an old stamp box! As with all digital gear you need to keep the input level as close to 0dB as possible to get the full bandwidth. Reverb is the most used effect followed by delays and chorus/flanging. A common sign of bad demos is too much reverb on singers who always want more to cover a bad performance. Dedicated reverb units almost always sound better than multi-effect units, for example, in my experience the Microverb III's reverbs sound clearer, richer and quieter than those in the more expensive

quad reverb, so use your ears. As with anything no amount of processing will make up for bad playing, or engineering.'

Paul Bryant from Paul Bryant Mastering, Sydney said: 'I usually transfer to the digital domain as clearly as possible and then stay there. I love the clarity of high-end digital equipment although some analogue equipment is also good for specific sounds. A lot of gadgets are intended to make boring sounds sound interesting — why not create interesting sounds to start with? Finally don't judge by what you read — use your ears.'

Barrie Clissold from Wombat Rd. Studio in Victoria says, 'We have a pretty wide range of effect processors and find that every one has a particular forte. Most units in production these days have very good specifications and sonic qualities to match.

'We will usually use a Lexicon LPX-15 for vocals, while the older Yamaha SPX-90 seems to be fine on snare and other percussive instruments. We will also often use a SPX-900 for vocal doubling effects and small amounts of pitch shift. The Alesis Quadraverb can be a very nice on acoustic guitars and also has great Leslie Speaker simulator. The Yamaha REV-7, which has limited bandwidth, works well on electric guitars for delay and phasing effects. We also use a number of other smaller units for reverb and chorus as sometimes cheaper units give a rawer and more *live* sounding effect which can be useful when creating live sounding demos.'

PA CRESCENDO AT ENTECH

Systems line up for the first time

Ask PA system manufacturers how they would like their system compared to others and you'll get a different answer every time. The A.E.S. have a paper on the recommended practice for the subjective evaluation of loudspeakers. It wasn't used at ENTECH 1997!

Instead, the organisers called for each manufacturer to place one system capable for 800 people - complete with amplification and drive electronics - on a stage. Interpretations varied, but essentially the systems were matched. One mono stack was used, as stereo created too many potential problems.

Then the seven systems were run in sequence and compared, at a daily session which was run at the end of the trade show. Called 'the PA Crescendo', the session ran from 6pm. It started with a singer armed only with guitar, who played two numbers as the 'organic' component of the display. Each system was run in sequence, and lit to identify.

After the vocal segment a CD track from each manufacturer was cycled through each system, which were run at equal gain to a dB(a) reading at the Mackie SR40:8 mixer. Different tracks through all systems in sequence were run for around 20 seconds duration through each.

The final part was the 'how loud will it go' session, which allowed the vendors to determine eventual levels. Be-

cause the trade show was over for the day, noise wasn't the problem.

The seven vendors participating were Apogee Sound (AE Concert Series), Meyer (MSL-4, 650-P), Mach (M126R, M182R), Yamaha (WF WaveGuide series), AmPower (VS system), JBL (AS3218, AS1028), and EAW (KF650e, SB1000e).

A crowd of several hundred attended each days Crescendo, with some choosing to hover directly in front of each system to check component excursion and electronics indications. Amplifiers and processors, as chosen by the participants, were on display. Most participants stood well back to appreciate the different systems.

Leaving the hall afterwards discussion was vigorous amongst the trade each day as to what conclusions could be drawn. The organisers didn't promote the session as a 'shoot out', but it seems some people were put out that a formal judgement wasn't made. Organiser Julius Grafton simply said 'listen and learn' when asked, and a straw poll taken afterwards definitely had some winners and losers.

There was absolutely no pressure on any manufacturer to participate, and those who didn't had various valid reasons for not doing it!

You had to be there to find out whose system was best. We will not tell you!

STUDIO PROTALK

'The main thing to watch out for with nearly all effects is not to overdo it unless you are using the effect to create a highlight such as an echo on a particular word or phrase. In general if the effect is immediately noticeable it is probably too loud. With instrument close mikes we will usually add a little and different effect on each instrument at the mixdown stage just to add a little ambience and character to what will invariably sound dry and lifeless.'

Jeff Cripps from A#Sharp Recording Studio in Sydney said: 'Buying new equipment is time consuming due to the learning curve, so when I do, I love it when I can

use it A.S.A.P. The LXP-15II is easy to use and the reverbs are wide and transparent (if such a thing is possible). I love my old Yamaha SPX-900 - because it works, all the patches work. It's hard enough getting a good song arranged and then to tape - I don't need hassles at mixdown from an FX processor that pings or boings on the snare drum when I put it on.'

Norman James McCourt from C'est Ca Recording Services (VIC) Effects processors come and go but the good ones tend to stay such as Rev 1, SDE 3000, PCM 60/70. However it would be nice if some of the manufactures

A REPORTERS DREAM COME TRUE

These clever people at ASC (UK) have released an upgraded MD Report! The system is a reporter's style carrier that accepts either the Sony MZ-R30 mini disc recorder or the TCD D8 DAT recorder.

It offers professional features for these two essentially consumer recorders. Input is now or two L & R balanced XLR3 connectors with a MIC/LINE amplifier whose outputs feed the LINE input of the recorder and are switchable MONO or STEREO.

Output is derived from LINE OUT of the recorder and summed MONO to a balanced XLR3.

A separate 3.5mm stereo minijack is also provided.

A built in LOUD SPEAKER is muted when 6.5mm headphones are inserted. Power is provided by your choice of four "D" cells, a rechargeable lead-acid battery or ext. plug pack. An intelligent charging circuit prevents dry cells from being charged.

Audio Sound Centre can provide the MD Report! to use with your own MZ-R30 MD or TCD D8, or as a complete reporter's package including headphones, microphones and cables.

Ask for our MD Report! fact sheet, the MD Report! is very affordable and the fact sheet is FREE.

Call Alex or Geoff on
FREECALL
1 800 675 168.



ASC
AUDIO SOUND CENTRE



BASF National Tracking Guide

ARTIST **PRODUCER** **ENGINEER** **PROJECT**

New South Wales

#Sharp Jeff Cripps (02) 9534 4440. 24 Track 1*			
Margaret Bradford	Jeff Cripps	Jeff Cripps	Kid's CD
Margaret Bradford	Jeff Cripps	Jeff Cripps	Instrumental CD
Eddie Youngblood	Jeff Cripps	Jeff Cripps	Ads
Black Feet	Jeff Cripps	Jeff Cripps	Demo
Airmotion Studios Guy Dickerson (02) 9550 6576. 24 Track Analogue & Lock to Picture			
Stephen Rae	Stephen Rae	Greg White	Feature Film
Waldo	Waldo	Frank Keres	Album
Steve Clark		Shane Fahey	Album
Alberts Studios Leesa/Rob (02) 9953 2544. SSL Studio. 48 Track			
Robin Loau	Anthony Copping	Mike Ross	Album Mix
Hills Christian Centre	Russell Fraser	Ron Davis	Album
Monique Brumby	Mike Duffy	Mike Duffy	Single
Andy 500	Rob Taylor	Rob Taylor	Album Mix
Judith Durham	Mike Duffy	Mike Duffy	Single
Eva Trout	Rob Taylor	Mike Ross	Album
Aphex Studio Greg Dixon (02) 9876 8170. 16 Tracks to 1* analogue			
Conspiracy Theory	Greg Dixon/Doug Williams	Greg Dixon	Album
Cyan Brass	Cyan Brass	Greg Dixon	Demos
Steve & Mori	Steven Tonge	Greg Dixon	Demo
Charing Cross Studio David Sykes (02) 9387 8362. Classic 8000 Series Neve, Studer, Analogue			
Ben Nightingale	Greg Wales	Greg Wales	Album Track/Mix
Tractor	Wayne Connelly	Wayne Connelly/Peter Jones	Album Track/Mix
Spoon	Wayne Connelly	Wayne Connelly/Peter Jones	Album Track/Mix
Violetine	Wayne Connelly	Wayne Connelly/Peter Jones	EP Track/Mix
Dogbuoy	Dogbuoy	Peter Jones	Album Tracking
Glare	Glare/Peter Jones	Peter Jones	Album
Crystal Clear Studios Dave Tozer (02) 9684 1152. 24 Tk. Dig. (Adats & BRC), 32 Ch. Console			
Back Issue	Dave Tozer/Band	Dave Tozer	Demos
Peter Firth	Dave Tozer/Band	Dave Tozer	Demos
A.D.	Dave Tozer/Band	Dave Tozer	Album
Quick & The Dead	Band	Band/Dave Tozer	Mixdown
Digging For Bone	Dave Tozer/Band	Dave Tozer	Tracking
Melanie Holden	Dave Tozer	Dave Tozer	Demos
Damien Gerard Studios Marshall (02) 9660-8776. 2' 24 Trk., 1/2' 16, 32 Trk.			
Mind Candy	Steve Francis	Russell Pilling	Pre Production
Gee-Gaw	Mouse	Russell Pilling/Jamie	Album
Click	Band	Jordan/Konrad	Compilation Track
Cradlespace	Band	Jamie Carter	EP
Automatic	Band	Marshall Cullen	B Sides
Venice	Band	Russell Pilling	EP
Darling Harbour Studios Ike (02) 9211 1474. 24 Track MCI 40 Channel Desk			
Noogie	Band/Sucka Fish	Sucka Fish	Demos
Ash Wednesday	Band/Sucka Fish	Sucka Fish	Vocals Re-mix
Merge	Band/Sucka Fish	Sucka Fish	EP
Afram	Larry Vankriedt	Julian Slade	Tracking
Joe Egg	Tim	Sucka Fish	EP Tracking
She Tah	Ike	Sucka Fish	Demos Project
Festival Mastering Catherine Knapman (02) 9395 8070 Sonic Solutions			
Dirtbone		William Bowden	"Cancer" Album
Relic		William Bowden	Mini LP Mastering
Olivia Project	John Springate	William Bowden	Remixes, Mastering
Grant Luhrs		William Bowden	Mastering Album
"Force One" Compilation		William Bowden	EQ & Compile
Growl		William Bowden	EP Mastering
Festival Studio Catherine Knapman (02) 9395 8070. MCI or Studer Analogue or Mitsubishi Digital			
Fresh Productions	Ken Francis	James Cadsky	"Hasta La Vista" TVC
Mental As Anything	Band/Mark Thomas	Mark Thomas	Overdubs
Human Nature	Paul Begaud/Peewee Ferris	Matt Lovell	Remixing vocals
Robyn Archer	Paul Grabowski	Mark Thomas	Vocal Overdubs & Mix
Greedy Smith	Greedy Smith	Mark Thomas	Album Recording
Joe Cocker	"Now You're Talking"	Matt Lovell	Ch. 9/Ray Martin Interview
Hullabaloo Geoff (02) 9906 2933. 24 Track, 16 Digital			
Jamie Rigg	Jamie Rigg	Glenn Heaton	TV Theme
Grey Boy	Grey Boy	Geoff McGarvey	Magic Show Soundtrack
Corporate Flicks	Corporate Flicks	Glenn Heaton	3 x Corporate Production
Graham Gam	Graham Gam	Geoff McGarvey	2 x Corporate Production
Strum	Glenn Heaton/Geoff McGarvey	Glenn Heaton/D. Bowers	Album
Infinity Digital James Novak (02) 9672 3513. Pro Tools, Lexicon, Yamaha etc.			
Mary Secret	Band	James Novak	EP
Mike Woods	Mike Woods	James Novak	Voice Over
John L. Simpson	John L. Simpson	James Novak	Edit/Mix/CD
Vox Humana	Groovetoun	James Novak	Arrange/Scoring
JMF Sound Studio Fran Esther (02) 9790 4097. 24 Track, Digital Mastering, Post Production			
Mr James	Band	Ralph Esther/Simon Meli	CD Album
Atlantic Slide	Ralph Esther/Band	Ralph Esther	CD Tracks
Mario Brothers	Mario	Simon Meli	Demo
Wicked Choice	Ralph Esther/Band	Simon Meli	CD Tracks
Black Label	Ralph Esther/Band	Rob Gandiaga	CD Tracks
Lucinda Street Recordings Rick Mostyn (0412) 272 165. Digital Mobile Recording Studio			
Stonehouse	Rick Mostyn	Rick Mostyn	Live CD
Liquid	Rick Mostyn	Rick Mostyn	Live CD
Nabilone	Rick Mostyn	Rick Mostyn	Live CD
Acoustic Shock	Rick Mostyn	Rick Mostyn	Live CD
Mighty Fine String Band	Rick Mostyn	Rick Mostyn	Live CD
Positions Vacant	Rick Mostyn	Rick Mostyn	Live CD
Lucinda Street Recording Master Studio Rick Mostyn (0412) 272 165. Mastering Studio			
Johnny Devlin	Rick Mostyn	Rick Mostyn	CD
The Australian Opera	Rick Mostyn	Rick Mostyn	CD
Main Street Studios Robert Specogna (042) 834 515. 16 Track			
Warwick Marsh	Warwick Marsh	Robert Specogna	CD Album
Unusual Addiction	Robert Specogna	Robert Specogna	CD Album
Warra Bush	Warra Bush	Robert Specogna	CD Album

ARTIST **PRODUCER** **ENGINEER** **PROJECT**

Gairden Cooke	Gairden Cooke/Robert Specogna	Robert Specogna	CD Album
Road House	Road House	Robert Specogna	Demo
Scattered Delusions	Robert Specogna	Robert Specogna	Single
Megaphon Guy Dickerson (02) 9550 6576. 24 Track Analogue & Digital			
Wendy Matthews	Glenn Skinner	Tony Espie	Album
Stevie Wishart	Stevie Wishart	Shane Fahey	Album
Ruby	Buzz Bidstrup	Guy Dickerson	Tracking
Martinista Choir/David Hirshfelder		Guy Dickerson	Album
Sidewinder		Paul Mc Kercher	Tracking
Mirage Gerry Nixon (02) 9211 3915. 24 Track Mixdown Studio			
Gregory Smith	Jim Blackfoot	Mark Thomas	Album Mix
Billy Thorpe	Billy Thorpe	Greg Clarke	Album Mix
Bob Downe	Mark Travola	Karim Sai	Album Mix/Pro Tools
Wend Kims	Dave Marret	Dave Marret/Nigel O'Connell	Album Mix
Comments	Gary King	Gary King	Album Mix
Mental As Anything	Mental As Anything	Mark Thomas	Album Mix
Nu-town Greg Hopping (02) 3516 3306. 16 Track 1* Analogue, 24 Track Digital			
Tony Deveaux	Tony Deveaux	Mark Worrall	Album
Lisa Wass	Greg Hopping	Mark Worrall	Single
Daydream	Daydream	Mark Worrall	Single
Jacki Gittos	Greg McCosker	Mark Worrall	Single
Shield	Greg Hopping/Kyle Nevin	Mark Worrall	Single
Boyz With Toyz	Greg Hopping/Ross Alexander	Mark Worrall	Single
Paradise Studios Jason Lea (02) 9357 1599. Custom Console, Studer A800, Valve Onboard			
Blaine Whittaker	Blaine Whittaker/Mike Stavrou	Mike Stavrou	Album Mixing
Soul Kitchen	Band/Mike Stavrou	Mike Stavrou	EP Mixing
Universe	Steve Balbi	Mike Stavrou/Tony Wall	Album Mixing
Bettina Litchfield	George Brodbeck	Glenn Phinister	Album Tracking
Janet Seidel	Dave Seidel	Jason Lea	Album Tracking
Front End Loader	Magoo	Lachlan (Magoo) Gould	Album Tracking
Paul Bryant Mastering Paul Bryant (02) 9748 0222. Mastering Suite			
Firesign	Greg Clark	Paul Bryant	CD Master
Susanna Moore	Tony Sherwan	Paul Bryant	CD Master
Sixties Mania	Andrew Hill	Paul Bryant	CD Album
Dave Reynolds	John Jurss	Paul Bryant	CD Album
Grounded	Jeff Cripps	Paul Bryant	CD Master
Pina Colada	Fernando	Paul Bryant	CD Master
Powerhouse Studios Doug Henderson (02) 9318 1220. 32 Input Neve Console 24 Trk. Studer A800			
Solar Rhythm Records	Dara	Russell Pilling	CD Single
Anton Ryan	Anton Ryan	Doug Henderson	Single
John Rowles	L. Berger/D. Henderson	Doug Henderson	CD Album
Jim Cobain	Shane Hale/Band	Shane Hale	CD EP
"Mystery"	Band/Russell Pilling	Russell Pilling	CD Single
Freesia Mooney	L. Berger/D. Henderson	Doug Henderson	CD Single
Q Recording Studios Gordon Sullivan (02) 9212 4851 24 Track Complex			
Voices From Vacant Lot		Richard Muecke	Album
Wendy Matthews	Daniel Denholm	Tony Espie	Strings for Album
Pollyanna		Paul Mc Kercher	EP
B'Tutta		Richard Muecke	Album
Rockinghorse Recording Studios Grant Hilton (066) 884 131. 32 Tk. Analogue, 32 Tk. Digital			
Dexter Moore	Dexter Moore/Jeremy Allom	Jeremy Allom	Album
Wendy Matthews	Glenn Skinner	Tony Espie	Album
Sledgehog	Keith Williams	Keith Williams	Demos
Diana Ah Naid	Keith Williams	Keith Williams	Album
Defect	Keith Williams	Keith Williams	Album
Skylab Studio David Russell (02) 9310 4774. 32 Track Digital Automated			
Society	Stewart Tume	David Russell	Album
Sanctuary	Toni Boyd	Peter Thomas	Album
Morph	David Andor	David Russell	Mastering
Go Blow	Phil Grove	David Russell	Demos
Bonepeople	Adrian Workman/Vanessa Lucas	Nonda	Single
Blue Train	Dave Weir	David Russell	Demos
Sony Music Studios Emma Markesteyn (02) 9332 0320. 24 Track Recording			
Ed Hughes Quintet	Ed Hughes	Ross A'hern	Record/Mix/Master Album
Elizabeth Lord		Ross A'hern	Tracking Album
Polynesian Sunset	Simon Tonx	Simon Tonx	Tracking Album
Flyspeak	Simon Tonx	Simon Tonx	Record/Mix/Master EP CD
Stranded	Simon Tonx	Simon Tonx	Record/Mix/Master CD
Zoomaroo		Simon Tonx	Record Tracks (vocals)
Dicky Valentine	Rick Mostyn	Rick Mostyn	CD Mastering
Sound Level Studios John Soane (02) 9552 3200. 16 Track Digital/Live to DAT			
Cactus Child	Cactus Child	Shane Hale	Demos/Live to DAT
Sedgewick Pie	Sedgewick Pie	Shane Hale	Demos/Live to DAT
Lickerish		Dave Rashley	Demos/Live to DAT
Nathan Sykes	Nathan Sykes	Jorden Brebach	Multitrack Demos
Tom Gleeson	Tom Gleeson	Jorden Brebach	Demos/Live to DAT
Colin Bloxson	Colin Bloxson	John Soane	"Lickin' My Capsteel" CD Demo
Soundwarp Meredith Brooks (02) 9905 7144. Mastering			
Roger McDonald	Roger McDonald	Meredith Brooks	CD Album
Lucas Loizou	Lucas Loizou	Meredith Brooks	CD Album
DC-10	Matt	Meredith Brooks	CD EP
Various	Canetoad Records	Meredith Brooks	CD Album
CAT	CAT	Meredith Brooks	CD EP
Vaughan Dunn	Vaughan Dunn	Meredith Brooks	CD Demo
Studios Arts Productions Ed Lee (042) 84 9128. Independent Recording Studio			
P. Harness	Band/Ed Lee	Ed Lee	Tracking for CD
Altered States	Ed Lee	Ed Lee	Tracking for CD
Movement	Band/Ed Lee	Ed Lee	Tracking for CD



