

Connections

The Entertainment Technology Magazine

May 2000 A\$5.00



❖ ODE TO THE PATTERN 23

❖ BARDOT IN THE STUDIO
Industry bias against women
Effectors: latest, greatest
PAN struggles to fly

ISSN 1320-5595

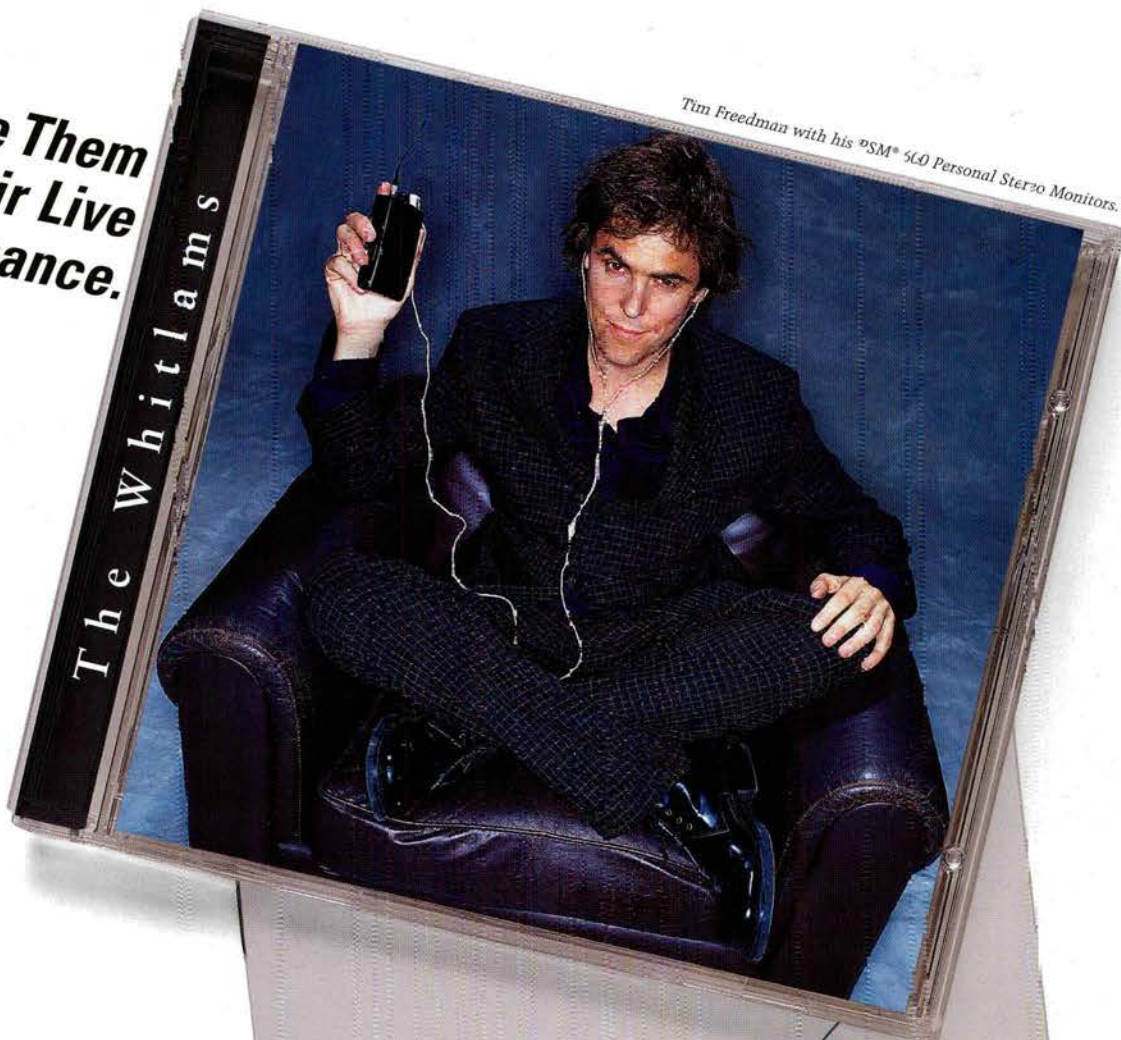


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SGM launch 250w moving yoke. Page 41

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Creativity and technology.

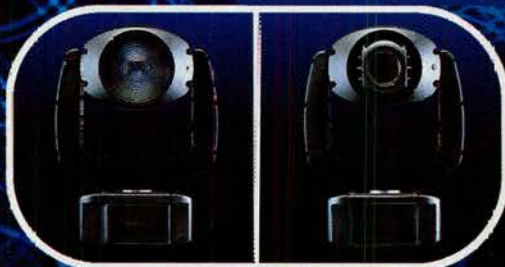
A spectacular combination.

Creative lighting for shows, theatrical productions, television studios and entertainment venues.

Giotto moving head fixtures, with their ground-breaking technical originality, are the result of twenty years' experience: completely designed and tested in the SGM Research & Development Centre with the consultation and collaboration of world-famous show industry professionals and lighting designers.



Giotto Spot 1200



- MSR 1200SA lamp powered by an electronic ballast • 540° Pan (3.8 sec.) • 270° Tilt (2.4sec) • 16-bit control
- Automatic head repositioning • 72 colours • 4 beam angles (9° - 12° - 15° - 18°) • Electronic focus • Iris • 4 rotating
- + 4 fixed gobos • 2 rotating prisms
- Variable frost.

Cover for using Giotto Wash 1200 and Giotto Spot 1200 outdoors. The dome, in highly heat resistant perfectly transparent polycarbonate, has an ABS body and built-in ventilation system.

Giotto Wash 1200

- MSR 1200 lamp powered by an electronic ballast • CMY colour mixing • 200mm Fresnel lens with zoom facility (18° - 35°) • 540° Pan (3.8 sec.) • 270° Tilt (2.4sec.)
- 16-bit control • Automatic head repositioning • Luminosity of over 30.000 lux at 5m./18° angle.

Giotto Barndoors



Exclusive motorized barndoor system for theatre and television applications. Each of the 4 barndoor leaves has an independent motor and a fifth motor rotates the entire group through ± 95°.

Light Dome



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THE NEW POWERLIGHT 2.



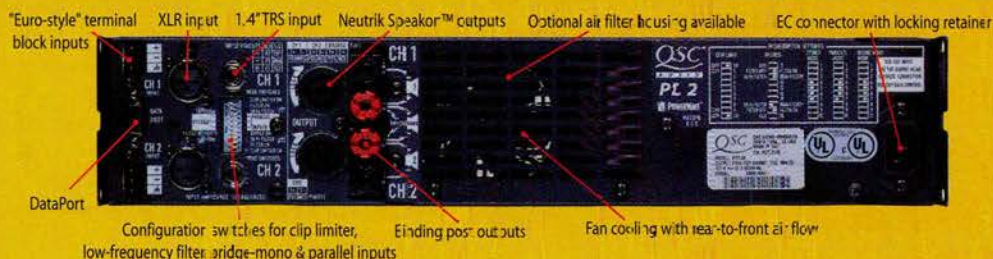
YOUR CUSTOM-BUILT POWER SOLUTION.

Sound reinforcement systems are as varied and unique as the designers that build them. And with each season, each new client or venue, your needs change. The new PowerLight 2 is a flexible power solution that is custom built to your specifications. PowerLight 2 combines QSC's proven PowerWave™ technology with an array of powerful features and options not found in any other pro touring amplifier.

- Models equipped with on-board analog or DSP signal processing options, including switchable input sensitivity (+4dBu, 32 dB, or 26 dB), true power limiting, crossovers, delay, and EQ. All settings configured at the factory to your specifications.
 - PowerWave™ Technology for superior sonic quality and reliability found in our original PowerLight Series, trusted by the nation's top sound companies & tours.
 - Compact and lightweight - up to 3,700 watts in a 2RU, 9.5 kg. chassis
 - DataPort for computer control and monitoring
 - Gain control security covers
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 - Custom front-panel labeling available
 - Styled to complement your existing PowerLights
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- Custom build your system with the PowerLight 2. Combined with our original 13-model PowerLight line, QSC offers the widest selection of amplifier solutions for all your touring/live sound needs.