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BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT	ARTIST	PRODUCER	ENGINEER	PROJECT
Graphic Golf	Band/Ed Lee	Ed Lee	Interactive Tutorials	Vandersound Studios Eric Vandersande (07) 5546 8100. 24 Trk. ADAT/XT, HDR, 02R, CD-R, Mastering			
Ed Lee	Ed Lee	Ed Lee	Soundtrack Wings 66 99s Video	The Wild Ones	Eric Vandersande	Warwick O'Neill	Demo
Erikas Jive	Band/Ed Lee	Ed Lee	CD (finally out)	After Hours	Eric Vandersande	Warwick O'Neill	Demo
Studios 301 Fiona Simpson (02) 9211 7301. X880, A800 - 24 Tk. 2'				Memphis Kings	Eric Vandersande	Warwick O'Neill	Demo
Wendy Matthews	Glenn Skinner	Tony Espie	Mix - Album	Jan Brooke	Eric Vandersande	Eric Vandersande	Relaxation Album Tracking
Sidewinder	Paul McKercher	Paul McKercher	Mix - Album	Scott Patterson	Eric Vandersande	Scott Patterson	Album Tracking
Grinspoon	Phillip McKeller	Phillip McKeller	Mix - Album	Indooropilly High School	Eric Vandersande	Eric Vandersande	MIPS
Pollyanna	Paul McKercher	Paul McKercher	Mix - Album	South Australia			
Reni Kenelly	Peter Hensley	Paul Annon	Mix - Album	Agro Fish Studios Julie Raynes (08) 8223 7211. 24 Track Video Sync, HD recording, midi,			
Trackdown Digital Marcus Leadley (02) 9550 6890. 3 x 12 Track Pro Tools, 24 Track ADAT				The Music Shop	Wilson Maine	Andrew Bayfield	Children's TV Show
Yoram Gross Film Studio	Yoram Gross	Simon Leadley/Tim Ryan	Post Production	Safety Electrical Services	Mike Steel	Andrew Bayfield	5 x Radio Spots
Applause Entertainment	Peter Hamilton	Torie Lista	Medleys for Sugarkatz	Cash Buy Furniture	Mike Forrest	Andrew Bayfield	Jingle
Robyne Dunn	Robyne Dunn	Simon Leadley	Album Mastering	Marshman Consult. Group	Peter Marshman	Andrew Bayfield	Training Seminars
Mardi Gras	Garry Leeson	Torie Lista/Catrina Schiller	Vocal Recordings	Lumpsucker		Nigel Sweeting	Demo
ABC Music	Chris Herriott	Kathy Naunton	Bananas In Pyjamas Album	Derek Charles	Derek Charles	Steve Fieldhouse	Demo
Arizona Productions	Peter Kaldour	Torie Lista	TV Arvo Stabs	Mixmasters Productions Mick Wordley (08) 8278 8506. 24 Track 2'			
Tracking Station Nadia Spencer (02) 9281 8899. 2' 24 Track Multi-track, Dolby SR				Miltons	Jed, Mick Wordley	Mick Wordley	Mix
Terry Murray	Martin Cass		Album	Greg Baker Blues	Greg, Steve Fieldhouse	Steve Fieldhouse	Album Mix
Wiggles	Anthony Field	Chris Brooks	Album/TV	JBE	Chris Davies	Steve Fieldhouse	Album
Youth Rock		David Price	Album	Nick Vall	Glyn Lehman	Mick Wordley	Watercare Songs
Troy Horse Micky Levis (02) 9319 1799. "Tactile" 2' 24 Track				100 mph	Morrie	Evan James	Album
The Wiggles	Chris Brooks	Chris Brooks	Soundtrack	Borderers	Jim Patterson	Mick Wordley	Album mix
Half Miler	EHHH Productions	Simon Holmes/Dan Griffen	EP	"the fridge" Nigel Sweeting (08) 8231 3588. 16 Track Digital, full Automation			
Psycho Zydeco	Chris Wilson	Tom Kazas	EP	Flamencoaire	Band	Nigel Sweeting	CD
Snatch Express	Sophie Snatch	Beaver Denny	Album	The Elmores	Don	Nigel Sweeting	CD
Tim Hopkins	Band	Tom Kazas	Tracking	Mick Videlli		John Villani	Demo 2
Tenzing Tsewang	Colin Wright	Colin Wright	Album	Victoria			
Up Productions Chris McCusker. (063) 373 572. 16 Track Analogue, Digital Mastering				Back Beach Recordings Mark Rachelle (059) 886 948			
The Robinson Bros	Band/Chris McCusker	Chris McCusker	Tracks	Clay-Men	Mark Rachelle	Mark Rachelle	EP
The Upswing	Band/Chris McCusker	Chris McCusker	Album	Vauxdhvil	Mark Rachelle	Mark Rachelle	Album
Velvet Sound Recording Studios Dave McCunn (02) 9264 3420. 24 Tk., 32 Ch., 2' Analogue				Damaged	R. Norton	R. Norton	Single
Universe	Steve Balbi	Tony Wall	Tracking	Tip	Ray Luckhurst	Norris/Ray Luckhurst	Album
Wrecking Crew	Craig Portells	Craig Portells	Tracking	Big Beat/Equinox Studios John "Shadow" Toth (03) 9898 5815. 16 Tk. Analog, 8 Digital 32 Channel Auto			
Greedy Smith	Greedy Smith	Mark Thomas	Mixing	Amanda	Amanda/John Toth	Williams/Borgeest	Demos/CD
Eureka	Band	Adrian Grigorieff	Mixing	Stainless Steve	Williams/Toth	Borgeest	Demos/CD
Sister Madly	Acoustica	Adrian Grigorieff	Tracking	Absolute		Williams	Demo
Mental As Anything	Band	Mark Thomas	Tracking	Murphy Boys	Williams/Toth	Borgeest	Demo
				Myself	Williams/Toth	Borgeest	Demo
				Sandra Joseph		Borgeest	Demo
Queensland							
Prodigious Audio Richard or Mark (07) 5571 1400. Digital Tape & H.D., Analogue & Digital Mixers							
Untouchables	Band/Mark Munro	Mark Munro	Album				
Corporate Video	Trans World Media	Mark Munro	TV Advert				
Max Software	Trans World Media	Mark Munro	Corporate Promo				
MC Bob	Mark Munro	Mark Munro	Tracks				

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ENTECH People



At ENTECH this year we had the assistance of a group of volunteers who responded to The Call in these pages. They gave up their time, some travelled interstate to do so. The organisers are eternally grateful, and have furnished each helper with a T Shirt, free subscription, a reference, and hopefully a good experience at ENTECH. Our helpers were: Andrew Spencer, Greg Seedsman, Andrew Ormesher, Andrew Myles, Matthew Botherway, Heldi Pilli and Steven Woloshenko. Not pictured are: Anthony Tar, Wesley Nott and Andrew Henderson. Our thanks go to you guys!

This is Stephen Wickham, from Sydney, who won a Qantas return air flight to ENTECH. He voted in the ENTECH AWARDS and was the lucky winner drawn.

BUYERS GUIDE

REVERBS ● DELAYS ● MULTI-EFFECTS

REVERBS

ALESIS

The Electric Factory (03) 94805988

Nano Verb gives you 16 of Alesis's best preset effects algorithms in a compact easy to use and affordable package. 18 bit with preset, in, out and mix controls as well as a parameter adjust control on the front panel. \$379

Microverb 4 offers 100 presets and 100 user programs of carefully created and sonically excellent reverbs, chorus's and delays to exciting multieffects and more. 18 bit with MIDI. \$649

Midiverb 4 designed for professional studios and musicians alike. The Midiverb 4 offers 18 bit A/D and D/A converters and 24 bit internal processing for a 20hz-20 khz bandwidth and 90 db dynamic range. 128 preset and 128 user programs give you the flexibility to create almost any sound imaginable. \$799.

ENSONIQ

The Electric Factory (03) 94805988

DP Pro the latest offering from Ensoniq. It offers amazing fidelity and incredible fx with true 24 bit internal processing. With a dynamic range of better than 100 db, dual ESP-2 digital signal processors running at sample rates of up to 48 k, and professional 20 Bit I/O as standard and 24 bit I/O option along with an optional Digital I/O board. \$2499.

DP 4+ is the flagship processor in the Ensoniq range. Four Balanced TRS inputs can process from 1 to 4 separate signals with totally separate or combined algorithms. 24 Bit, 54 algorithms, 400 presets, seamless switching of FX, Dynamic midi control +4 _10 switching. \$3199.

DP 2 features two Dsp chips, True stereo, 65 algorithms, 600 presets, Real time Modulation control and Balanced TRS in outs. Make a big impact on your studio, without making a big dent in your budget. \$1699.

Symmetrix 606 Delay



PHONIC

CMC Music (02) 9905 2511

Verbifex PDR 3700 16 bit AD/DA conversion; 64 x oversampling 256 programmes; LCM display (16 character x 2 line) THD less than 0.05%; dynamic range greater than 90dB. Frequency response 20 Hz - 20 KHz. Studio/sound reinforcement application. 1RU. \$450.

AMS

Synchotech Systems (02) 9417 5088

AMS RMX16 digital reverberation system is a true reverb Mono in stereo out and features 9 variable programs all with a full 18 kHz bandwidth. \$12,500.

ROLAND

Roland Corporation (02) 9982 8266

SRV-330 is able to create acoustic spaces as large as 512,000 cubic metres. Incorporates Roland's proprietary RSS 3D spacial technology. \$1649.

dbx

Jands Electronics 02 9582 0909

dbx 290 latest in digital technology coupled with world class reverb algorithms, the 290 has the easiest human interface in the business. Natural sounding ambiances coupled with dynamite gates provide the user with superb sonic performance at the touch of a button. 1RU. \$995.



Alesis Nano Verb

PEAVEY

Audio Telex Communications (02) 9647 1411

IDL1000 two input, three output multi tap digital delay line for time alignment of multi-speaker systems. Up to 1.3 seconds of delay in 20.8 micro-second increments. Uses A/D 16 bit, 64x conversion. \$1042.

RANE

Jands Electronics (02) 9582 0909

Rane AD22 Alignment Delay a 2 channel alignment delay utilising Dolby TimeLink technology, giving a maximum delay of 327.68ms. Unit will display delay in milliseconds, metres or feet. Available with Euroblock or XLR inputs and outputs. Fully Balanced. 1RU. from \$2095.

Rane AVA22 Video Alignment Delay a 2 channel alignment delay utilising Dolby TimeLink technology, giving a maximum delay of 327.68ms. Fully Balanced. Adjustable in Field and Frame increments, NTSC or PAL Secam. 1RU. \$2295.

ROLAND

Roland Corporation (02) 9982 8266

SDE-330 employs ultra high speed DSP chips to provide state of the art delay effects such as Stereo, Quad, Multitap, Gate/Duck, pitch shift and more. With delay times up to 2.9 secs, it also incorporates the unique RSS 3D spacial technology to place sounds in a 3 dimensional space with only two speakers. 1RU. \$1649.

MULTI-EFFECTS

ALESIS

The Electric Factory (03) 94805988

Q2 is one of the most powerful multi-effects processors offered by Alesis. Its versatile Fx Processing engine can be focused on a single program or split into eight fx blocks at once for versatile sounding effects. 300 presets in total, 18 bit A/D D/A converters internal 24 bit resolution ADAT digital in out, 48 khz sample rate. \$1649.

Wedge is Alesis's latest digital fx processor. The Wedge has been designed to sit comfortably on a studio console for quick access to its four realtime controllers. 256 programs balanced TRS inputs and full midi implementation. (Available April/May 97) \$999.

PEAVEY

Australis (02) 9698 4444

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Showflex 24 bit, 38 FX types, up to 8 FX at one time, 256 memory locations, FX can be used in series or parallel configs. \$TBA.

DELAYS

XTA ELECTRONICS

Production Audio Services (03) 9415 1585

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BIAMP SYSTEMS INC

Production Audio Services (03) 9415 1585

DDL11 digital delay line. Utilises DSP technology providing one input/one output, single tap delay for time alignment of remote and under balcony speaker systems. 1RU. \$1395.

AMS

Synchotech Systems (02) 9417 5088

AMS S.DMX programmable 2 channel digital delay. Has two fully programmable delay lines with up to 6.6 secs per channel expandable to 13 secs delay at full bandwidth (18 kHz), built in harmoniser, looping and editing facility, optional keyboard/chorus controller. \$13,400.

ROLLS

Horwood Australia (02) 9585 1011

RD 320 single rack unit chassis; up to 120 metres of delay time; for speaker distance delay or time alignment. \$915.

SYMETRIX

Audio Telex Communications (02) 9647 1411

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402 dual output room delay for acoustical alignment of distant speaker systems. One input to two outputs. Adjustable in 1ms increments up to 884 ms (325 metres, 1000 ft). Non volatile memory settings. \$1689.



BUYERS GUIDE

REVERBS ● DELAYS ● MULTI-EFFECTS

ELECTROVOICE

Mark IV Audio (02) 9648 3455

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DRP 15 1RU, ideal for engineers, 24 bit processing. This unit combines reverbs, delays and other effects with tough construction and simple operation. Made in Germany. MIDI controllable. \$2099.
DLS 223 digital rotary organ cabinet simulator in one pack unit case. \$1729.

BOSS

Roland Corporation (02) 9982 8266

SX-700 thirty effects in one box. Single rack unit with 18-bit A/D and D/A conversion. 44.1 kHz sampling rate and effects like flanger, pitch shifter, EQ,

reverbs, delays and the RSS 3D space simulator. \$1295.

GX-700 single rack unit guitar processor which incorporates a pre-amp based on COSM modeling technology. The front panel gives easy access to 21 effects and nine emulations of classic amplifiers. \$1295.

SONY

Sony Australia 02 9887 6666

HR-GP5 Guitar multi effects processor, stereo output, MIDI In/Out, pedal Input, headphone output, 7 effects simultaneously in 38 configurations, inbuilt tuner, 100 presets, 100 user memories, dual 18 bit AD/DA, 48 bit processing. Footswitch accessory also available. \$799.

HR-MP5 2 Channel multi effects processor, 2 processing chains in each channel, 51 effects, 40

algorithms, including pitch shifter, 100 presets, 100 user memories, MIDI In/Out, pedal input. Headphone output, inbuilt tuner, 48 bit processing. Footswitch accessory also available. \$799.
DPS-V77 Stereo multi effects processor, 61 algorithms, twin EQ and effects processors in each channel, effect morphing, pitch shifting, dynamics, 199 presets, 199 user memories, full MIDI control, 24 bit A/D, 20 bit D/A, 52 bit processing, balanced and unbalanced analogue and digital in & out, 2 pedal inputs and lots more! \$2920.

**NEXT MONTH:
Live Mixing
Consoles**



BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT	ARTIST	PRODUCER	ENGINEER	PROJECT
C'est Ca Recording Norman James (03) 9419 1506. Digital & Analogue Auto 24 Track				Western Australia			
Thought Bubbles	Thought Bubbles	Norman James	Demo	Bonsai Recording Studio Tom Thorpe (09) 924E 4408. 24 Track			
Tell	Tell	Genn	Demo	Kay-Redman	Tom Thorpe	Tom Thorpe	Jingles
Thrush	Thrush	Genn	Oz Comp. Album	Ian Kenny	Tom Thorpe	Tom Thorpe	Album
Crystal Mastering John Ruberto (03) 9326 2318. CD Mastering							
Brad Walker	Simon Densley/Brad Walker	John Ruberto	CD Mastering	Mike Blake	Tom Thorpe	Tom Thorpe	Album
Hybrid	Hybrid	Joseph Carra	Digital Editing	John Pin	Tom Thorpe	Tom Thorpe	Demo
TILT	TILT	John Ruberto	CD Mastering	Matt Stonehouse	Tom Thorpe	Tom Thorpe	Demo
The Dumb Earth	Martyn Robinson/Band	John Ruberto	CD Mastering	Nick Davis	Tom Thorpe	Tom Thorpe	Album
Kevin Lee	Kevin Lee	Joseph Carra	CD Mastering	Planet Studios John Villani (09) 9382 2211. 48 Track & 32 Tk. Digital & 26 Tk. Analogue			
The Bluestone Festival	Brian Fraser	John Ruberto	CD Mastering	Dave Hole	Jim Gaines	John Villani	Single Mix
Edensound Productions Martin Pullan (03) 9429 6199, 0418 545 948. Mastering, Digital Editing							
Johnny Young Band	Band	Martin Pullan	Rock'n'Roll Party CD	Kerri-Anne Cox	Gary Ridge	Les Williams	Single
Magic Dirt	Band	Martin Pullan	European Version CD	Sonny Morgan	Sonny Morgan	John Villani	Album Mix
Von Zippers	Band	Martin Pullan	CD	Peter & Jay	D.T. & John Villani	John Villani	Album Tracking
Patrick McMahon	Patrick McMahon	Martin Pullan	Demo CD	Oz-Connection	Band/John Villani	John Villani	Album Tracking
Jim Keays	Jim Keays	Martin Pullan	Brisbane Lions Theme Song	Poons Head Rob/Sam/Bush (09) 9339 4791. 48 Track Recording			
The Mono Men	Band	Martin Pullan	Bent Pages CD	Intervarsity Choral Festival	Chris Loader	Rob Grant	Mastering
Electronic Music Productions Neil Goudge 0412 363 630. 16 Tk. Analogue and Sequence							
Smokin' Joe	Neil Goudge	Neil Goudge	Album	Graham Dickenson	Rob Grant	Rob Grant	Album
Gai Perry	Neil Goudge	Neil Goudge	Album	Alton Tebutt	Rob Grant	Rob Grant	Album
Mr Smyth	Neil Goudge	Neil Goudge	Album & Live	Spank	Rob Grant	Rob Grant/Stuart McLaughlan	EP
Andrea Lees	Neil Goudge	Neil Goudge	Video Soundtrack	Bolster	Rob Grant	Rob Grant	EP
Fortissimo Andy Parsons (03) 9699 5811. 24 Track, 2' 40 Ch. Harrison							
WT Adventures	Mal Webb	Siri Matsar	Comedy TV Themes	Satellite Recording Studio Darren Halifax (08) E470 4003. 16 Tracks Pro Tools IV.			
Sarah Liversidge	Mark Sinton	Andy Parsons	Demos	Hateman Tribe	Geoff Gibson/Band	Nick Hassall	CD Album
Carbine	Carbine	John Watson	Demos	Batroot	Alan Clarke	Nick Hassall	CD Album
Copping Music	Chris Copping	Adam Quaife	Advertising	Nebula	Simon Staltari/Band	Nick Hassall	CD Album
Kiss Music Recording Studios Paul Kosky (03) 9827 1500. SSL Console, 48 Trk. Digital, 48 Trk. Analogue							
Dog Buoy	Kalju Tonuma	"Kalbaby"	Album	Los Chasquis	Marco Quiroz/Band	Nick Hassall	CD Album
The Earthmen	Daniel Denholm	Daniel Denholm	Single	The Shona Ensemble	Yonah Zhoya	John Strickland	CD Album
Nil	Paul Kosky	Paul Kosky	Album	Dog Box	Alan Clarke/Ross Farchild	Nick Hassall	CD Album
Planet Sponge	Planet Sponge	Andy Baldwin	Album	Tropo Sound Mick Connolly (08) 9192 2394. 24 Track Dolby S			
Floyd Vincent	Simon Polinski	Simon Polinski	Album	Bauli Bushrangers	John Crooks	John Villani	Album
Paul Kelly	Mark Opitz	Mark Opitz	Single	Tom Vinicombe		Mick Connolly	Radio Ads
Newmarket Studios Ben Hurt (03) 9329 2877. 24 Track Otari/Automated Harrison							
Volition	Ben Hurt	Ben Hurt	EP	Lyn Page		James Edwards	Radio Ads
Nick Charles/Alex Burns	Kieren Tolhurst	Chris Corr	Album	Mark Bir: Bakar	Unknown	James Edwards	Jack Davis Project
The Shakers		Robert Dillon	Album	Wick Videlli		James Edwards	Demo 1
Studio 52 Paul Higgins (03) 9417 7707. Studio A - 32 Tk. Studio B Adat 24 Tk							
Miray	Trevor Carter	Trevor Carter	EP Tracks	Mitzend Recording Studio Alan Dawson (09) E331 1818. 16 Track Automated			
John Paul Pinchera	John Paul Pinchera	Trevor Carter	Album	Brad Upson	Brad Upson/Alan Dawson	Alan Dawson	Demo
Midnight Special	Barry Hills	Trevor Carter	Track for Album	Heysis	Heysis/Alan Dawson	Alan Dawson	Album
Andy Colvan	Barry Hills	Trevor Carter	Track for Album	Heads We're Dancing	Alan Dawson	Alan Dawson	Album
Pouch	Rowan Jarl	Peter Frawley/Rowan Jarl	Demos	Northern Territory			
Simply Tina	Gordon Gunn	Adrian Ricci	Demos	Caama Music Steven Tranter (08) 8952 9205.			
True Form Music Services Neil Gray (0500) 509 509. 16 Tk. Digital, 12 Tk. Analogue							
Minotaur	Band/Neil Gray	Neil Gray	EP	Young Teenage Band	Alan Murphy/Steven Tranter	Alan Murphy/Steven Tranter	
Conquest	Neil Gray	Neil Gray	Demo	Terrasphere	Band	Stan Satour	
Melodic Swell	Band/Neil Gray	Neil Gray	Album	Chrysophase Band	Steven Tranter	Steven Tranter	
Weed Feens	Band	Neil Gray	Demo	Western Desert	Mark Manolis	Mark Manolis	
Kitchen Master	Neil Gray	Neil Gray	EP	Masters Studio & Product on Lindsay Masters (08) 8932 1754.			
Wombat Road Studio Barrie Clissold (03) 5145 4204. 16 Tk. Digital, 16 Tk. Analogue							
B. Pitman	B. Pitman	Barrie Clissold	Training Video Soundtrack	Peter Ciriotti	Lindsay Masters	Lindsay Masters	CD
G. Rawlings	Rawlings/Barrie Clissold	Barrie Clissold	Demo Tracks	Hot Top Country (Various)	Lindsay Masters	Lindsay Masters	Album
Jess Kendal	Barrie Clissold	Barrie Clissold	Demo Tracks	YOUR BASF TRADE SALES OUTLETS:			
Crossroads	Garth/Twite	Barrie Clissold	Album Tracking	NSW: Audio Visual Designs (02) E281-2444, Silver & Ballard (02) 9439-5355, Independent Tape Services (02) 9436-0666 VIC: CATS (03) 9529-3177, Chapter Tape (03) 9580-662C, DEX Audio (03) 9372-2266, MTA & Assoc. (03) 9819-6455			
L. Weatherley	L. Weatherley	Barrie Clissold	Demo Song	SA: Adelaide Tape Duplicators (08) 8212-7111, Pro Media (08) 8276-6793 WA: Ausmag (09)314-1953, Pro Copy (C9)375-3902 QLD: Musiclab (07) 3862-1633, Tek (07) 3239-4000			
D. Rawlings	Rawlings/Barrie Clissold	Barrie Clissold	Album Tracking	BASF YOUR MUSIC IS SAFE WITH US			

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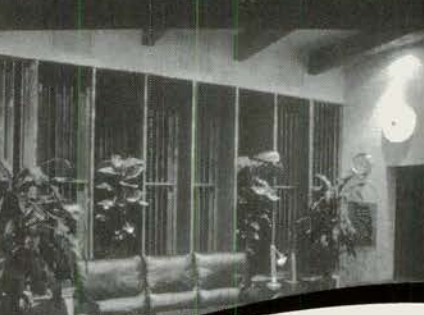


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The sound of no hands clapping

Is it just me, or are concerts not as loud as they used to be?