Model	Watts per channel		
	8Ω	4Ω	2Ω*
PL 218	310	525	900
PL 224	440	740	1200
PL 230	575	900	1500
PL 236	725	1100	1850

F°C rating: 20 Hz–20 kHz, 0.03% THD
*1 kHz, 1% THD



TAG
 TECHNICAL AUDIO GROUP

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Connections

The Asia/Pacific Entertainment Technology Monthly **MAY 2000**

Olympics sound contract boosts EAW network

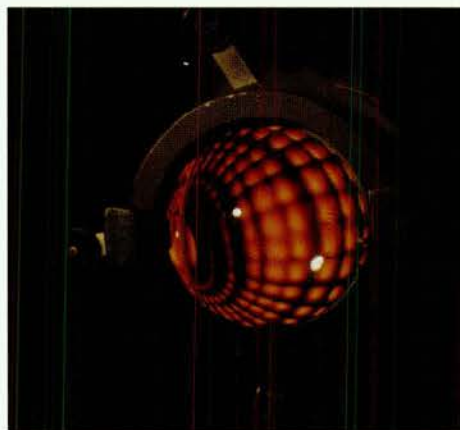
Ceremonies to use VLA and KF750 PA boxes, Norwest Productions to be named audio production supplier

SYDNEY: Chris Kennedy's sound production company Norwest Productions has been offered the contract to do audio for the opening and closing ceremonies of the 2000 Olympic Games in Sydney. The highly coveted contract involves supplying all live audio for the ceremonies, to be held in the

new Sydney Olympic Stadium.

Norwest are the fifth largest live audio production company in the Australasian region, and feature an extensive inventory of near new EAW loudspeaker systems, driven by Crest amplification.

• **FULL STORY ON PAGE 58**



Ode to the Pattern 23

In Awe. By John Grimshaw

If I said to you that I was going to build a piece of equipment that will be used in theatres throughout the world for the next fifty years and beyond, you would have to say that I was crazy.

The humble Strand Pattern 23 is one of the longest living icons of the theatrical lighting trade – it is not hard to see why.

Half a million of these luminaires now populate the earth, and they just keep going. We've searched high and low and found heaps of variants. Some of them are strange, most are in use somewhere near you. Did you know there is a 23F - for fresnel? Or do you know how to make a WIDE spread version?

Get the most from yours. Read all about it!

• **GO TO PAGE : 62**

Pan fights to fly

Show set to open as producers slug it out

Legal action between the producer and financial backer of the new stage spectacular PAN hadn't affected extensive pre production as we went to press. The show is to open in Sydney on May 14th at the Capitol Theatre, and according to sources close to the production, it has every chance of box office success.

At least it did, before the falling out between producer Kerry Jewel and German based financiers Musical Entertainment AG spilled into the media.

Connections visited the production and found some groundbreaking innovation at work on a staggeringly complex play set to music.

• **Report starts on Page 69**

NEW LOOK: NEWS ABOUT CONNECTIONS

It's time for a reorganisation and redesign, with a few people changes too. Moving into a new chair is **John Grimshaw**, now delegatee Technology Editor. Welcome to new contributors **Graham Walne** (Perth) and **Lindsay Nelson** (Christchurch). And farewell to long serving writer and Lighting Editor **Catriona Forcer**, who has departed.

For important news on your new-look magazine, see the Editorial, on page 15



EUPHONIX LAUNCH SYSTEM 5

The latest surround sound digital audio console for ultra-high end applications is the System Five from **Euphonix**. More a system than a console, this solution for post, music and broadcast is examined in full on page 53.

CONNECTIONS

ISBN: 1320-5595

CONNECTIONS is published monthly - except January - by Connections Publishing Pty Ltd

Australian Company number 058 443 182

Mail: PO BOX 439, EPPING
NSW 2121 AUSTRALIA.

Deliveries: 16 Willoughby street.

Web: www.conpub.com.au

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Fax: +61 2 9876-5715

Hours: 0830 - 1800 Sydney.

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Subscriptions: call toll free 1-800-635-514 or +61 2 9876-3530 or email sarah@conpub.com.au

Bulk sales, dealer sales: toll free 1-800-635-514 or +61 2 9876-3530 or email sarah@conpub.com.au

Newsagent sales: NDD code CNC.