Over the last few years nearly every live show I've been to has been very disappointing. The equipment has never been better, the venues have been vastly improved, but the musical excitement index seems to have gone way down.

There's just not the screaming guitar or keyboard solos that roll your eyes over in your head and melt your ears anymore, nor the heart stopping thud of the kick drum beat hitting you in the chest. I think David Lee Roth was the last one that really pinned my ears back, although to tell the truth I think it's been all downhill since Led Zeppelin at Kooyong! Mixes these days seem to have been blandified, squashed, EQ'd and excited down to homogenised aural wallpaper.

Last year at the end of the Los Angeles AES show, thanks to Christine at ARX USA we scored some tickets to see ZZ Top at the Universal amphitheatre at Universal Studios.

Whoopee, we thought as we all cruised out there. This should be a shit kicker of a show well worth seeing.

Sadly it wasn't. The show was like blues beards and boogie in a cabaret lounge. It wasn't very loud - if you can hear people a few rows back discussing who's getting the next round of drinks and giggle cigarettes, then it's too soft for a rock concert.

Maybe I'm being over critical. It's just that if there's a guitar solo, I expect to hear it. After all, with a 3 piece band how many faders can there be to push up?

"Duh, let me see, umm, a guitar solo, uh, could it be this fader marked guitar? Uh oh, he's stopped. Oh well, I'll see if I can catch the next one."

I remember chatting to the mixer for the support band for ZZ Top when they toured here in '86. He'd finished and was just getting his bits and pieces together when ZZ Top's engineer got behind the console and said he could stay if he wanted to see the show from there.

"That'd be great," he replied, "I'm dying to see how a 3

piece band is going to use up 56 channels!"

Still they were *much* louder than BB King was last year. A friend had bought a couple of tickets to the show as an anniversary present for his wife! I had never thought his wife to be much of a blues fan, and my guess turned out to be right. She told him to stick the tickets where the sun don't shine and to take her out to a fancy restaurant with champagne and a limo!

So I went instead. Jeez, it was so soft that all through the show people were yelling at the mixer to turn it up. I'm sure it would have been a great concert but it never got to a sound level that made you want to get involved. If I'd been the one paying 43 bucks I'd have been mightily pissed off.

Likewise Eric Clapton. I'm sure I wasn't the only one who nodded off at his show. It was just like having Layla playing on the stereo at home, not too loud in case the kid wakes up. And I don't need to pay forty bucks for that! (Although if CD prices here go up much more I probably will!)

Every year at the NAMM show they have concert showcases. A whole bunch of PA equipment usually set up by the company reps, whose amount of live sound knowledge consists of putting the carton on the dealer's counter and saying 'here it is'.

What a thankless gig mixing one of those shows would be. 2,000 sound engineers in the audience and every one of them thinking "What a crap mix - I could do better than that". No thanks - I'd rather drink all the free beer!

At one of these shows the sound was so bad the mixer was yanked off the console and someone else took over for the rest of the set! More compressors, gates, reverbs than you could shake a stick at and it

still sounded shithouse

The Fender 50th Anniversary show at last year's NAMM was the only good one I've seen. They had Bonnie Raitt headlining, supported by the Ventures (with Steven Seagall doing the intros and surprisingly playing guitar). Knowing how important a gig it was, Fender hadn't skimmed on the production and tried to do it themselves with a bunch of stock from the warehouse, but had booked Maryland Sound to do a very professional job. It sounded great.

The other evening I went to a concert by George Dalaras, a big singing star in Greece who was on at the Melbourne Tennis Centre. I won't go into de-

tails of why I was there - it's long story.

It restored my faith in live shows. A loud, straightforward mix that followed the golden rule of solo artist and backing band mixing: at all times the solo artist is singing, they shall be louder than anyone else.

When there was a solo, it didn't have to agonisingly slowly crawl its way up through the mix; bang - it was there in your face instantly.

And the rest of the time, it was all George. It was the sort of mix I'd have begged to hear at any number of previous concerts where I *did* speak the language!

From now on I'll always associate Zorba with a good mix!

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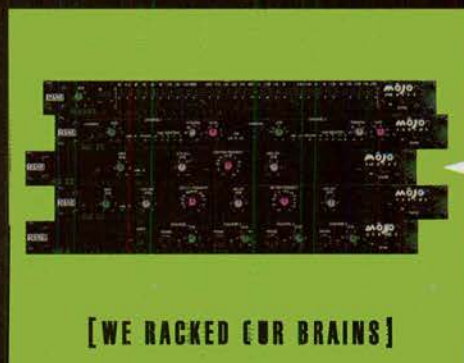
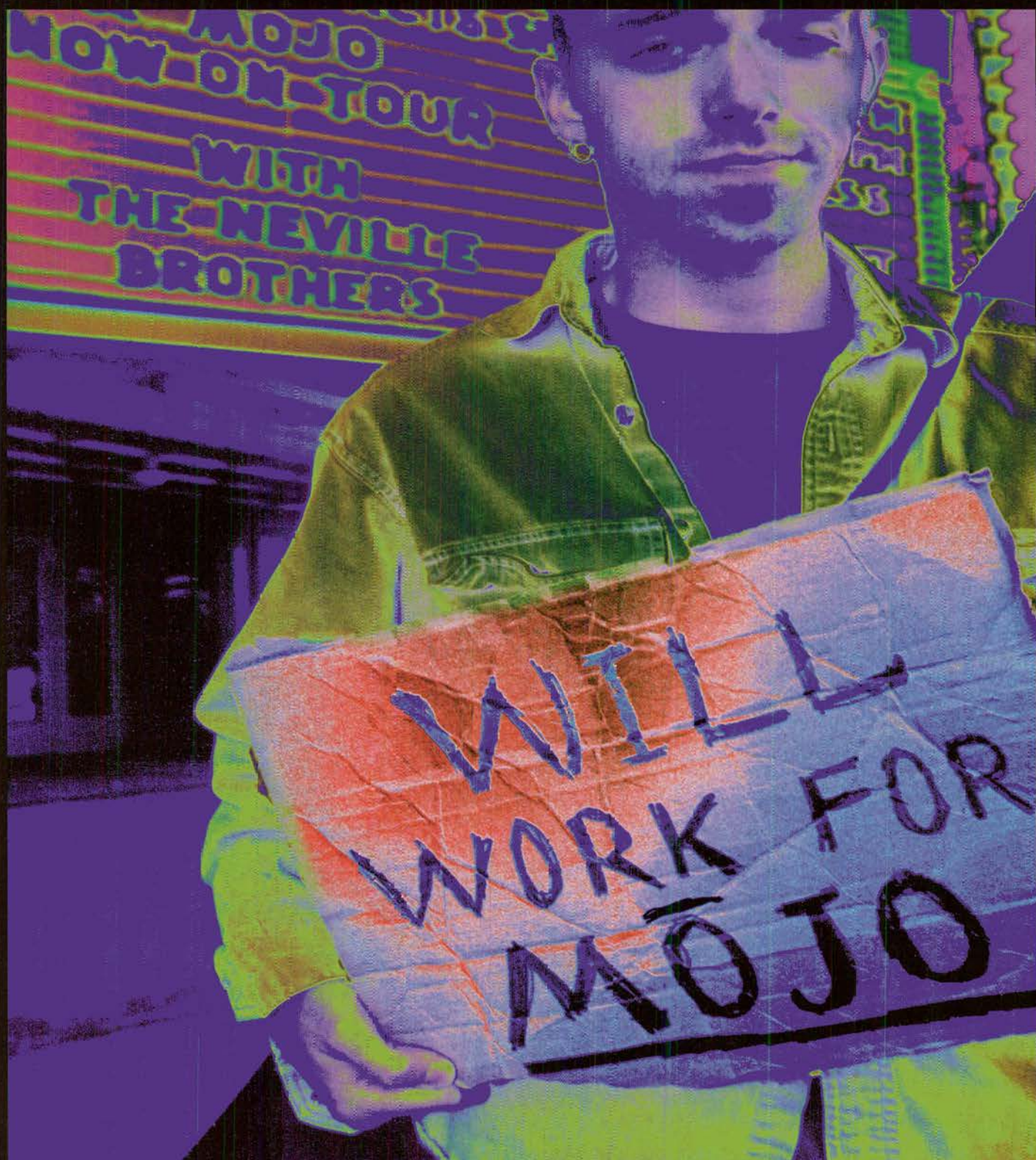
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ODE TO THE LOADER

by Geoff Squires

Not long ago, as I staggered home in unbearable pain again, I made a promise to give up working on concerts. Hello, anybody home, AM I STUPID OR SOMETHING. Did the word "QUIT" actually leave my mouth. COMMIT ME NOW!

How could I possibly think of no longer being a loader? I'd miss not lifting yet another Jands roadcase that weighs 3 tonnes to the top of pack. I'd miss watching all the touring crew leisurely walking to the green room for a catered meal as I drive up the road for grease with a bit of food thrown in.

I'd miss the tour crew attitude, it is a great feeling to be constantly told you're only a loader, just do as you're told. (Even though I've got more experience and credentials than a lot of them.)

But unfortunately the lure of money and dread of opening another tin of PAL made me go back. It was Super League time, and I was offered a spot gig. Then before memory and common sense could kick in prior to the mouth ruining everything, I said yes to the offer of extra hours doing the load out, followed by Chris de Burgh the next day.

I've never really counted myself as a real loader, just a pretender, and there's plenty of people out there who agree. It's probably my advancing years and stomach that have caused me to slow down and wish for the better life while all around me chaos moves with incredible speed. Well those two days of purgatory have finished, and now I know it is time for me to move on to bigger and better things. So I put on my Yoda robe and sit down to pass on my years of experience.

To be a loader you need to have certain attributes, which I will now try to list in no order of importance, so all you eager young beavers who wish to dedicate their life to the pursuit of black boxes whilst talking about conquest of the opposite sex please read on. First of all I found that the loader needs to be built like a gorilla, knuckles dragging on concrete is a necessity of course. This feature alone will enable you to be able to carry items that no touring crew member in his right mind would touch, after all that is what you're there for. It also helps to be slightly insane because then you won't even think of ques-

tioning why you are carrying everything up through the auditorium to the FOH position with the veins in your head standing out, whilst in the foyer ramps have been placed for your convenience by the in house crew so you don't have to lift a thing. (We actually did this on Chris de Burgh and the person responsible was told about the ramps but said we could carry them up the stairs anyway).

Next, the loader needs a digestive system similar to an alien from the X-FILES. It is important to have a very flexible system that can cope with large sudden meals wolfed down in thirty seconds between black boxes and abuse or going eight hours straight without because somebody has forgotten that loaders need to eat too. It is also to be noted here that your hunger is directly proportional to the number of touring crew members stuffing their faces on steak sandwiches right in front of you. During Super League I got reamed for taking a few minutes to get a drink and relax after working over six hours straight. I don't mind missing the meal break they are required to give me BY LAW, but at least give me a few minutes to myself, I'm not a machine.

Black is the colour of choice for the loader. It enables stains to be easily hidden, and also allows the apparel to be worn for several weeks before needing a wash, who can tell if it's dirty or not. The obligatory gig shirt is always a must, why would you want to get anything you paid for grubby or torn. The gig shirt is also a form of carbon dating, it allows fellow crew members to see just how long you've been doing it, and how far flung.

Tools are also an important part of the job. Hanging on your belt should be an old mobile phone held together by gaff (it's a status symbol so it doesn't need to work), a Gerber or Leatherman, and of course you wouldn't be a loader without a Maglite. A bum bag is a convenient place to hang the before mentioned articles from as well a place to store keys to the Harley, and your cigarettes.

Gloves are also a piece of apparel that some loaders use. They are great for protecting your hands therefore gloves are not a decision to be taken lightly, think before acting. Tattoos are an optional extra but if

you expect to be taken seriously they are a must, particularly if gotten while drunk, a great conversation topic.

Listening to loaders talk can be confusing at first but if you stick to it, it can be a rewarding experience. They are blessed with a distinct sense of humour and once you get past the lingo it can be quite rewarding if not shocking.

A loader needs a thick skin seasoned with a touch of diplomacy. During Chris de Burgh gig the truck pack boss type and the guy I mentioned before (who we named the Hissy-fitter) decided to discuss whether we needed to pack the ramp or load boards next. After we had picked up the ramp a few times and put it down again I diplomatically suggested a decision should be made, my thick skin helped with the death stares, after all I was only a pretend loader.

Watch out for the "Rent-a-loader". This is the guy brought in to pad out the crew numbers on large gigs. He is usually recognized by being loudly dressed and is usually the guy who says he knows it all but usually causes the most damage. There's nothing like a chain motor dropped on your foot to let you know you're alive. Also watch out for sound loaders, they tend to lift on the count of two.

As I look back over the years, I do have some great memories, and I have met a lot of great guys and girls (yes girls, you can be loaders too.) As you continue life down your chosen path you will gradually learn to recognize the touring crew, and remember who was a bastard, who was a great guy, and the idiot who should have been hung from the truss by his testicles.

You will learn to avoid which semi to work on because the guy packing it hasn't got a clue, which means everything goes in and out of the truck at least half a dozen times. You will learn what a touring crew member means when he says "Not that left, that F**KING left!" (HUH?) or "Are you working with me or against me?".

Cherish these pearls of wisdom because one day they may save your life. But most of all, when you just want to tell the rude ones where to go, just turn and say:

"I AM LOADER, HEAR ME GRUNT!"

Rock'n'roll is dead.....

Long live the Bistro!



Walk into your average pub/club these days and you're bombarded with a myriad of visual, sonic and gastronomic devices to entice you to part with your hard earned cash. Multiple TV screens displaying various sports, music and information as well as on-line betting, TAB and those bloody card machines. Hi tech pinball machines, video games, pool tables, virtual skiing, car racing, surfing, bucking bulls?

Fancy bars with fancy beers at fancy prices served by fancy bar girls/bar guys. All lit up by a wonderland of various lamps, theme lights, moving lights and grooving lights. And of course the Bistro. Hail the Bistro. With its arty chalkboard menu of foccacias and seafood platters, it takes the pride of place in the corner of the average pub/club.

When I started going to pubs in the late seventies it was VB on tap and the dingy black stage in the corner that ruled. Any pub that could squeeze a stage in, would. Aussie bands were making their own brand of noise that was new and exciting - known as Pub Rock. bands like Midnight Oil, Cold Chisel, Mi Sex, Choirboys, Dragon, The Radiators and The Angels were filling venues across the country often 7 nights a week. Anybody with anything resembling a PA, light show and truck was working flat out, as long as it was loud! 'W' bins, 'Roys', J600's, steel par cans, rock racks and D series Fords were the work horses of the industry. The all drinking, all swearing, all rooting, not sleeping Aussie roadie was born and tragically too many died in the process as well. Trucks were slow, miles very long and tour schedules ridiculous. the use of speed wasn't just the norm but a necessity to get through the week.

Pubs were raking it in. There was no booze bus and fire restrictions, venue capacity and age restrictions were meaningless. Great times. But dark clouds were forming....

By the end of the 80's people (women in particular) were getting fed up with being crammed into a smelly sweatbox with no air conditioning, waiting hours with only a tape played through the PA for entertainment until a tired looking band would stagger on stage for 40 minutes, plus encores, whilst whacked off their heads.

The recession in 1989 was the death nail in the coffin. It was about this time I was heavily touring around the country.

Turning up at gigs was like turning up at a morgue. Hotel managers would tell me horror stories of paying huge guarantees to so called bug named acts only to see 100-200 punters turn up. Pubs and clubs went broke over night or, more often was the case, the stage was ripped out or down sized and in its place a DJ console and lighting rig was installed. It made sense. After paying for the disco rig, all the venue had to do was pay \$200 for the DJ instead of \$7000 for Terry & The Wankers, and then count the money. House music had arrived! Along with the new music came new decor, new games, new rules, neon lights and yes, even dress regulations.

Where crews once could just take over a dressing room, putting PA stacks, FCH consoles and light rigs anywhere they wanted, then sound check until the cows came home, strict work sheets had to be adhered to. Bands were now considered a distraction between the disco. It was around this time I first came across those chilling words "sound checks must be finished by 6pm due to Bistro opening next door", and it's haunted me ever since. I mean it must have affected me because even when touring overseas with all the sound check time in the world I still rarely take more than ten minutes.

So now we race forward to the present and I'd like to think that after a pretty torrid period of re-adjusting, including a plethora of concept and cover bands keeping the industry above water, that live music has re-staked some sort of rightful claim to a position in our entertainment lives.

Along with the change in music and venues, us roadies (I prefer crew or as some

old lady called me the other day 'auto electrician', I think she meant 'audio engineer') have had to pick up our game as well. Crew are now better trained, work faster and need a 'Bachelor of Technocrap' to operate today's equipment. Conditions have definitely improved in some areas such as travel, food allowances and schedules but as expected the long, late hours will never change and I'm sure pay has remained pretty stagnant. Thankfully the business is still full of characters but gone are the ripped T-shirts, cut off jeans, thongs and constant runny nose. In its place are track pants, tour shirts, Reeboks, bag containing DB meter, gels, safety chains, mobile phone (turning up at a gig is like turning up at a mobile phone convention) and smart change of clothes due to dress regulations and corporate gigs. Corporate gigs? Ug! Like Army Intelligence, that's a real contradiction in terms.

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Gloria Estefan

evolution tour

It was the last major show of a 10 month tour and minutes before showtime, a section of the lighting failed. Every lighting designers nightmare. But the problem was tackled in a cool and ordered manner with the show only delayed a short time. One of the technical crew took it upon himself to entertain the audience. Through the PA, a rendition of *Shout!* and The Village People's *YMCA* got the audience dancing - with encouragement from him. It was a nice diversion for the unsuspecting crowd.



The core of the Gloria Estefan *Evolution Tour* lighting rig was shipped to Australia, with 180ft of truss cut out due to costs, for a tour of only six shows. The lighting was designed by Mike Ledesma and the lighting system was by Morpheus Lights as well as Martin.

One of the main features of the rig is the 4 x 12ft diameter circular pods which could sit at eight different positions during the show. In the centre of the pods was fabric which dropped down during the Spanish segment of the show to form cone shapes. The cones are lit from within with 16 PC Beams and 4 PC Spots.

The Martin lights included PAL's and 1200w Roboscans.

"I was looking for a light which could throw a good distance and have spinning

gobos so I needed a 1200w source mirror light," said Mike. "About 95% of the moving lights live inside of the truss, travelling inside the truss so you don't have to hang them everyday. I think we have nearly 200 moving fixtures.

"We needed some custom pieces made and Morpheus were able to do it at the cost we were looking at. We looked at High End gear, Vari*lite gear but this has worked out pretty good. We had the very first generation of Martin PAL's so we've had to do modifications on them during the tour."

The new Morpheus BriteBurst: 1200w HMI lights with 16 inch reflectors and colour changers on them were used. They pan and tilt effectively throughout the show.



"I use them like I'd use ACL's, they do all of the bumps and flash stuff because they are so bright and overpower everything else," Mike said. "Also in the rig are 64 Dataflash."

A Skjonberg motor control is used to control the eight different trims in the show. Rigging usually begins at 3.30am, lighting comes in at 6am and everybody is done by 5pm. Video equipment and the crew of eight are supplied by Nocturne.

"We've bought everything but the black boxes with us," Mike told me. "We even bought our own 50 x 40ft rolling stage and FOH riser. We fill ten US sized trucks."

The 100ft long scenic truss provides the opening illusion where a ball comes upstage from the end protruding out into the audience. When it lands upstage centre Gloria appears to emerge from it. A computerisedrolley pulls the large shell screen from downstage so it curves up over the band and lands behind them upstage. The two shells screens flanking it are on tracks so they can be moved to various positions during the shows. The

three screen elements mask the stage from the audience before the show. When they are in show position they are lit like a cyc until about a third of the way through the show when all the material is taken off and the framework only is left.

Another scenic element is the vertical silver blind which are turned at the beginning of the show so there's just a black at the back of the stage. During the show they turn around upstage centre as well as stage right and left, there are elevators for Gloria and the

dancers to appear from.

The two video screens either side of the stage are decked with elaborate curtains. During the show Gloria does a song about her family and the centre shell lifts up to be used as a projection screen for family photos projected by Pani projectors. At the same time moving pictures are being shown on the video screens. The projection had to be done from FOH making problems with ambient light. The Panis are run by Macintosh computers FOH.

With such a complex show, it is not surprising that there was a month of pre-production before the tour.

Jeff Burkhardt controls the Morphus moving lights through a Pancommand and a Wholehog 11, operated by Nook Schoenfeld, controls the Martin lights.

"We've gone a step further in the control set up," explained Mike. "In a normal case scenario there is a dedicated controller and operator for each kind of light. We've gone beyond that by taking the



brains of the Wholehog which has built in software allowing it to be expanded by 24 outboards matrixes and we've applied it to a Celco 90 way desk. So on the Celco there are 24 submasters which are essentially part of the Wholehog. The Celco is a slave board to the Wholehog. I've kept the traditional kinds of legends and the way you'd traditionally lay a rock'n'roll show out on the Celco - one slider for each look. Because the Celco is an extension of the

Wholehog, they work together. So now we go one more step - the Wholehog sends MIDI information to the Morpheus Pancommand board which runs cues simultaneously as it gets the MIDI information. So by one hit of the fader on the Celco I'm controlling the other two desks simultaneously. So really the other guys maintain the lights and I'm the only operator. It allows me to spontaneously run the show like a rock show. We still have a manual feel but we're pushing the FOH technology.

"If something is broken, Jeff can stop the signal coming to the Pancommand and when he comes back online the board automatically catches up to where we're at."

House Sound Engineer for the tour was Mark Dowdle who was running two Midas XL4 consoles which were linked together. A Clair Bros drive system was used for the S4 PA. Mark used many effects including Lexicon, TC Electronics,
continued on page 56

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Yamaha 990's, basically top quality pieces. There were two compressors on all the vocals and horns, and some SSL compressors on bass guitars.

"We bought everything with us except the speakers and amplifiers which we picked up here from Jands as Clair Bros have gear stationed all over the world," said Mark. "There are eighty boxes in total, sixty S4's in the air, eight S4's under the stage and four we're not using today. Then we have eight R4's which are under the round platforms and four V2's across the front for centre fill."

Microphones included Beta SM57's on the drums, 57 on the snare, Neuman 87's for overheads, EV408's on all the toms

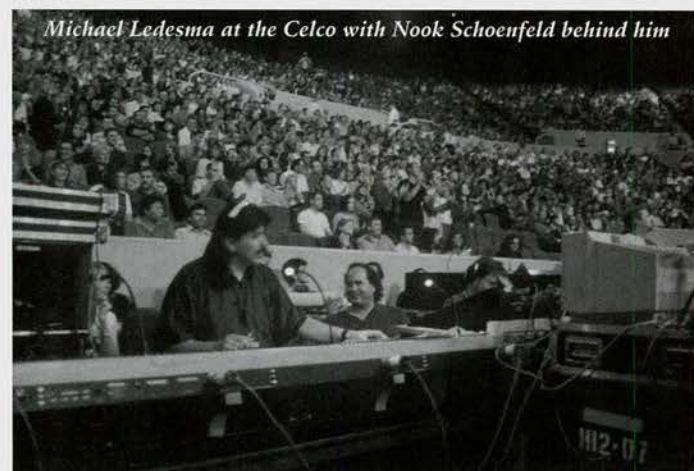


Mark Dowdle

and timbales, EV409's on all the bongos and AKG condensers on the rest of the percussion. Sennheiser 409's were used for all the guitars. All the acoustics and keyboards are direct via DI boxes.

"I'm using a prototype Audix capsule on a Samsung wireless for Gloria's vocals," said Mark. "It was machined from aircraft aluminium to give it a lighter feel as she didn't like the heaviness of the original head. For the background vocals there are Audix OM5 heads on Samsung wireless units.

"I have a couple of tricks to help me lift Gloria's voice from the band. There are a ton of people on stage who are continuously changing instruments so the key to success is having the two desks. They allow me, with the push of one button, to update both consoles to a mode that elimi-

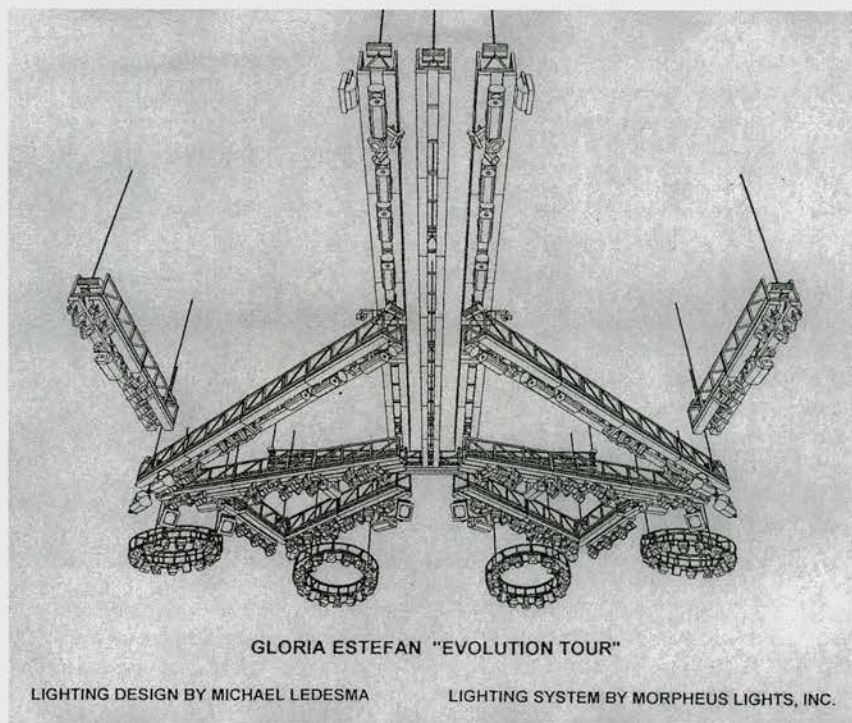


Michael Ledesma at the Celco with Nook Schoenfeld behind him

nates anything that's not being played and turns on anything that is being played without having to do it from memory or taking the time to do each one individually. With the push of one button, the computers do it all for me and reset the VCA's to a level which has already been programmed for that particular song. That helps a lot. The vocal mics have great rejection as far as what ambient sound they pick up from the stage and that also helps a lot.

"I've got the entire band on sub group to one VCA so that when Gloria goes to sing, instead of pushing vocals up I pull the whole band down a little bit and then her vocal tends to pop right out of there."

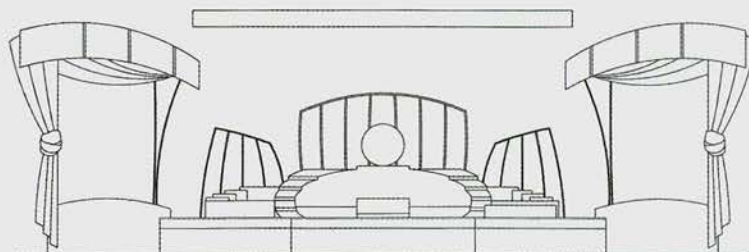
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GLORIA ESTEFAN "EVOLUTION TOUR"

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LIGHTING SYSTEM BY MORPHEUS LIGHTS, INC.



GLORIA ESTEFAN FRONT ELEVATION
OPEN POSITION WITH SPHERE IN POSITION

Crew Personnel

Production Manager Harold Jones **Stage Manager** Terry Cooley **Production Coordinator** Carmen Rodriguez **Lighting Designer** Michael Ledesma **Video Director** Kate Ferris **House Sound Engineer** Mark Dowdle **Monitor Engineer** Craig Melvin **Head Rigger** Kurt McLaughlin **Riggers** Tom George, Suzanne Cordes **Head Carpenter** Jack Richardson **Carpenter/Projectionist** Manny Parodi **Carpenter/Electrician** Tom "Biss" Kelleher **Carpenters** Al Larson, George Cannon **Audio Technician** Chris Fulton, Cliff Downey, Nyle Wood, Andrew Mitchell **Lighting Crew Chief** Kelley Lapping **Lighting Techs** James "Poop" Poepping, Jeff Burkhart, Jason "JR" Bullock, George "Gump" Reeves, Peter "Creep" Feher, Richard "Nook" Schoenfeld **Video Crew Chief** Skip Twitchell **Video Engineer** John Hicks **Projection Engineers** Scott Chase, Robbie Alvarez **Camera Operators** Tracy Calderon, David Carline, Robin McLeod.

ROUGH RIDERS

The Rider that every venue tech dreads receiving is not the 200 page colour coded document with index, but the slim Rider with four little words stamped on the almost blank pages. Those words are of course "as per last year".

Now in an ideal world and I'm sure there are people out there who live in it, every crew room would have that perfectly labelled filing cabinet containing all the information for every show that ever toured through. Some of you are probably feeling smug and thinking "Yeah, we've got every piece of paper we ever received for all the shows we've done". And that's great, but you're wasted in showbiz the Public Service needs you!

If a venue is over a couple of years old and you're on the touring circuit, that's going to be a lot of paper. So let's say for practical reasons once a show has been and gone you dispose of most of the paperwork, keeping only what you think is essential. And that probably doesn't

include the details about how the artist preferred the dressing room with the mauve painted walls rather than the blue.

So you're sitting there with the Rider in your hands staring at those nasty words "as per last year". You feel a wave of hysteria coming on as you work out that there's been over 250 performances since this particular artiste was here last. At the moment you're having trouble remembering what gig you did yesterday, since you've just worked twenty three, twelve hour days in a row.

So you do the logical thing, you call the Tour Manager, confident of hearing words of wisdom. The conversation goes like this: VT: "Hi, it's Bob here from Adelaide, lock I got your fax but I need more information about.....(the TM interrupts here)

TM: "Don't worry about it Bob, it's a really straightforward gig, same as we always do."

VT: "Look, it's been a while since you were last here and it would be helpful if you could actually supply some details."

TM: "Don't worry about it. We can talk it through when we get there. It's a really simple gig."

At that point alarm bells ring. It's that word 'simple'. The last time a Tour Manager said that to you the crew spent half the night trying to source a left hand modified Xenon trooper in Mudgee!

But I decide not to let past experiences cloud my judgement. I'll take the Tour Manager at his word and expect a simple gig. So at midday on a Sunday I wait with two casuals expecting this 'simple' gig to rock up in a 2 ton truck.

I hear a low rumble in the distance but heading towards us. It gets closer and louder. Earthquake is my first thought. The casuals and I rush to the dock doors. We see not one, not two but three Pantecs heading down the driveway.

Early retirement suddenly seems like an appealing idea.

Rufus B.

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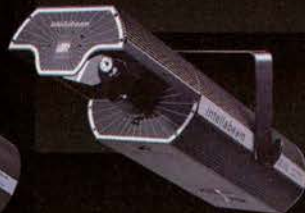
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LIGHTING MONTHLY

May 1997

Edited by Catriona Forcer

MELBOURNE CASINO

EDITORIAL FEATURE JUNE AND JULY ISSUES.

The new Melbourne Crown Casino has opened. Whilst Entech exhibitors were coolly displaying their wares on one side of the road the technicians, consultants and designers were frantically trying to make them function on the other side. A few frazzled lighting personalities were seen pulling their hair out on the banks of the Yarra!

The task of lighting inside the Casino is a mammoth one with many companies involved. Starting next month, we will try to cover as much of this as possible. Lighting stories will run over the next 2 issues so if you want to be included, let me know now or forever hold your peace!!

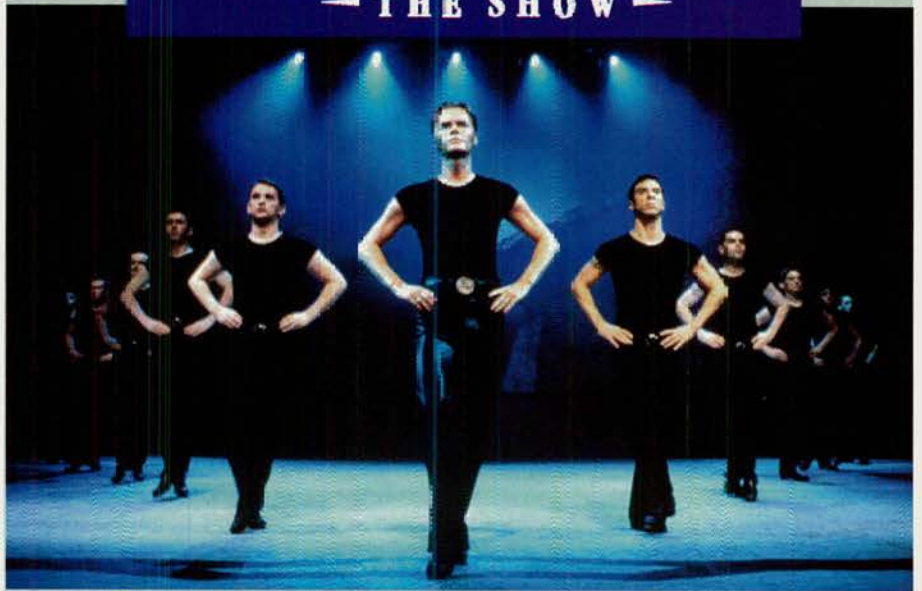
Planned stories so far include a look at *Red Hot & Rhonda* in the Showroom, the Mercury Bar, the dimming system in the Atrium and holding the Logies Awards in the Grand Palladium.

Fax CAT on 02 9457 8302 or email catriona@compub.com.au with your input.

And the winner is

The winner of the Maris Pico Rigger's Remote (which is claimed to be the smallest in the world) at Entech was Peter Marshall from Sydney Opera House. The Maris Pico is distributed by Electrosonic Systems who held the prize draw.

The Maris Pico has a DMX transmitter and receiver, a flicker finder, a DMX analyser and 'Data' mode for use with other Maris products.



The toe-tapping Irish charm audiences with an elegantly produced show

The hit Irish show *Riverdance* was booked to play an amazing 23 shows at Sydney's Entertainment Centre, with a total over 88 country wide. Unfortunately the shows were scheduled at varying dates in each city forcing the tour of about 100 people to cross-cross the country several times. Sydney was home on three different occasions during the mammoth three month tour.

The show has a lot more class, charm and striking imagery than *Lord of the Dance* which tended to be more glitzy and flashy. As one crew member tactfully put it "there are no eggs or spray or sweat in this show". The first *Riverdance* show was produced in Dublin over two years ago but this touring form of the show has been on the road for a year. Most of that time was spent in America where the show will return after the three month stint here in Australia. Another production of the show is currently installed in Edinburgh, Scotland.

Whilst lighting designer Rupert Murray was called away to New York to work on the St Patrick's Day Parade, illuminating *Riverdance* was left in the capable hands of Denis Gardner.

Initially it was planned to hire the lighting rig in Australia but Denis said that the hire company could not guarantee they would have all the gear so eventually it was decided to ship all the equipment over from England.

The stage for *Riverdance* is wide, reaching 90ft in Melbourne, and it has three projection screens at the back which create the major looks for the show. Three Hardware Xenon projectors supply the images which are hand-painted oils by Robert Ballagh.

"The producers wanted to keep a very clean line to the show with no obstructions so you could see the dancers as clearly as possible," said Martin Lindsay,

continued on page 62



DMX512

Its History & How To Split It

Back in the mid eighties, several lighting control companies around the world were either working on, or were already controlling dimmers via a digital control protocol rather than an analog signal. However, none of these protocols were compatible.

DMX512 started life in 1986 essentially from a meeting held at a USITT trade show in Oakland, California. At this meeting, a collection of manufacturers based mainly from the United States got together to propose a standard digital protocol for control of lighting equipment. This in essence, applied only to dimmers as the colour scroller was not yet in wide use and the intelligent light was restricted to companies such as Vari-Lite. These facts are very significant in what DMX512 can and can not offer us as a control standard for today.

After this meeting, consisting of around 12 people, the draft DMX512 standard was formulated based essentially on the Colortran D192 digital protocol. Later in 1986, revisions were made to this draft and the *DMX512 standard* was born.

The uptake of DMX512 around the world was reasonably slow. Here in Australia, although LSC had two DMX512 products on the market by late 1986, it was still well into 1988 before DMX512 started to gain acceptance. In some parts of the world analog systems are still sold although DMX512 systems do dominate the lighting world today without exception.

DMX512 in its original concept provided for multiple transmitters (as provided for by the RS485 standard), a mechanism to address different devices (the start code) and the possibility for the dimmers, or other controlled devices, to return information to the controller (the spare pair). All of these features have, apart from a few exceptions, not been delivered. Why? The answer to this is difficult since there are several factors that have prevented these features from being realised. It is not my intention to go into this here save to say that the original dozen people had no idea that DMX512 would be so successful and that their somewhat hasty decisions would have such a large impact on the industry.

After a few years when the standard had started to take hold it then became increasingly difficult to change it. This

was because the dozen or so original people had increased to a multitude of people all wanting to change the standard for one reason or another. Whilst the majority of these changes were valid and worthwhile it was virtually impossible to get agreement within the group and also any changes needed to be backward compatible to ensure compatibility with the large amount of DMX equipment that was already out there. Thus as a result, except for some cosmetic changes in 1990, the DMX512 standard has remained virtually unchanged.

DMX512 was originally conceived to connect lighting controllers and dimmers and in general this would have been for no more than 512 dimmers or channels. The advent of DMX512 controlled intelligent fixtures and the general increase in the size of lighting systems over the last decade has pushed the limits of DMX512. It is now common to find venues with triple DMX runs to support 1536 channels of control. Regardless of the number of channels, multiple outlet points for DMX signals within the venue can be found in even the smaller halls or venues. In addition DMX512 inlet points distributed throughout the venue to feed signals from control desks back to the control room are commonplace. These type of systems, without careful design, can be plagued with problems. What are these problems?

The basics for good DMX512 data transmission have been covered before in an earlier article in this magazine but basically these can be summarised very simply as (1) Use good quality data cables; (2) Don't use Y split cables; (3) Use one terminator at the end of the cable (4) Use no more than 32 receivers per DMX line.

What other factors need to be considered? There are perhaps three potential problem areas that need to be dealt with. These are "Earth Loops", "Common Mode Voltage" and how to prevent one bad DMX device affecting any other device on the network.

Splitters

The last of the above issues is the easiest to deal with and most users of DMX512 systems these days have encountered Data Splitters. The simplest DMX system would consist of a single controller driving a single dimmer or moving light. This

structure is however limited to very small systems and a typical system will want to control several devices. It is possible and acceptable to connect these onto one DMX cable and such a system will work just fine. However consider the situation where we want one group of dimmers on the fly floor and a second set of dimmers backstage. Since "Y splitting" of DMX cables is not permitted we would have to loop a single DMX cable to both locations. There are plenty of situations where this may not be convenient and a Splitter is used to overcome this problem.

A Splitter takes a single DMX input signal and electronically splits it into several new signals. Each of these outputs is a separate copy of the incoming DMX signal and can be used to drive a separate DMX line. Thus we can now do an electronic "Y Split" without fear of causing problems.

The second benefit of using a Splitter in this situation is that a problem on one DMX line from the Splitter will not cause any problems on any other output line because the two are driven by separate circuits.

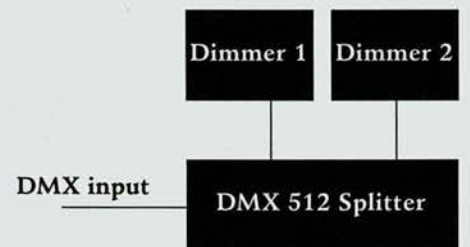


Figure 1 - Connecting a DMX512 splitter

A Splitter overcomes potential problems with:

- a) line lengths;
- b) Faulty devices;
- c) Y split;

Earth Loops

Earth loops arise when the earth potential at one end of a DMX cable is different from the earth potential at the other end of the cable. This problem gets worse generally the further apart the ends of the cable are since it is then likely that the equipment on the respective ends are connected to different supplies. In this scenario large currents can flow along the



shield of the cable and induce interference into the data signals thus creating errors. In the audio world this is often heard as a 50Hz buzz in the system. Note that this problem can exist between any two pieces of connected equipment, i.e. not just between controller and a controlled device.

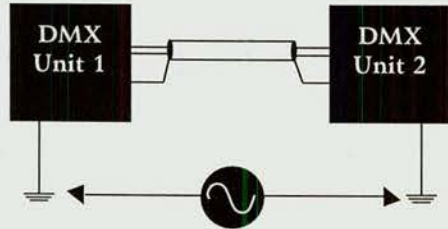


Figure 2 - An Earth Loop

There are two initial ways to cure or prevent this problem. One solution is to operate all the lighting equipment from the same mains point to ensure that there cannot be any difference in the earth potential. This is sometimes not possible, often not convenient and potentially costly.