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Admin, Subscriptions: Sarah Ford

Accountant: Jenny Royal

Webmaster: Nicole Morris

Printed in Sydney by: Superfine

Reprographics: Omicron

IT consultant: Brendan King

Platform: Apple Mac (Page Maker 5) via an NT server.

Advertising production:

Sharon Miceli, shortly to become freelance and highly valued always!



Fairlight rolls out PRODIGY at NAB

Fairlight's new Audio Post system Prodigy offers blazing speed and a higher degree of functionality than any other system in its price range, they claim

LAS VEGAS: in a move that challenges the playing field of digital audio post-production, Fairlight last month introduced Prodigy, a 24-track, 24-bit digital audio workstation and surround sound digital mixer that integrates

the key advantages of Fairlight's technology into a single dedicated system.

Featuring many of the critical technologies developed in the hugely successful Fairlight FAME and Fairlight MFX3plus systems, Prodigy makes a new level of sound quality, speed, and creative flexibility available to a much larger segment of the audio post-production market.

Fairlight Prodigy is based on the FAME and MFX3plus systems, technology platforms that have proven themselves for years in the high-end post market around the world. Prodigy offers 16 assignable faders and joysticks integrated into a dedicated recording, editing and mixing production centre that is designed as a desktop system.

However, "desktop" will never have the same meaning again, as Prodigy's processing engine is, they claim, the world's fastest 24-track recorder/editor.

Prodigy also features 36 channels of fully automated mixing capability, moving faders, surround sound joystick panners, floating point DSP for digital purity and high-quality 24-bit A/D and D/A converters. Prodigy can be supplied with optional MediaLink networking capability and offers a fully integrated architecture with internal routing and patching via an all-digital signal path with surround 5.1 and stereo bus outputs and monitoring.

"Never before has this much power and performance been offered in a fully integrated package at this price point," observed Tim Cuthbertson from Fairlight.

"It's a single intuitive system at an affordable price point. Fairlight is enabling mid-level post-production facilities to offer services that were previously only available at the very top of the market".

Correction

In the Hire and Production Directory back in March, we messed up the listing for AVI Audio Visual International. This is the correct version:

AVI: Audio Visual Int'l
18 Merton Road, St Johns
Auckland, New Zealand
Phone: (64-9) 528-0763
Phone: (64-9) 262-1123
Mobile (64-25) 995-829
Fax: (64-9) 263-5895
E-mail: info@avi.cc.nz

Key Staff: James Storrrie
(Technical Director - Int'l),
Jennie Cowan (International Co-ordinator).

- Technical Event Management
- Conference Productions plus Administration & Travel
- Three Digital Audio & Video Recording Suites, Non Linear Editing, Mastering, Duplication and Translation (on site or in our studios)
- Audio Visual Equipment Hire.
- Technical Support.

AVI - A WORLD OF EXPERIENCE

LDI Trade Show

Last month the dates were wrongly listed. The show is on October 20 - 22.

New Agencies

SGM RE-ENTERS AUSTRALIA

High End, Clay Paky, Coemar face new competition

• By Julius Grafton

A key player in the intelligent lighting market has dramatically stepped up its distribution in the region from this month. SGM have appointed ULA (Universal Lighting and Audio) as distributors for Australia, and announced an aggressive drive into the market.

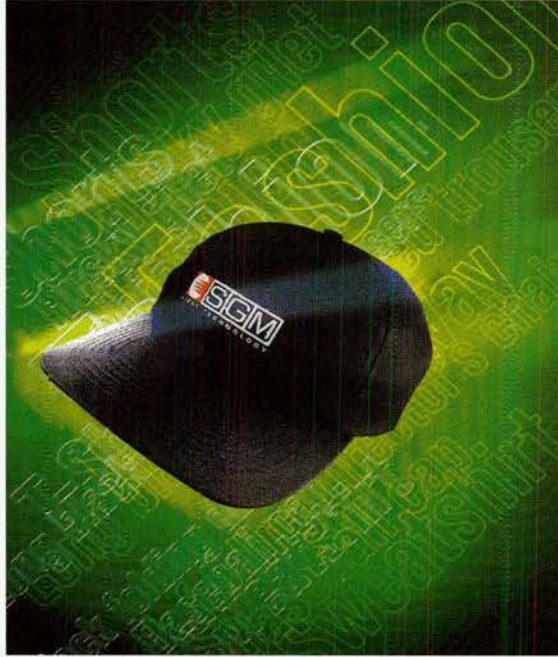
SGM has been around since in 1970's, and is a reasonably well recognised brand - but previously suffered limited distribution in Australia. They are an Italian company who have developed a strong international sales and assistance network, backed by effective marketing. They design and make original systems of increasingly advanced optical integrity.