The second option is to break the shield connection of the data cable and thus eliminate the earth loop circuit. This solves the problem but the break in the shield exposes the signal wires to interference. Thus neither of these solutions is desirable. Consider also the common mode voltage problem it introduces.

Common Mode Voltage.

For the moment assume that we have solved the problem of the earth loop and the two devices are no longer electrically connected. The voltage difference between the earths will still be there and this voltage now will appear as though it is part of the data signal. DMX512 works on being able to detect the voltage difference between the two wires of the data cable. As shown below, assume that the voltage on the data lines at the transmitter is 3 Volts and 1 Volt respectively. The difference of these two voltages is easy to detect. However assuming the earth voltage difference is 50 Volts, then the voltages at the receiving DMX device are 51 Volts and 53 Volts. It is not as easy electronically to detect the difference in these two voltages. It is a bit like trying to listen to a whisper as a train is going past. Without the train there would be no problem. With the train it is much more difficult and in fact may be impossible.

The voltage that appears between the two devices is called a common mode voltage as it appears on both inputs to the receiving device. The common mode voltage

limitation for DMX512 is -7 and +12 Volts.

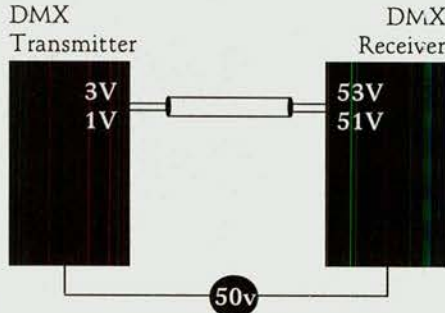


Figure 3 - Common Mode Voltage

The solution to this problem is obviously to connect the shields together again however this creates our earth loop problem once more so we are stuck between a rock and a hard place. What is the solution? Isolation!

Isolation

Isolation is used to remove the reference of the DMX512 signals to the ground connection. It is also known as providing a floating input or output. This is achieved by providing a separate isolated power supply for the DMX512 portion of the product's circuitry and using an optical device (generally an opto-coupler) to connect the data signal without using any physical electrical connection.

With this arrangement we can now connect various pieces of DMX512 equipment together and since the DMX512 signal lines no longer provide an electrical connection for earth between the devices, we have eliminated both the Earth Loop and the Common Mode Voltage problems. This can be seen in Figure 4. Note that here only one of the pieces of equipment needs to provide isolation to solve the problem. Many manu-

facturers however will design isolation into most or all their products to ensure that no matter what other equipment is connected to it, isolation will exist.

Most modern DMX data splitters provide isolated outputs but be careful as in some products there is only isolation between the input and all the outputs. There is not necessarily isolation between each of the outputs. These types of splitters are generally cheaper as isolation is expensive. Nevertheless they play a role in situations where we want to split the DMX signal to several devices located in close proximity. Here we often only need to provide isolation between these devices and the controller.

For more complex or professional environments a fully isolated splitter is a much better choice since with each input and/or output fully isolated from all others, the problems described above will not occur.

An added bonus of isolation is that it affords a level of safety. Assume that two separate devices are being fed from a splitter with fully isolated outputs as shown in Figure 1. If one of these devices fails and places high voltages on the DMX data lines, the isolation in the splitter will block this voltage from going any further. This will thus protect the second device on the other splitter output but more importantly, will prevent these voltages from reaching the control console and hence the operator.

In a later article we will discuss the pros and cons of using a central splitting system against using a distributed data splitting system as well as some of the more recent techniques in DMX distribution.

★ Gary Pritchard

Gary is a director of LSC Electronics, an Australian manufacturer

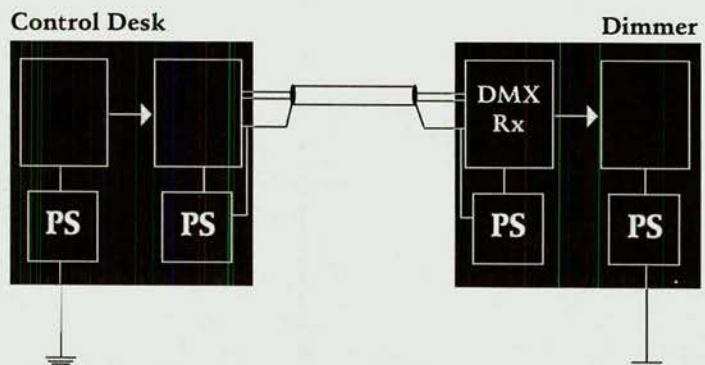


Figure 4 - Isolation of DMX Transmitter and Receiver avoids Earth Loop and Common Mode Voltage problems.



continued from page 59

Projection Supervisor. "That's why we have such an open environment with a single backdrop doing the work of maintaining the images through the show instead of scenic changes.

"With the Hardware 5K's most of the work with them has to be done on the ground - all the setting up and preparation. Pani's don't need as much setting up, Hardware's have more to manipulate in terms of lamp focus and dissolve mechanism. But as long as you do all your tower placements and fixing of tower positions relative to screens, the actually setting up period is quite short. There's always the

James Doran, Denis Gardner and Martin Lindsay



continual maintenance of mechanisms, there's high technology in there but also gears and cogs which need greasing."

Travelling the Hardware Xenons is a little tricky and at every venue Martin has to take the boxes apart to check the connections. Martin was a bit fearful of the Australian roads especially the trip to Perth!

"Sixty hours is a long time for the gear to rattle about in the truck," he said anxiously. "It'll definitely be a complete strip down of the gear before that show. Also with high powered projection systems everything on them is heavy, there are no light bits in it. You can't try get away with taking the gear up a tower without checking it."

"The wider the stage, the better for me," said Denis. "The lights are further away and not so blotchy. We have a grey floor which is easy to light, when it's close it's a

lot harder as the lights are so on top of the dancers. The largest kick-line of dancers we get is 28 and there are 100 of us in the company."

The lighting rig has about 300 ETC Source 4's ranging from 10° to 36° and Denis said that they were chosen for several reasons - they're reliable, they were available at the time in the UK and they are the most light in America.

"You can turn them on and ten minutes later still grab hold of them because they're still cool," explained Denis. "With an old Leko, you'd burn your hands to pieces if you touched them. We've travelled the Source 4's all over America and they just don't go wrong. Also in the rig are 10 Golden Scan HPE's and 22 V16's. We used to have about 400 Source 4's and about 80 of them were just doing pretty gobo pictures on the stage. To focus them was taking an extra 2-3 hours so we decided to use automated lights to do the gobos. Our time scale here in Australia is a lot tighter than in America where we'd have three days to fit in."

The whole show is run off a Wholehog 11 desk although initially the show was

The 5000W Optimal Light Source projectors from French company Hardware Xenon seek to redress the problem of hot spots in the centre of the slide by more even illumination. They are equipped with automatic slide changers for up to 40 slides and are also using the latest 105mm wide angle lens which gives an image of 30 metres at a distance of 20 metres which is critical for theatres where space is at a premium.

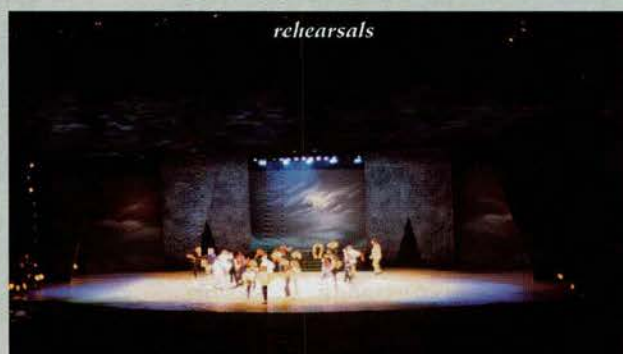
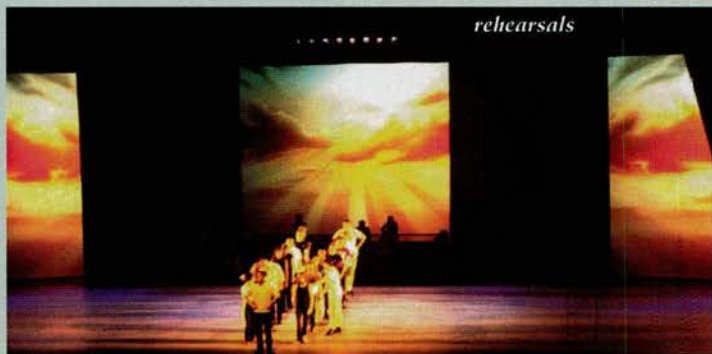


programmed on an ETC Obsession with an Avolites Sapphire for the moving lights.

"It became a bit of a mess so we switched to the Wholehog," said Denis. "We can run the whole show on time code if we wanted, there is a bar count click track that goes to the musicians and from that we can generate time code. The other show in Edinburgh is running on time code."

Adding to the equipment list are 80 Wybron Coloram colour changers and about 20 Morpheus ColorFaders. Originally Rainbow colour changers were used but Denis didn't find them as reliable as the Colorams.

Tour Personnel
Set Designer & Painted Images for Projection Robert Ballagh **Lighting Designer** Rupert Murray **Sound Designer** Michael O'Gorman **Projection Designer** Chris Slingsby **Technical Manager** Colin Hannah **Stage Director** James Doran **Stage Manager** Sara Smith **Production Assistant** Fionnuala Brennan **Production Carpenter** Andy Latham **Lighting Supervisor** Steve Kellaway **Lighting Programmer/Operator** Denis Gardner **Lighting Crew Chief** Dave Walden **Projection Supervisor** Martin Lindsay **Projection Assistant** Paul Maloney **Sound Operators** Colin Ahearne, Barry McLeod, Willie Mannion, T.J.M. Tutty, David Tobias **Rigger** Alan Bechy **Australian Rigger** Andy Greenhall **Australian Stage Crew** Garry Moor, Robert Jonas, Mark Lawrence.





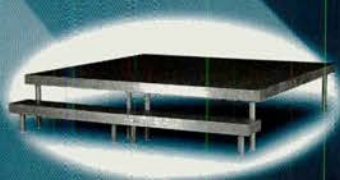
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CENTREPIECES

FAL

ELSTA 1800 35 80 80

PF4030 Galactica FAL's most popular centrepiece - 16 moving mirrors, HMI-575 lamp (also available for HMI-1200), 8 dichroic colours, 0-10v analog control or music activation by inbuilt microphone, 17 precision DC motors. \$3,275.00

PF4070 Pentagon 10 moving mirrors in 5 arms which can direct light to an additional 5 rotating effects mirrors (barrels and moonflowers), HMI-575 lamp (HMI-1200 version also available), 8 dichroic colours, 0-10v analog control or music activation, 16 DC motors. \$2,868.00

PF-4015 Mini-Octopus one of the smallest and most compact centrepieces from FAL - 8 arms incorporate 4 deflecting mirrors, and two pairs of oscillating discs creating a dramatic effect, lamp HSD-200, 5 dichroic colours, 0-10v analog control or music activation via inbuilt mic. \$1,966.00

PF-4050 Nebula 16 moving mirrors in 8 arms which deflect onto a further 8 effects mirrors in the centre of the effect (barrels and moonflowers), lamp HMI-575 (HMI-1200 version also available), 0-10v DC control or DMX-512. \$4,917.00

AMERICAN DJ

American DJ Supply Australia 1800 643 111

Mystic employs special design reflectors to create a unique beam pattern resulting in 30 criss-crossing beams which are extremely bright for its size. Lamp: 64514 x 2 (120v 300w). \$368.00

Sunray II projects a myriad of bright white focussed beams. It has the added feature of rotating at 6rpm. No transformer keeps the weight to a minimum. Lamp: 64516 (240v 300w). \$409.00

Coloray projects multiple beams of coloured light that criss-cross to the beat of the music. They look great in multiples or on its own as a compact centrepiece. Lamp: 2 x BRL 12v 50w. \$327.00

X-Ray is similar to the Coloray except that it projects unique, flat, multi-coloured X-beams of light from special fan shaped lamps. The effect is musically activated via an inbuilt microphone. Lamp: 2 x ZB-150X 120v 150w. \$327.00

COEMAR

Coemar De Sisti Australia (03) 9467 8666

Comet new from Coemar features seven moving mirrors and seven multi-mirrored reflectors with 1460 internal pre-programmed scenes incorporating rotatable multicoloured beams controlled by dichroic filters. Using the new MSR 575/2 lamp the unit is extremely bright and features a unique and rapid strobing effect. \$4,087.00.

TAS

Coemar De Sisti Australia (03) 9467 8666

Synchro Digital a 575 HMI effects unit which produces dancing beams of multi-coloured light. Absolute room filler, with stepper motor controlling all movements. Internal preset programmes can be accessed via analogue signal or the unit offers total independent control of all functions via dedicated controller. DMX addressable via standard control desks. \$4,030.

Duetto twin mirrored moving light effect which brings the advantages of moving mirror technology to the centrepiece lighting effect. With inbuilt audio control or analogue and DMX signal control

options, the Duetto offers a twin head moving mirror setup with internal colour and gobo changer. Uses high output dichroic 250W lamps. \$2,600.

APOLLO SPECTRUM

Coemar De Sisti Australia (03) 9467 8666

Climax a stunning new effect from the UK featuring twin lamp source, inbuilt program sequence, 9 colour dichroic system, and a range of 9 gobos and strobing all operating via either DMX or in sound-to-light mode. The central pyramid-like mirror further adds to the flexibility of the unit, making it an ideal centrepiece for the small to medium nightclub or production department. \$1,557.

MARTIN

Show Technology (02) 9898 1111

Centrepiece With the best of Robozap's colours and dynamic effects, this unit uses a MSR 1200 lamp with 8 focused beams that emanate from the carousel shape. With a microstepping motor, 8 controllable mirrors and a hand held remote the Centrepiece can also be controlled by a DMX via a DMX interface or 2501, 2308, 2032 or a 3032. \$4,097.54

Wheeler 240V 300W with a M38 lamp with 2000 hours this unit creates 4 direct beams directed via a colour changing system with revolving mirror

drums. The colour changer contains 4 dichroic filters & alternates between colour and white. With an adjustable mounting bracket, this unit can also be sound activated! \$531.97.

ADJ

Show Technology (02) 9898 1111

Cyclone has 8 high reflection mirrors which move, as independent light beams in and out while another 8 moonflower dishes provide a beam split which gives a myriad of tiny beams. This unit also has internal colour changer and comes with dedicated controller. The Lamp type is a HMI 575. \$2,458.20.

Astroraggi gives a high impact effect with 103 multi-coloured pencil beams that move to the rhythm. This unit is fan cooled and it's twin circuits enable independent switching of light source or motors. The type of lamps used are 2 x 24V 250W E/HJ or long life 24V 250W M/33. \$818.82.

Mini Starball effect is a miniature version of the classic Astroraggi effect. Small in size but big in effect the Mini Starball is ideal for a big effect in a small space. The type of lamps used are 2 x 12V 50W BRL. \$376.23.

GRIVEN

Universal Lighting and Audio 1800 648 111

Splendid HMI 575 and HMI 1200 versions, 43 kg, 16 defined beams, multi-coloured dichroic colours, 8 pre-set sequences of multiple scenes recalled by 0-10v remote or sound activated. \$5200.00 (HMI 1200).

Circus 2 HMI 575 and HMI 1200 versions, 34 kg, twin lenses projecting onto two rotating mirrored barrels, 10 gobos 10 colours, 9 multi sequences, 0-10v or sound activated, slave option. \$3290.00 (HMI 575).



Martin's Destroyer

CLAY PAKY

Show Lighting Australia (02) 9898 1666

Astroraggi Power produces 103 filliform beams of continuous movement with an Osram HSR 400 (650 hrs life). Speed of the moving beams can be adjusted and the shutter allows the microbeams to be gradually dimmed. Most widely used control signals are available. \$3934.43.

Astroraggi Twin ideal for dance floors, produces same number of beams as its brother and uses 2 x 24v 150w halogen lamps with forced ventilation cooling by axial flow fan and with a rotation speed of 50rpm. Being able to switch the lamps on separately or at the same time (in any order) gives out double the light beams which is 206. \$1271.31.

Astroraggi Classic the original Astroraggi features a motor speed of 25 rpm, a 24v 150w quartz halogen lamp, an individual lamp failure indicator with 103 lenses giving 103 "spikes" of light. \$1966.39.

Tornado is a scanner featuring 6 moving mirrors with independent pan and tilt movements. Also includes 6 white and 6 coloured beams and the lamp used is an HMI 575 making it very good for centre-floor or wall effects. Can be controlled by using a digital system (RS 232 or DMX512) and can produce a rainbow to a strobe effect. \$7428.98.

STROBES

OPTIKINETICS

Lightmoves Technologies (02) 9560 0000

Terrastrobe 5 amp power provides flash tube life of 15 flashes/sec using a 400w. 440 x 250 x 90 mm in size and weighs 5.6 kg with universal positioning. \$1155.

Superslave 70w medium power strobe, long life strobe, rated at >100 million flashes with maximum brightness and reliability. Positioning universal, 1 amp required, weight 3.7 kg. \$395.

BOTEX

ELSTA 1800 35 80 80

SP-750 DMX controllable 750w strobe, dimmable from 0-100%, flash rate 1 - 13 flashes per second, uses BT-750 linear strobe tube. \$327.00

SP-106MR Botex 60w Disco strobe - bright output for its size, flash rate from 1-15 flashes per second, uses BT-106MR strobe tube, can be controlled by CN-100 Botex strobe controller. \$130.00

SP-106S Botex Mini-strobe, 14w max power, robust plastic casing, flash rate 0-10 per second, uses BT-106S mini strobe linear tube. \$32.00

CN-100 Botex strobe controller - controls flash rate from 1 - 15 flashes per second, dimming control from 0-100%, can be music activated by inbuilt mic, 12v pulse signal output. \$73.00.

COEMAR

Coemar De Sisti Australia (03) 9467 8666

Strobe1000 high-powered 1000W strobe with variable rate strobing, housed in an extruded aluminium housing and complete with lamp. From \$710.

Strobe 2000 high-powered 2000W strobe with variable rate strobing, housed in an extruded aluminium housing and complete with lamp. From \$900.

Strobe 5000 super high-powered 5000W strobe with variable rate strobing, housed in an extruded aluminium housing and complete with lamp. From \$1,200.

DMX Strobe soon to be released DMX-controllable high-powered strobe with variable rate strobe and complete with lamp. Price TBA.

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CONSTELLA

Show Structures (09) 470 4707
Commando handheld controller, 16 ready to use programs, instant blackout, speed and strobe control. BPM input for precise audio response. Reprogram from your PC. \$376.

GENI

Show Technology (02) 9898 1111
Disco Strobe standard for clubs and mobile DJ's, with a powerful 75W helical xenon lamp and a flash rate of 1-12 flashes a second. This unit also features a dual 1/4" jacks for synchronous operation. \$163.11.

Megastrobe with a blinding 1500W xenon strobe, this bright and cost effective strobe has built in speed adjustment from 1-12 flashes a second and includes dual 1/4" jacks for synchronous operation. \$490.98.

Giga Strobe designed to withstand the stress of power, this strobe pumps out 3000W per flash and is CE approved. With an aluminium case designed to dissipate the heat created, adjustable pulse, a manual speed adjustment, a high tempered safety glass front plate and a sturdy hanging bracket, this strobe can stand the toughest touring jobs. \$572.95.

Dynamo Strobe is designed for power and absolute control. It features 2 channels of DMX 512 for control of flash intensity and flash rate, standard 5 pin XLR connections. Dimmability is 1-100%, flash rate being 1-16 flashes a second using a XOP15-OF lamp. With 240V, this strobe is good for production companies theatres, discos & clubs. \$654.92.

ADJ

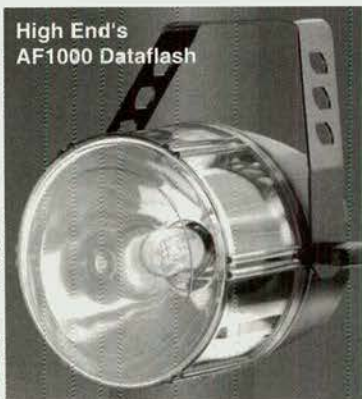
Show Technology (02) 9898 1111
Strobe Scan a radical new design in DJ & club effects. A tight beam of light is produced by xenon lamp and this is scanned "automatically". Many units can be linked together. \$1148.25.

INFINITY

Universal Lighting and Audio 1800 648 111
1500w strobe 1500w linear dmx strobe, two channel dmx, full dimming and flash rate control, stand alone mode, 1-15 flashes/sec., 5.5kg. \$627.00.
75w Power strobe 75w super bright compact strobe, 0-10v or stand alone control, 1-12 flashes/sec., 1/4" jacks for slaving a rd control, 3.25kg. \$115.00.
Mini strobe 25w mini strobe, full speed control, ideal for stage displays, sets, small hire and productions, complete with 240v plug and hanging bracket. \$40.30.
Egg Strobe two versions - BC and ES lamp bases. High luminous intensity, long range visibility, waterproof, compact easy for use and maintenance. \$16.00.

DIVERSITRONICS

AC Lighting (02) 9369 2826
Par 64/Par 56 Strobe Cannon high intensity, lightweight professional Xenon strobelights. Installed in most Par lamps within seconds, available with either analog or DMX512 control or rate, intensity and Hyperblast™ - a 5 mode effect. From \$790.
Dome Cannon Strobe direct DMX512 control Xenon Strobe light available with control of rate, intensity and Hyperblast™ - a 5 mode effect. Options: weather resistant version. From \$522.



High End's AF1000 Dataflash

Ellipsoidal Strobe Module choice of two lightweight DMX Strobe module that plug easily into an Altman 6" or ETC Source 4 axial ellipsoidal. Supplied with power supply. DMX512 control available with rate, intensity and Hyperblast™ - a 5 mode effect. From \$356.
Linear Lamp DMX Strobes 3000w with rate, intensity and Hyperblast™ - a 5 mode effect, as standard. From \$1154
Note: Control Units are available from \$231.

HIGH END SYSTEMS

Techscope (07) 3358 5118
AF 1000 Dataflash Ultra high power flash and continuous illumination Xenon fixture. Uses up to 3 DMX channels in 7 different modes for control over rate, duration and intensity. \$ 691.07.
AF 1000 Mini Controller Controls up to 12 AF 1000 fixtures. Has standby flash, up/down, program, rate, intensity and audio keys. Uses DMX 512 control protocol. \$963.43.
AF 1000 LCD Controller Controls up to 256 AF 1000 fixtures. Has LCD, 9 memories, 891 pages (scenes), 1024 programmable presets, simple menu operation. \$4,817.10.
AF 1000 accessories Range of accessories including axial or horizontal reflectors, standard or high powered lamps and coloured domes. P.O.A.

ANYTRONICS
Techscope (07) 3358 5118
Superstar Strobe MKII 11 Joule strobe w/ internal oscillator 1-10 FPS or external trigger input 3-20V+ or -. Also available slave only and par 64 pod. \$ 315.54.
Megastar Strobe MKII 1500W linear tube, fan cooled w/ toughened glass filter. DMX option available. \$924.08
Deathstar Strobe High output version of Megastar strobe. \$1,273.43.
Anytronics 8 Channel Strobe Chaser (19"x 2U Format) Auto sensing chaser for 1 to 8 strobes. Sequence or all flash, audio input and speed control. \$307.89.

PULSAR

Show Technology (02) 9898 1111
Maxi Strobe with the speed of 0.5-16 fps, this unit has the specially designed maxi parabolic strobe reflector. It is fitted with a remote control socket for the Rainbow or Remote control strobe units and uses the same circuit as the Superstrobe. \$327.05.
Monster Strobe has the same remote control input socket as the Maxi, with the remote controller features including manual and speed control with up to 5 strobes. This strobe is 3 times more powerful as the Jumbo proving the most powerful of all by using a 180w lamp. \$736.89.
Jumbo Strobe is 3 times as more powerful than the Super and Maxi and is ideal for stage use. Used by DJ's and performers all over the world they can be combined with the Rainbow Strobe Controller and give a show that justifies their popularity. \$450.00.
Flexi - Flash Tube are available in blue, clear, orange or yellow/green. They are supplied in 10m lengths with 20 flash heads every 10m and uses standard 3 core mains cable for all connections. They also use 240v mains operation and come with fixing straps included. \$2418.03.

FX PROJECTION

WHITE LIGHT

Chameleon (02) 9310 5222
Tubula Ripple a self contained effect that can be used to animate a painted cyclorama. Simple controls allow the direction of the effect to be reversed. \$1188.
VVSFX DMX the DMX version of the popular VVSFX 90 effects disc rotator allows striking and realistic projected images to be created using a wide range of stock and custom image discs including flames, clouds, running water and smoke. \$1800.
Wave FX like the rest of the VVSFX range, this new unit is designed to fit the Strand 252, Cantata EP, Tocatta EP and CCT Starlette effects projectors. Wave FX produces realistic wave, ripple and flag effects. \$1920.

OPTIKINETICS

Lightmoves Technologies (02) 9560 0000
K1 entry model projector uses a 24v, 250w lamp. Improved optics provide 75% more output than Solar 250. All accessories are interchangeable. \$1225.
K2 powered by 200w MSD. Optional accessories are lamp metre, animator card and shutter/dimmer. Standard 50 mm lenses are interchangeable providing images any size. \$2750.
K4 used for clear images over long distances powered by 575w MSR. Weighs just over 12 kg. Runs cool even after hours. \$5700.

METEOR

ELSTA 1800 35 80 80
Probeam 75 Standard probeam includes a multicoloured oil-wheel and uses EYF 12v 75w reflector lamp (3500 hr lamp life). Oil wheel turns at 0.5rpm and is interchangeable. It is easily focussed for any distance. \$735.00
Probeam 75C This version of Meteor's probeam projector accepts a cassette mechanism which can project any image held by the cassette. It too uses an EYF 12v 75w lamp, is easily focusable, and is available in an architectural white enclosure. \$778.00

COEMAR

Coemar De Sisti Australia (03) 9467 8666
Versatile 750w or 1Kw static "finger" beam projector with 115° beam angle and a 3 to 12m throw. Uses the unique Roundlux lamp to produce cones of light through eight lenses. Able to utilise integral reflector lamps to produce shafts of light. \$262.
Baby Colour mini projectors utilising a 250W dichroic lamp with 8.5° beam angle and 3 to 12m throw. Internal 10 colour changer and manual gobos. The unit produces a perfect flat field and come in two versions: Eco (4 unit system) and Pro individual configuration. \$675.

APOLLO SPECTRUM

Coemar De Sisti Australia (03) 9467 8666
Equinox new effect, the unit features an M33 lamp, inbuilt 7 minute program sequence, 9 colour dichroic system, and a range of 9 gobos and strobing all operating via either DMX or in sound-to-light mode. The unit produces 20 beams of light and is perfect for the small to medium nightclub or production department. \$900.
Chameleon a DMX-controllable projector with inbuilt static or rotating gobos, variable strobing and dimming, this unit is suitable for use as both an FX projector, a colour changer, or for illuminating fibre optics. \$1,885.

PANI

Bytecraft (03) 9587 2555
BP1.2 HMI high output projector for slides or moving effects in-
continued on page 70

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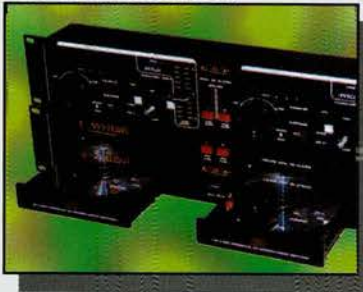


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small is how you start

Producing on a shoestring

Beauty and the Beast this is not. Three NIDA graduates get together with three Nepeanites, work for deferred wages, hire the downstairs space at Belvoir Street, and put on an Australian Play.

This is youthful idealism, and sacrifice. It is also realistic, because most small productions run like this. And it's better to work, with the possibility of some return, than not to work at all. This little space, Belvoir, gives young people a chance to produce, direct, tech, act, and learn on the job.

Three days before the show ended, it got a rave review in the Sydney Morning Herald. The play, *Going Home*, takes place in the evening and following morning, in a living room.

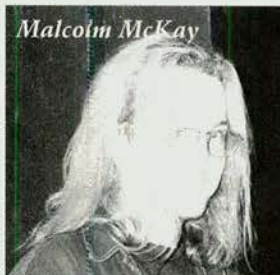
The theatre is small, old, and basic. Seven rows of benches and chairs look down onto the stage. The lighting rig, all old Strand lamps, is hung along parallel pipes overhead.

Lighting Designer, Malcolm McKay, graduated from technical production at NIDA last year. "It's a fairly old rig, by common standards," he said. "There's Patten 263s at the back. The lamps are set, but the rig is free. The front lights can't be moved. But for the size of the theatre, and the number of dimmers here, it's a fair sized rig."

When McKay arrived to do the show, the 263s were in place, but everything else was down on the ground. "You have to start from scratch, rigging, patching, focusing, colouring, and plotting," he said. "There is no automation, except the computer controlled Theatrelight desk.

"It's a small realistic show, but it's not just lights up, lights down. There are some subtle focus changes on characters through the show. The challenge of working in a small theatre like this, is the flexibility with the rig, realising that you can do a lot with what's here."

McKay is currently working as a lighting tech at the STC, and Sega World. "One day, I would like to design, but I think I need a lot more experience before I can really go for it.



Malcolm McKay

like the ones that get stuck in her teeth. She has to keep talking with chocolate in her mouth, and caramel makes it hard. It's something very fiddly, but it's got to be done. I'm getting grape juice ready as wine."

Macri is at Nepean, studying Theatre. The course covers all aspects of theatre, except performing. Stage management, directing, analysis, research, history, lighting, sound, and more.

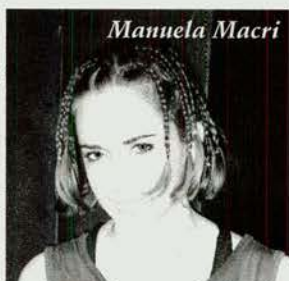
In the tiny back room, a dryer is thumping vehemently, while Macri prepares more trays of food.

At the end of the show, Macri cleans up, does some preset, and does the laundry. "Well I do some laundry," she protested. "But I basically told them they have to deal with it themselves. Well I don't have time! They're not two year olds!"

I mean who would want to stay behind for two hours, and listen to the dryer thump, for deferred wages?

The stage manager

Manuela Macri is running around doing the preset, getting all the props into position. "There's lots of food involved, like bits of chocolate mousse, and cake," she said. "I get the desert, and smear it around the bowls, because it's the end of a meal. I'm wrapping up substitute chocolates, because the actress doesn't



Manuela Macri

Technical director

Brian McCarty, the downstairs TD, is part of Belvoir Street theatre. He calls the show and operates the lighting and sound from a tiny box in the upper corner. "There are very subtle lighting changes, with emphasis

continued on page 72

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STAGE SCAN

CLAY PAKY



THE NEW STAR OF

The only limit is your imagination.

STAGE SCAN - the brand new luminaire for lighting designers working in the concert, television and theatre sectors. This new fixture joins **GOLDEN SCAN HPE** and **SUPER SCAN ZOOM** to create an absolutely matchless trio, setting industry benchmarks in terms of performance and reliability in the professional lighting sector.

With Stage Scan there's no need to hang around for the bulb to cool before switching on again: the built-in **hot-restrike igniter** means that the luminaire is always ready for action. You won't even be left in the dark after momentary power failures, so there's no need to keep your fingers crossed during thunderstorms! And when the shutter is closed, you can either power down the luminaire direct from the desk or select automatic power-down.

Stage Scan's innovative **MSZ (Multi Step Zoom)** system provides apertures from 13 to 25 degrees by selecting the most suitable of the fixture's 6 lenses - directly from the lighting desk. You'll also have fingertip control

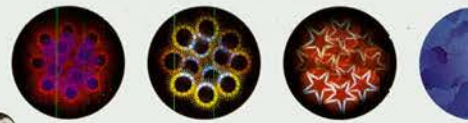
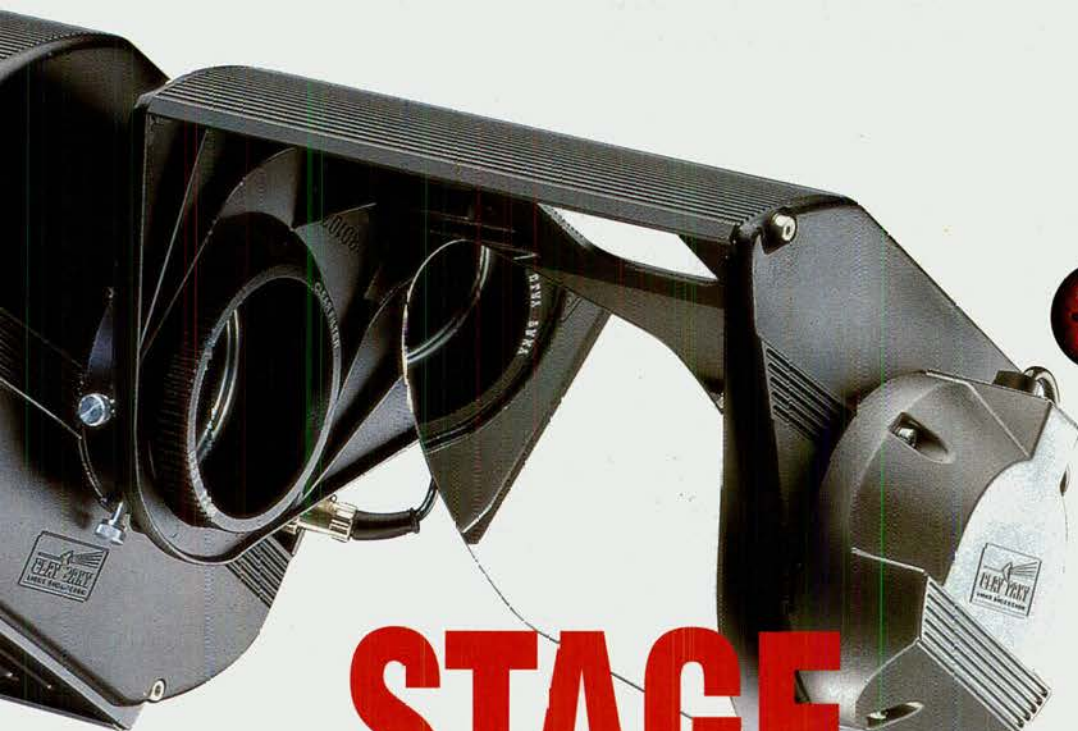


of any colour you can imagine, thanks to the **RGB colour mixing** system and to the special frost filters including the **exclusive Clay Paky "fou effect"**. Want to repeat a particular graphic effect on several luminaires?

No problem - Stage Scan features a **rotating prism indexing** system in addition to **gobo wheel indexing**.

Then there's the **independent access to the effects section** that allows you to change gobos, etc. even when the lamp is on, without burning





THE STAGE

your fingers or getting dazzled. That's just one of the details that make Stage Scan particularly suitable for professional applications.

Further examples include: **easy access to the electronics**, mounted on the inside of the conveniently hinged back cover; conventional fuses replaced with

the more efficient and safer **circuit breaker**; totally simple **mains voltage / frequency changeover** system, making Stage Scan fully compatible with all world electricity grid standards. Noise? Hush! - every Stage Scan luminaire features a carefully designed **silencing system** that will meet the tacit approval of even the most attentive audience. So if you're into stage lighting, you've probably realised by now that Stage Scan has absolutely top-level credentials - just take a glance down this features checklist:

- HMI 1200 lamp, 110,000 Lumen, for uniform color temperature and extended life;
- Hot-restrike igniter;
- Gobo unit with two separate wheels controlled independently or in combination;
- 4 M-size metal gobos - static position and interchangeable;
- 4 interchangeable rotating gobos (indexed positioning), including two dichroic glass gobos;
- 10 additional gobos supplied as standard in a special housing in the body;
- RGB colour mixing with ultra-pure dichroic filters for an infinite range of colours;
- Special effects filters (bi-colour concentric beams, four colour beams, colour temperature conversion and ultra-violet);



- Three frost filters including the exclusive Clay Paky "fou effect";
- Multi Step Zoom (MSZ) for beam angles of 13°, 14,5°, 16°, 18°, 21° and 25°;
- Electronic focus;
- Independent access to the effects, to the lamp and to the electronics sections;
- Input signals protected against accidental application of mains voltage;
- Circuit breaker replacing fuses;
- Voltage / frequency changeover system;
- 16 control channels plus one optional channel for the remote lamp on/off;
- Self-test routine for diagnostics;
- Re-calibration possible from the control desk;
- Compatible with the most widely used digital control signals: DMX 512, RS 232 (PMX).



Clay Paky offers a wide range of metallic, photographic and dichroic gobos. The fascinating catalogue full of new high-definition images satisfies the creative flights of fancy of even the most demanding lighting designers. Also your black-and-white or multicolour images can be turned into original Clay Paky gobos.

- Prism unit with four rotating prisms (indexed positioning) and one static prism;
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PROFESSIONAL SHOW LIGHTING



BUYERS GUIDE

FX LX

cluding fire, water. Complete with special yoke for hanging or standing. Universal condenser system for 11 - 60 cm objective lenses. From \$14,000.

BP2.5 Compact 2500w daylight HMI scenic projector with a spherical condenser system with cold mirror spherical reflector. Built in blowers for reflector and slide cooling. From \$27,000.

BP4 Compact 4000w daylight HMI with 71% higher in average light output than the BP2.5 Compact. For serious projection of slides (18 x 18 cm), effects, film. Also available for hire. From \$33,000.

CONSTELLA

Show Structures (09) 470 4707

Shockwave audio activated stand alone or DMX controllable intelligent multibeam effect. Projects 21 individual images offering 19 colours and 15 gobos. Fan cooled 15v 150w EFR lamp. \$734.

Nemesis audio activated stand alone or DMX controllable intelligent rotating barrel effect. Projects 4 sweeping images in the X axis offering 19 colours and 15 gobos. Long life M33 24v 250w fan cooled lamp. \$815.

Chameleon 2 bright output multibeam effect projecting 21 individual images. Audio activated colour changing offering 16 colours and 5 gobos, fan cooled, 12v 100w A1/231 lamp. \$487.

Pro Twin 2 unique dual output from a single lamp source. Audio activated twin cones or custom made reflectors to suit your personal requirements. Fan cooled M33 24v 250w lamp. \$651.

MARTIN

Show Technology (02) 9898 1111

Destroyer has 7 coloured patterns & 5 white. With 24V / 250W halogen lamp this unit has stepper motor control technology, sound activated beam rotation, controlled by a 5 channel DMX and has the possibility of running several units in a master/slave configuration. \$736.89.

Lynx 100 has colour changing, rotating beams with 13 colours & clear. Using a 100W halogen lamp the Lynx 100 has music automated operation, uses a revolving parabolic reflector and is totally self-contained, reacting in time with the music without the need for external control signals. \$490.98.

New Starflash Now in addition to the standard white Starflash there are 8 dichroic models. This new multicoloured Starflash produces 7 different effects by using a 240V 300W lamp and is also sound activated making the Star flash small in size but huge on effects it produces! \$409.02.

Magic Moon has 20 to 28 different coloured beams, sound activated colour carousel with 3 dichroic colours (complementary colours which give it an infinite number) using a 24V 250W halogen lamp. This unit produces beams which are bounced from reflecting mirrors, producing several different coloured beams at the same time. \$815.57.

ADJ

Show Technology (02) 9898 1111

Gobo Moon a compact projector that produces an array of tiny multicoloured gobos that change slowly. The beams sway to the music therefore not requiring any controller. \$554.92.

Gobo Animator 7 gobos open, close and rotate to the beat of the music. \$490.98.

Future Derby an elaboration of the classic design, "double derby" has a bright output thanks to its twin lamp design. Multi coloured beams criss cross each to the beat of the music. The type of lamp for this unit is 2 x 120V 300W 64514. \$409.02.

SnowFlower multiple multicoloured tiny dichroic beams move fast leaving a dynamic and different effect that stands tall amongst the rest. The type of lamp used is a 36V 400W EVD. \$818.85.

GENI

Show Technology (02) 9898 1111

Ultima high-powered low cost effects projector uses, a MSD 200 discharge lamp, and accepts 2 gobos (E size for rotator, M size for static holder) or 2 effects wheel at the same time. Can be used for advertising with custom logos, product launches to space themes and technicolour geometric. Fits all standard Optikinetics Effects Wheels. \$818.85.

Blaze emits a "flower" effect that sends sharp coloured beams that twist to the beat of the music. With audio control, an aluminium case, superior optics, dichroic reflectors, high torque motors and axial cooling fan. A standard that no club, pub disco, or mobile DJ, should be without. Lamps used are 24V/250W E.H.J. \$327.05.

Shimmer gives an effect of a slow rotating mini "flower". This extruded aluminium case also accepts a colour filter, has a long life AC motor and superior optics with a 120V 50W BRL lamp. \$122.13.

Brilliance/Radiance This unit gives out a radiant colours with 4 totally different control models like slow, sparkle, fast and techno. Also features a high speed shutter for a stunning effect with a high powered 575 lamp. \$1638.52.

STUDIO DUE

Show Technology (02) 9898 1111

Predator has a 300 degree pan & 300 degree tilt at 4 speeds. With 5 colours including white, DMX 512 control input using 6 channels, remote control of shutter for music trig, safety switches for over heating, power consumption of 5A and uses a HMI 575 lamp with a rated life of 750 hours. \$4917.21.

ABSTRACT

Universal Lighting and Audio 1800 648 111

Twister 2 multi-coloured dichroic beams, sound activated rotation forward and reverse, compact and light, 12v 100w halogen lamp. very defined and effective unit. \$375.00.

Twister 3 16 rich dichroic colours, switchable multi-rotation effects, sound activated, compact and light, 12v 100w dichroic lamp, award winning unit. \$462.00.

Hypermoon small compact unit features multi-coloured beams focused through a dichroic spinning prism. Creates large coverage, sound activated, switchable effects, 12v 100w lamp. \$535.00.

Monster Moon super-bright multi-coloured effect, beams reflecting through a dichroic spinning prism and mirrors, sound activated, switchable effects, huge coverage, 24v 250w lamp. \$865.00.

INFINITY

Universal lighting and Audio 1800 648 111

Mystery Rotating gobo projector, 4 colours plus white, interchangeable gobos, sound activated, full focus range, well defined beams, 24v 250w lamp. \$303.77.

Twin twin rotating tunnels coloured and white rotating in opposite directions creating a 'strobing' effect, sound activated, compact and light, 24v 250w lamp. \$357.00.

Goblin compact scatter effect, selectable rotating effects, sound to light, suit any application, 12v 50w m32 lamp. \$125.00.

Rainbow Rich multi-coloured beams, sound activated rotation, twin lamps create a large colourful effect, 2 x 24v 250w lamps. \$408.00.

MAD LIGHTING

Techscape (07) 3358 5118

STAR 311 HP DMX controllable plastic cased fixture covering large spaces with fill in effect. Has 12 gobos and 11 colours and can operate stand alone. 300hr 250W lamp. \$872.25.

STAR 311 AP same features as Star 311 HP except with 6000hr 150W discharge lamp. \$1,210.33.

STAR 511 ARP same features as Star 311 AP except with 10 interchangeable rotating gobos. \$1,636.60.

CLAY PAKY

Show Lighting Australia (02) 9898 1666

Versatile Image Projector (VIP) very small lighting projector complete with lens and 2 electrified guides to which over 20 fixed and automated effects modules can be accommodated. Up to 4 automated effects can be installed to the projector at one time. Utilises HTI 300 lamp. \$1254.10.

Piper (RG Version) this projector utilises a HTI 150 discharge lamp and can both rotate and be stationary with M size gobos (gobos can be super imposed). \$1000.00.

Piper Minisaphire produces a myriad of multicoloured light beams that continually change colour and direction, mixing synchrony with the music. It has totally automatic operation and Light to Sound circuit as standard. Available with 150w halogen lamp or HTI 150 discharge lamp. \$1474.59.

PROJECTION ACCESSORIES

WHITE LIGHT

Chameleon (02) 9310 5222

Objective Lenses to suit VSFX 90, VSFX DMX and Wave FX, available in 6.5 cm, 10 cm and 15 cm focal lengths. From \$540.

VSFX Discs for use in VSFX 90 and VSFX DMX these discs are available in: Thunder Cloud; Fleecy Cloud; Storm Cloud; Rain;

Snow; Flame; Running Water and plain discs so you can create your own effect. \$480.

White Light EP offers a full range of accessories for use with VSFX 90, VSFX DMX, Wave FX and effects projector heads like Strand 252, Strand Cantata, Strand Tocatta and CCT Starlette. Accessories include: 3.25 inch slide carriers, adjustable masks, beam diverter mirrors, break up glasses, custom slides, discs and flags. From \$100.

OPTIKINETICS

Lightmoves Technologies (02) 9560 0000

Linear Motion Mirror moves on an image continuously between two points on a straight line. 12v power from projector. \$625.

Circular Motion Mirror moves on an image in a continuous circle. Tilt is adjustable. 12v power from projector. \$550.

Deflector Mirror designed for applications where a fixed image position is required. Useful in low ceiling applications. \$295.

Solar System programmable effects changer. Can create over 64 effects. DMX control. Effects can rotate clockwise and anti clockwise. \$4200.

METEOR

ELSTA 1800 35 80 80

PROBG Graphic and custom oil wheel suitable for the Meteor Probeam 75 projector (and others as well), various designs available including wheels made to your own design. Standard size is 6 inches (152 mm). From \$220

PROBCASS Graphic and custom cassettes suitable for the Meteor Probeam 75C projector (and others as well), various designs available including cassettes made to your own design. From \$220.

DHA

Rosco Australia (02) 9906 6262

Animation Motor Units (AMU) come in a large range of sizes to fit most popular lanterns from mini Par cans to 2.5K units. Fixed speeds and Varispeed DMX motors accept DHA animation discs. From \$320.

Animation Discs attach to the AMU on a lantern. Twelve patterns to choose from and when used with a gobo on a Profile gives effects including waves crashing, rippling water, flames, snow clouds, rain. On a Fresnel or Par can will give a subtle moving light pattern. From \$120.

DHA Gobo Rotator available to fit a number of profile spotlights and allows a gobo to be rotated on its centre axis. Effects include whirlpool, laser cone and other 'disco' effects. Particularly effective in conjunction with smoke. Double Gobo Rotator also available. From \$800.

Rosco Rear Screen projection materials in 1.4m and 2.4m widths in white for front or rear projection, grey for wide viewing angles in moderate ambient light and black for situations of high ambient light and where fine resolution with a strong image is required. From \$38 per linear metre.

UV's & UV PRODUCTS

ZC & R

Selecon refer to ad in this issue

Blacklight Filter Par 64 sized optically coated glass 1% transmission of visible light 80° @ 365 nm. \$520.

ALTMAN

Chameleon (02) 9310 5222

UV703 fresnel is based on the Altman 10" film and TV fresnel providing superior spot/flood performance for illumination of fluorescent materials at distances of up to 150'. Rated @ 500W. \$5820.

UV704 is a compact, high output blacklight for illumination of fluorescent materials up to 150'. Designed for outdoor applications and wet areas. Optional spreader lenses are available for narrow, medium and wide beam spreads. \$3844.

LIGHT POINT SYSTEMS

Lightmoves Technologies (02) 9560 0000

Miniblack perfect for nightclubs and theatres. 4.54 kg with a 350w mercury vapour, long life 5000 hours contains beam angle of 35° with a maximum throw of 10.6m.

Blackflood compact 400w black light flood, 2 different reflection options. Produces 12.2m - 18.3 beams of illumination in the 350/365 nm range. 4.5 amps with a throw at 12.2 - 16.7 m. \$3175.

Weatherblack 400w weatherproof floodlight. Produces 12.2m - 18.3 beams of invisible illumination in the 350/365 nm range. 2 different reflector options, 4.5 amps, max throw at 12.2 - 16.7 m. Suitable for outdoor activities. \$3175.

APOLLO

Coemar De Sisti Australia (03) 9467 8666

Black Night a new robust UV fixture suitable for all applications in an extruded aluminium housing. \$430.



ULA ULA

The large black tented area which was home to Universal Lighting & Audio held an impressive light show which drew the punters. A lot of attention was directed to the LSG Low Smoke Machine from Le Maitre ably presented by Rick Wilson.

"The light shows have been very popular, people love to come see a light show," said Con Biviano, director of ULA. "The new JB Varyscan 5 Multivision which has a 360° head and 3 rotating gobo wheels is our latest product, we haven't even got the brochure yet but it's been getting a lot of interest."

During set up of the stand, a large helium filled ULA advertising balloon, which had taken Con 2 months to get, was accidentally destroyed by one of the guys cigarettes. *CF*

ENTECH TIDBITS

Neil Rice from **Optikinetics** was out here from the UK and was amused by one of our local transport companies called *Fargo Associates Road Transport Systems* Apparently **Lightmoves Technologies** had equipment coming down from Sydney by road which was very late in arriving. The initials of the company are **FAKTS** and their slogan is "We go like the wind." Apparently not!

Steve Carroll the managing director from the UK company **Intimidation** whose DJ mixers are exclusively imported by **ELSTA**, nearly didn't make it to this his first **Ertech**. Just out of Sri Lanka the passengers were told the plane had to turn around and go back as there was a problem with the engines. Steve was curious to see the flight attendants collecting the blankets

from passengers and was later told that collecting blankets is part of the standard emergency landing procedures if over water. Apparently airlines fear that passengers will become entangled in their blankets as they swim to shore. Steve tells me he has now become very wary of his doona on restless nights!

I asked for some product information from one of the stands and was told that sadly they didn't have a shred of paper left to give to anyone. They claim they were cleaned out by the "catalogue groupies" who were conspicuous by the number of "showbags" they were carrying. Perhaps there should be a new category at the Entech awards for the groupie who's collected the most paperwork in the shortest amount of time! *JM*

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GF 0102 black light UV Projector, complete with ballast, 400w UV discharge lamp, high reflecting mirrored dish, hanging bracket, 8.4kg, large affordable unit. \$725.00.

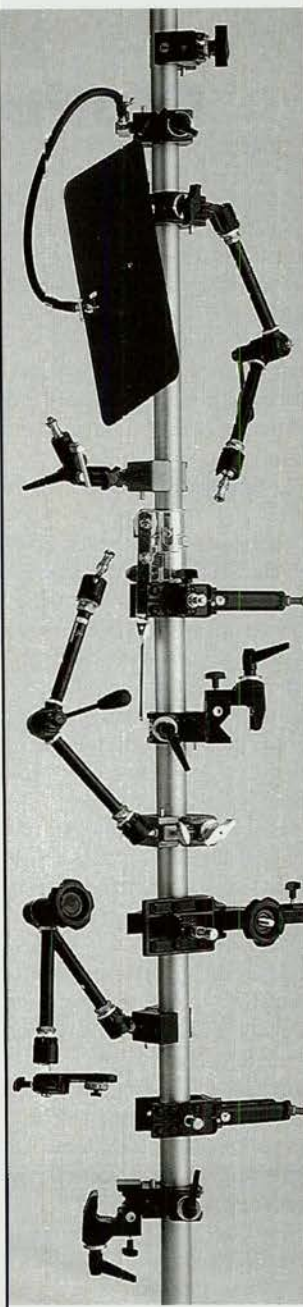
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AVENGERMANFROTTO

Write in Reader Service Number: 126



small is how you start

continued from page 67

Producing on a shoestring

ses on certain parts of the stage," he said. "I guess it's a fairly simple operation, since the gels and positions are fixed. I've got a 24 channel Theatrelight desk, and about 50 lamps. The show is fairly open white, but I think you'll find a lot of designers coming through theatre these days work that way. A lot of the heavy colours are going, and we're using more variations on open white."

I confessed to Brian that I found some parts of the play too light, for too long. "In this show, there's one basic state, then emphasis, then back to the state," he explained. "You have to be consistent, because it is a lounge room of a house, and you have to keep a constant lighting evenness. And it's hard in such a small space to get a lot of variation, although you can. I've seen some wonderful work done here by some lighting designers, but the piece was more surreal."

Sound was simple, just some Aretha Franklin to top and tail the acts. "I think the director, Kate Gaul, wanted to keep it simple, and just let the actors concentrate on their work," he explained.

McCarty enjoys the old lights. "You won't find a Patten 45 in any theatre. You might find the 263s and 264s in a country hall somewhere, but they're not really standard instruments in theatre anymore. They're good enough for a small space, because you don't need a 1200 Selecon to do it. We're running mainly 650/500w, and in a small space it works fine."

Brown Fox Productions

When I went over after the show, to congratulate the lead, Paul Mathers, for such a good performance, I found out he was also the producer! "That means putting the money up and finding spon-



sors, choosing the play, the crew, casting, finding the space, handling the publicity, all that stuff," Paul said. "We're a company that's pretty much devoted to producing Australian works, and exploring the emerging Australian classics..."

I had to cut him off here, because this is Connections magazine, and not the Australia Council.

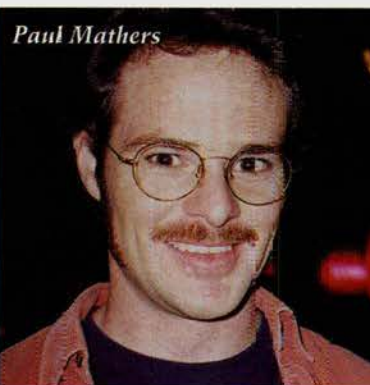
So, who is Brown Fox Productions? "Brown Fox Productions is me," Paul said. "And I'm a graduate of Theatre Nepean. I founded the company with a class-

mate, Stephen Klinder. He's the tech side, and I'm the business side. This is the first show I've done without him, and it's been really interesting. Because our tech team is Nepean, and our creative team is NIDA, it's been a melding together of two different schools of theatre learning.

"Both schools have very professional work ethic. Nepean way of working is really suited to small theatre, because we

learn everything, how to produce a show, from lighting to publicity. In a cooperative situation like this, it's important to have a team that can multiskill, pull together, and put a show on very cheaply.

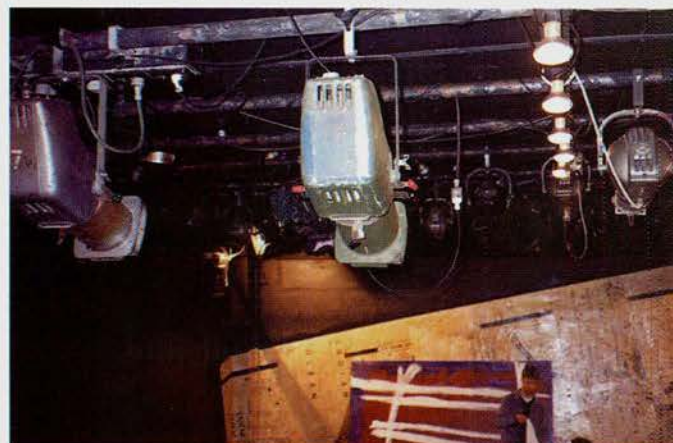
"Whereas at NIDA, they're more geared towards that whole professional structure, where people are allocated certain jobs. Each person is a specialist. Actors act and techs tech, whereas in my train of thought everyone gets in and bumps in the set, hangs the lights, fo-



Paul Mathers

cuses..." "So you've all been doing that in this show?" I wondered.

"No we haven't," he replied. "We've been working the NIDA way in this show. And the show gets put on! Either way it gets put on. And we've come up with a show that's been very well received. You never expect to go out and get fantastic crits, and when you do, it's like 'Wow! All that work has been worthwhile!' It's always interesting working with new people, and I've learned a hell of a lot! It's been a real eye opener, and it will be valuable for me, as a new producer, going into my next show."



* Madeleine Murray

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Write in Reader Service Number: 103





BYTECRAFT



The Limelight followspots were a big crowd drawer on the Bytecraft stand. Designed with operators in mind, the followspots have some nice features and are well engineered. Many people came to get their hands on the Strand 520 lighting control desk. Shirley Jensen described the visitors as 'quality rather than quantity'.

The new Strand 500w bambino lamp, which has a larger lens than normal TV/film lights it's size, literally came in with Phil Lehmann from Hong Kong. *CF*

JANDS JANDS



The guys on this stand were very happy about the response to their HP12 touring dimmer system. They told me that about 90% of sales of their HP12 dimmers go to users who mould them into touring racks anyway. So in response to their market they have designed and built a fully configured, safety conscious factory system of 72 by 2.4kw. They have received a lot of positive feedback about the dimmer and about the fact that it's an Australian product. *JM*

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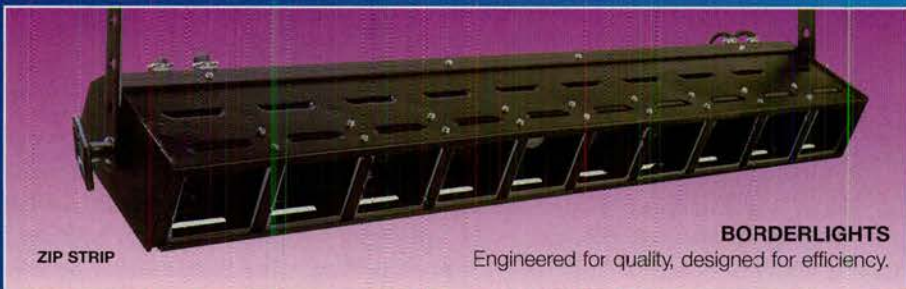
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Working on Water

Water Rats



Water Rats is a great idea. One of those ideas that are so obvious you wonder why no one thought of it before. And the lead actors, Colin Friels and Catherine McClements are in the Scully/Mulder league.

I went along one morning to watch them pull a dead Japanese man out of the water, and open his salvaged briefcase.

The divers

The crew talk to the divers by Buddy Phone. This two way communication system works to a depth of 40m, and is used in search and recovery operations.

The divers wear a Divator, a full face mask, so they can listen, and talk to the crew above, as well as each other.

The lights

Last year, the underwater sequences of *Water Rats* were shot on film. The bulky 16mm camera in its housing was about the size of a microwave oven. It was awkward to move underwater, and needed quite a lot of lighting. "Now we can do much more elaborate shots. It allows us to go into smaller areas," says Guy Norris, the second unit director. "If someone is trapped in a car underwater, we can get right back in the corner of the car."

When shooting on film, they used divers' battery lights for lighting. These are battery powered, 18w hand held torches that cost \$500 each. The batteries are rechargeable, and last one and a half hours. The actors used to hold these lights, to light themselves, and other subjects.

"I've never used actual lights underwater," says Martin Turner, the second unit DOP. "We just worked at the depth where we had natural light. That's one of the reasons we went to video. The batteries lights were very expensive. And it's quite complex to light underwater. The major problem is water clarity, which changes daily, hourly. Depending on the tides, rainfall, moon,

depth, pollution. When you light underwater, it bounces straight back off particles in the water. It's like driving in a snowstorm with your lights on."

In the past six months, *Water Rats* has switched to digital for the underwater work. The new digital Panasonic video camera is no bigger than a shoebox, and "virtually sees in the dark," according to Turner.

Goat Island

The main set, of the Harbour Police offices, is on Goat Island. It is basically lit with fluorescent fittings, daylight tubes or tungsten, depending on whether it's day or night. "That gives us the ambient level," says Steve Monk, the gaffer. "We use Arri HMIs bounced off different reflector boards, to put edges on people, to highlight and model. Because the set is so open, and looks out over the harbour, the ambient level changes quite considerably, from a sunny day to a cloudy day. The background is usually in view, so we are often decreasing the outside level with nets and scrims. We put scrims on the balcony between the harbour and inside, to take two or three stops off.

"Some DOPs would light through the windows, but in this situation it's very difficult, so that's why we're going inside with bouncing light, using the ambient light that's already there, and just putting in edges, highlights, modeling. We do shoot quite a lot of time per day, so it's quite rushed."

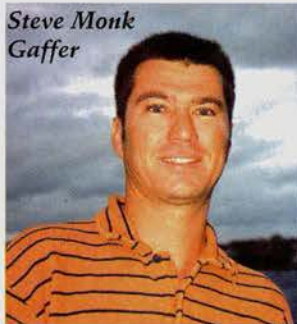
They also use Dinettes, twelve 1Kw globes in one housing. "We use that with full colour correction blue, to take it back to daylight, and push that through a frame to bring up the ambient lighting"

Monk uses Arri 4Kws, 1.2Kws, 575ws, and little LTM 200w powerlights, all flicker free HMIs. "We use the 200w on the boat, because they can be run off 30v battery packs as well as 240v," Monk says. "The main police boat, the Nemesis, has a little fly bridge on the top which gets quite dark. And you're always fighting a very hot

background, because it's on the water. We do a lot of bouncing of light in there with the reflector boards, but the 200w comes in really handy. The actors can be in considerable shadow sometimes under the flybridge. So we just belt the little 200w in there, bounce some other light which gives them glints in their eyes, and makes them look attractive.

"On location, we've done some tricky things. In marinas, we've had floating platforms, and had to get the lights up high, like simulated moonlight. That's a bit of a challenge. You have to be pretty safety conscious." **• Madeleine Murray**

Steve Monk
Gaffer



HAZIE

from

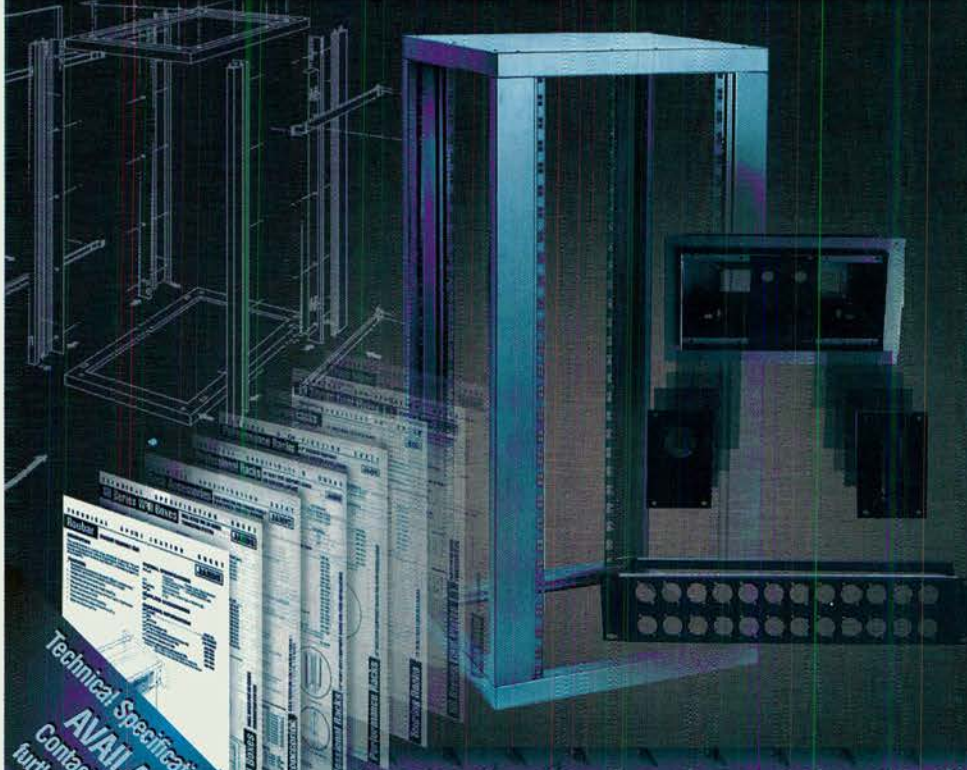
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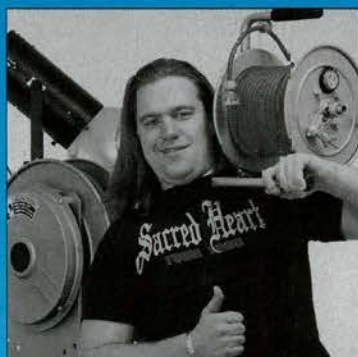
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SHOW TECHNOLOGY SHOW TECHNOLOGY

The impressive Show Technology stand was cleverly divided into three sections - the Martin area, the Clay Paky area and the Geni/Kupo/ADJ area. Jem, Pulsar, Studio Due, Elektralite and MEC truss were also represented in the areas. The areas were swimming with international representatives from America, England, Taiwan, Denmark and Italy.

With Clay Paky, the new range of display projectors - the VIP 300, VIP 250 ALO and SIP 300 - was definitely a hit. Peter McKenzie of Show Lighting Australia said that the slide model was very popular due to its attachments and its flexibility, it can be anything from a disco effect to a notice board. Considering a neon sign will cost you between \$2000 - \$3000, the price of around \$3000 with full options will



make it a big seller.

The Clay Paky Stagescan was also a new release for Australia as was the Miniscan RG.

Whilst Rod Salmon could not attend Entech due to a broken arm, Emmanuel Ziino has his own dramas. On the first day of Entech his wife Gina went into labour so Emmanuel caught an afternoon flight back to Sydney, attended the birth of his daughter Isabella Serafina and then raced back to Entech to be on the stand the following

morning. A still glowing Emmanuel turned his thoughts to Entech and told me that Mac600 and Martin Lighting Director were hugely popular as were some of the niche products such as the weatherproof dome from Martin, the Martin Case Controller, and the CP100 from Group One. **CF**

TECHSCAPE TECHSCAPE

"A lot of people have been commenting on the images which we are achieving on the flats and the way that the Cyberlights and the Studio Colors have been working," said Noel Bourne. The Studio Color LCD controller was on display for the first time as well as the Studio Color switch mode model. The Ecodome also attracted much interest.

A large order was received from Mick James Electronics for 16 Studio Colors and 8 Cyberlights for Jupiters Casino on the Gold Coast.

The Nebula Hazer was on show for the first time and a number of orders were taken for them during the show.

Bob Schachierl, President of High End Systems, was present throughout Entech and viewed the show as very successful.

"Through Techscape, we have a good presence here

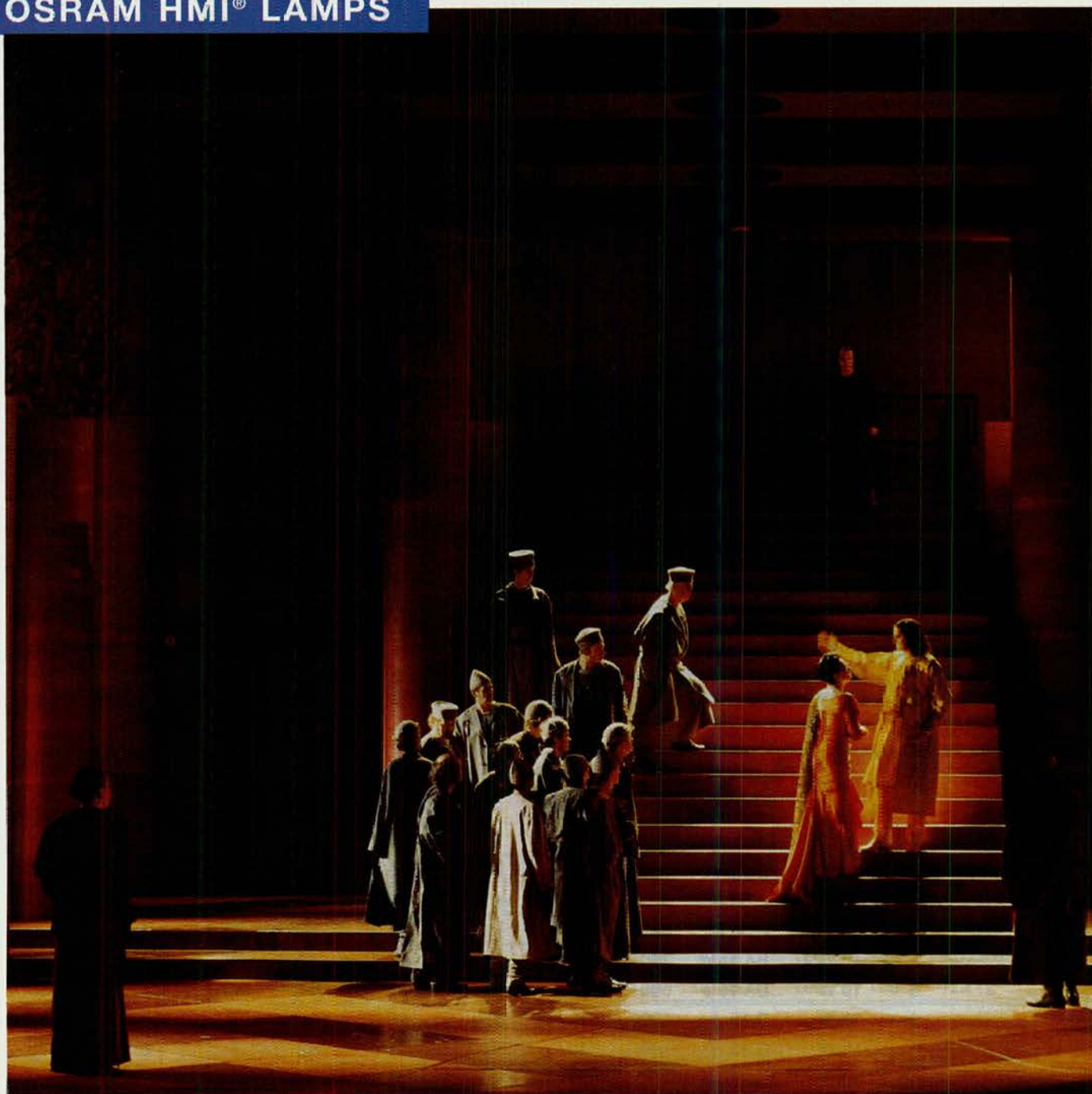
in the Australian market and it's been good to reinforce our relationships with all our Australian dealers, designers, and consultants," he said. "We've seen everyone we wanted to see, got some new customers and created some new business. It's been 7 years since I've been in Australia and it's refreshing to see the continued growth and evolution of the Australian entertainment lighting market. We're pleased to be a part of that growth." **CF**



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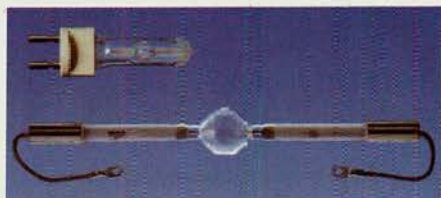
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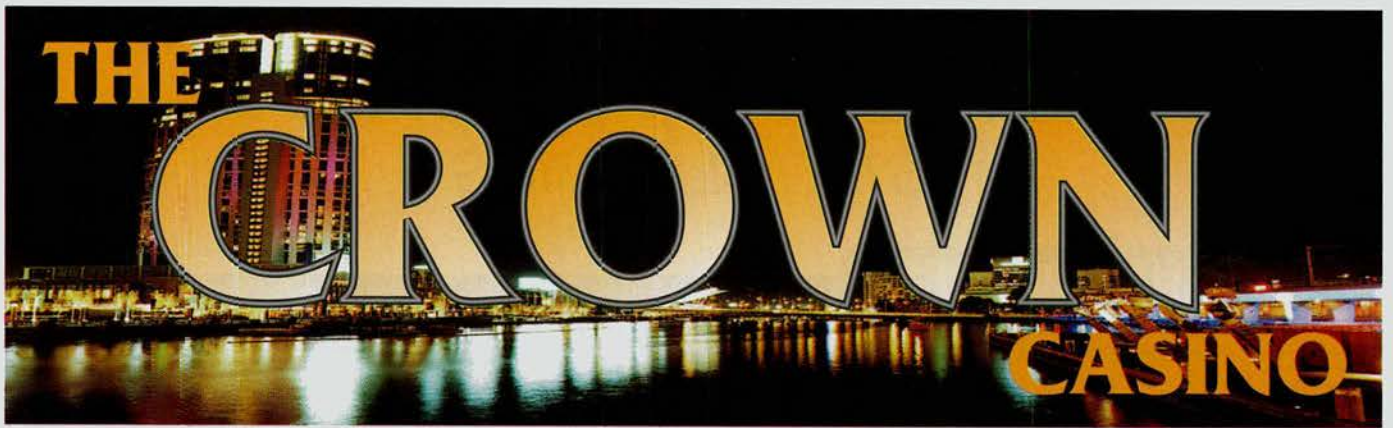


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AND ENTERTAINMENT COMPLEX



It has been described as the biggest structure in Australia, the best thing ever to happen to Melbourne. While controversy and allegations have surrounded the development of the \$2 billion permanent Crown Casino site, nothing dares stand in the way of the completion of the enormous complex. Right up to opening night on May 8, work was continuing at a frantic pace to ensure the 5000 invited guests experience the full Crown treatment.

The Crown complex is situated on half a kilometre of prime land overlooking the Yarra River, linking Southgate and the Melbourne Exhibition Centre. Of the 5.5 hectare complex, 12 percent of the floor space is taken up by gambling facilities. The remainder of the complex is made up of hotels and villas, exclusive shops, restaurants, and entertainment venues.

Construction on the permanent casino site began in March 1994. Leased from the Victorian Government for a 99 year term, the site has surrounding land holdings to allow for future expansion. The original plans for the casino itself were for 200 gaming tables and 2500 gaming machines. In October 1995 the Crown consortium's plans for an expansion of the complex's facilities were approved, meaning an increase in the number of gambling facilities, as well as other major features of the project in general.

With its range of facilities, entertainment and retail offerings, the complex is sure to attract the punters, at least in the short term. Clever planning and marketing has ensured that a larger demographic will be drawn to the Casino and facilities through the inclusion in the complex of drawcards such as 24 hour venues and exclusive shops.

Crown publicists describe the site as a metropolis, claiming that with the facilities and attractions, visitors need never leave the site for anything. The features of the com-

plex include a 500 room five star hotel (planned expansion up to 1000 rooms in stage 2 by 1999), ballroom/convention centre, 30 meetings rooms, 46 restaurants, lyric theatre, 14 Village Cinemas, Planet Hollywood as well as numerous restaurants, bars and specialty shops, fully serviced gym, tennis courts and 25 metre pool, and underground parking for 5600 cars.

With 8000 staff employed by Crown for the permanent casino site, double the number on the payroll at the temporary site, the complex is practically a city in its own right.

The Crown Casino Entertainment Complex - At a glance...

• The Casino

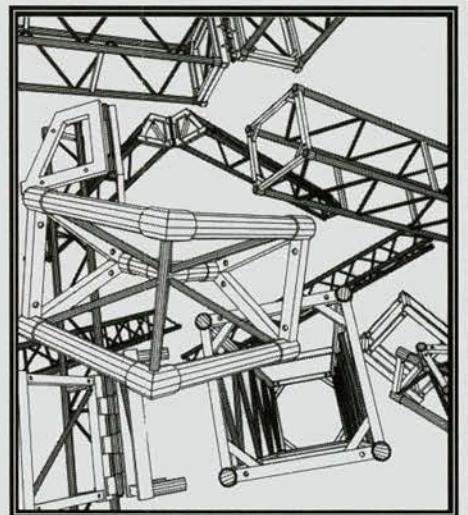
The Melbourne Casino boasts 350 gaming tables and 2500 poker machines - the highest number of any casino in the world. The main gambling rooms include the Mahogany Room (The VIP lounge of the gaming rooms), the Cedar Room, the Oak Room, the Coliseum and the Diamond Room.

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The overall design of the casino and entertainment facilities have been made to attract an international market, in particular high rolling business men from neighbouring Asian nations. Crown has paid special attention to the likes and dislikes of international visitors - right down to cultural considerations over limousine colours and hotel room decorations. Two Gulfstream jets, each worth around \$30 million were purchased by Crown for the taxiing of major league.

• The Entertainment Complex

An unspecified number of entertainment venues make up the entertainment precinct of the complex.

They range from venues for big productions to smaller style theme clubs. The top billing of the venues include the Showroom, Mercury Lounge, Odeon nightclub, Jack's Bar, and Heat Nightclub and piano bar. Themed restaurants include Planet Hollywood and the Allstar Cafe.



• The Showroom

A 900 seat performance venue attracting cabaret style shows, the Showroom will be a drawcard for international acts to play in Melbourne. The premiere production Red Hot and Rhonda - a song and dance show starring Rhonda Burchmore, is the opening attraction for the venue.

• The Mercury Lounge

The media release says The Mercury lounge is "unlike anything currently operating in this country." A club style venue, the Mercury Lounge is operated by music entrepreneur Michael Gudinski. Featuring a million dollar sound and lighting system which is said to be unrivalled in venues in Australia, the Mercury has an 800 person capacity. With a 16 metre long bar, 24 hour licence, and seated restaurant from 6 pm to 9 pm, the Mercury will attract big name musicians and large audiences.

• Village Cinemas

Village Roadshow Limited's 14 cinema complex is the first in the world to offer 24 hour

screenings. At a cost of \$14 million, the cinemas feature extra large wall to wall screens, Digital DTS and Digital Dolby sound, and special design stadium seating complete with removable arm rests to create 'love seats'.

In keeping with the high roller theme of the casino complex, Village's Gold Class Cinemas, due to open in June, will entitle movie purists to a more secluded and lavish cinema experience in one of four 28 seater mini cinemas. Features include bar service from Walter's Wine Bar, footstools and luxury seating.

• The Shops

The Crown complex has a mini Rodeo Drive in its arcade of exclusive international fashion stores - 6,500 square metres of designer label fashion shops. Big names include DKNY, Versace, Armani, Tiffany & Co., and Gucci, and with extended trading hours from 10 am until midnight, these shops are

sure to attract some big spending clients.

• The Decor

The Casino has to be seen to be believed. From its huge gas flame spurting cylinders along the Yarra boulevard, to the elaborate chandeliers and optic fibre lighting effects, no expense has been spared in turning the site into as much of a showpiece for the window shoppers as the blackjack tables are for the serious punters. Fountains and water effects feature heavily, and dramatic instrumental music is pumped throughout the complex.

• Mandy Jones



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CROWN technical overview: next 2 issues.

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THE PA PAGE

Insert this where it will do the most good! (How to react)

By Michael Orland

In the course of my day to day business activities, I deal a lot with other system owners. They often ask if I have any insert looms for sale. When I ask why they don't just make it on their own, I often get a groan or look of total confusion. Now there are many situations in this life that might justify such a response, but making an insert loom needn't be one.

Adding insert facilities to your effects rack needn't mean doubling its size. There are so many processors around which give you four compressors or up to 16 gates in a single rack unit. We have found 12 channel insert systems ample within most of our live applications.

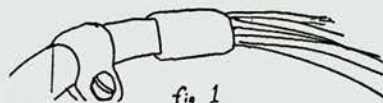
One of the following wiring suggestions may be useful.

The neatest methods involve lengths of multicore cable. It is preferable, but not essential, to use the type of cable where the shield around each pair are isolated from each other. This usually means the type that uses foil shielding with a drain wire, rather than the braid type of shielding normally found on microphone cable.

If we're dealing with a desk that uses separate jacks for insert in and out, then cabling becomes a pretty straight forward affair. For a 12 channel system you'd need a 24 pair multicore, fanned or "tailed" at both ends. I have detailed multicore terminating for beginners in previous articles. Use thin wall flexible heatshrink for the tails with a little piece of thick wall rigid heatshrink around each knuckle. The line jacks can then be labelled with nice big numbers under clear heatshrink. They can also have an S or R (send or return) or even be colour coded with little bits of reinforcing coloured heatshrink at the ends. Many upmarket desks like the Soundcraft K3 or even the new Allen and Heath lines feature balanced "stereo" jacks on both insert sends and returns. Like I said last

time, a luxury, but hey, if its there why not use it? TRS (Tip Ring Sleeve) aren't that muck harder to wire, and work just

as well when used with mono unbalanced sockets. Be sure the tails that go to the desk are long enough to reach between any of the input or output insert points without stretching or straining. And look for a way of anchoring the tails within the effects rack. A plastic cable



clamp a la fig. 1 is a good idea. The insert multicore can then be rolled and thrown in the back of the rack ready for the next gig.

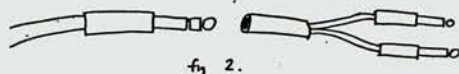
If, as is more common, your desk has TRS insert jack sockets, then you have a few options. If you have a spare length of 24 pair multicore, you can still have 12 sends and 12 returns within your rack. At the desk end, one of each would then be paired within each larger length of heatshrink, to give you 12 insert tails. The two cores within one shielded pair would connect to tip. The two cores within the other shield pair would connect to ring. Both drained wires would connect to sleeve. This doubling up makes for a reliable system, albeit a little bulky.

If you wish to make up a 12 channel system with 12 pair multicore, then you'll need to 'split' each shielded pair at the rack. The wrong way to this is by somehow trying to "graft" two cables together and cover the mess with tape or heatshrink.

Why? Because I said so!

The more reliable ways of splitting involve extra connectors. Either one for each line or a multipin connector for the lot. If you choose the former, and you like the idea of 12 TRS jacks at either end of you 'core, then you can use female TRS line jacks a la fig. 2.

Be warned though, that they



can be hard to work with, and many no name brands are notoriously unreliable. The better way is via a patch bay. This

needn't involve anything fancier than a piece of nice thick aluminium angle. Along one edge you'd drill 12 holes to suit 12 insulated panel mount type TRS jack sockets. Along the other edge you'd drill a few little holes for mounting the finished product within the rear of your rack via a few self tapping screws. Two shielded cables would then wire to each of the sockets within the rack; the core of one to tip, the core of the other to ring, and the shields of both to sleeve. When all wiring and testing is done, use lots of cable ties to relieve strain and achieve that pro look.

Of course, the connectors on your "patch bay" don't have to be jacks. XLRs would be even better, but much harder to drill, file and mount neatly.

The final suggestion for multiway insert cabling involves multipin connectors.

Over the years I've found all sorts of multipin connectors at the bottom of bargain bins, which I've utilised with varying degrees of success. These days, in an effort to standardise, thus making stuff as versatile and interchangeable as possible, I've pretty well settled on using 48 pin Burndys.

When I've written about these in the past, I've had readers ringing me asking about cheap sources. For a pleasant surprise, try looking under Burndy in your local capital city's white pages! There is no "industry standard" for wiring Burndys 48s for these applications that I'm aware of. The method I use is detailed as a suggestion only.

As explained previously, the lettering identifying each pin starts at the outside and spirals its way to the centre. I use pin A as channel 2 send neg. Pin B is channel 1 send pos. Pin E is channel 2 send neg. Etc., etc. 4 pins per channel. 12 channels. 48 pins. Each shielded pair from the panel mount connector in the rack has the shield connected only at the TRS jack.

Only the inner cores connect to the panel mount. When we use a console with TRS in/out insert points, we use a 12 pair multicore with

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links within the Burndy connector between each neg. pair. When we use a console with separate balances TRS ins and outs, we use a 24 pair multicore in which the connections within the rack can be duplicated within the tails. No shield connections between desk and units. Some folk may find this radical stuff, but I'm no stranger to controversy. See Ya!

Michael runs The Public Address Co in Sydney, call (02) 9799-7219.

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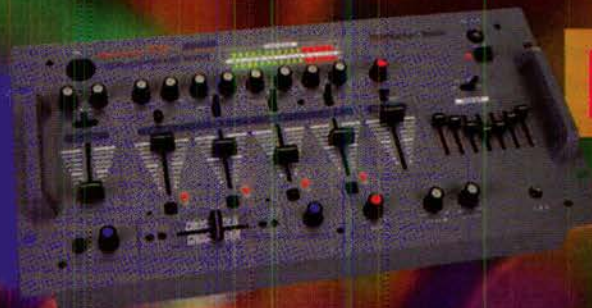
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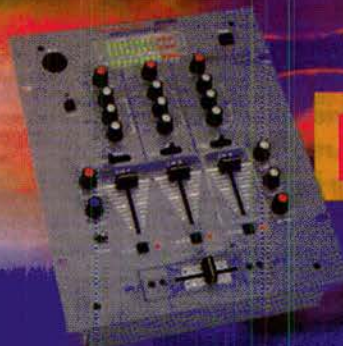
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