The firm make product of comparable quality to market leaders, and actively compete against High End Systems, Coemar, and Clay Paky. But their product lineup doesn't imitate the others. An example - the motorised barndoor accessory for the Giotto Wash 1200 moving head fixture.

The brand is well established in

television and stage lighting markets around the world, and ULA will use it to fill out the top end of their lighting brand portfolio.

- See New Lighting products section.
- ULA, +61 7 5532-9922. www.ula.com.au



BLUE for Studio Connections

Studio Connections are now the Australian distributor of this unusual line of products. Blue (which stands for "Baltic Latvian Universal Electronics") build high quality microphones and accessories for the recording industry.

Based around tube and solid state technology, Blue deliberately shies away from mass production and integrated circuits so as to follow a purist approach to microphone design and construction. This has had a definable effect on the quality and "look" of the microphones currently in their range.

The Blueberry (below) is a large diaphragm, cardioid microphone designed and recommended for vocal and close instrumental work in the studio. Available with shock mounts and a pop-filter as optional accessories, this microphone sells for A\$1895 ex-tax.

Studio Connections- Ph: +61 3 9874 7222 or Email: studioc@netlink.com.au

Stanton Needles Into DJ Electronics Market

Old name, new devices as Jands finally find a DJ portfolio contender

Jands Electronics has announced it has acquired the Australian agency for Stanton Magnetics, a Hollywood-based manufacturer of premium DJ products.

"Jands has enjoyed considerable sales success in the growing DJ market with products such as Shure cartridges and Rane DJ mixing consoles," explains Jands managing director Paul Mulholland. "For some time we have been looking for the right product to allow us to service all sectors of this booming market. There is no doubt in my mind, Stanton Magnetics is the perfect product to achieve our aims.

"It goes without saying Stanton is the market leader in cartridges and styli, however, the real excitement is the complete

range of turntables, mixing consoles, headphones and CD players now offered. We confidently expect the brand to achieve market leadership in Australia."

The new Stanton mixer line features four professional DJ mixers, they also offer two straight arm turntables, and a multi

headphone preamp.

There are many more products in the works including a valve mixer- the VRM-10 with Stanton's new V-MAX technology. (For that Wow! factor, the tubes glow through the ventilation holes on the mixer's top panel).

• For more information on the Stanton range contact Jands on +61 2 9582 0909 or go to www.stantonmagnetics.com.

STANTON



HOW TO SOUND BETTER WITHOUT HAVING TO REHEARSE MORE..



THE MACKIE CFX/SRM450 COMBO...ULTIMATE PERFORMANCE & CONVENIENCE



It's easy to transport, simple to set up and it delivers a level of accuracy that's never before been possible with a compact sound system. Just plug a Mackie CFX•12, CFX•16 or CFX•20 mic/line mixer into a pair of SRM450s. If you're a good musician, you'll sound better. If you're an OK musician, at least those wrong notes will be really loud and really clear.

ACTIVE



SRM450 Active Speaker

Passive Pole (not included)

SRS1500 Active Subwoofer (available April/May 2000)



SRM450

Active accuracy: better than powered. Way better than passive.

Mackie's SRM450 active speakers are re-defining 'small' PA sound performance. First and foremost, they're incredibly accurate with crisp, clean treble, sweet natural mid-range and loads of tight, low bass. Second, they're capable of awesome output without a hint of distortion. And finally, SRM450s have ultra-wide, even dispersion at all frequencies...so everyone hears the same great sound.

The reason? Custom transducers that we make ourselves, a unique multi-cell aperture horn design, true active servo-coupling between transducers and internal FR Series high-current amps...and electrolitric and phase correction.

The finest loudspeaker on the planet now has a matching subwoofer

Now, for the bass-deprived, Mackie have developed the SRS1500 Active Subwoofer. Up to 127dB SPLs from an enclosure that takes up less than a third of a square metre.

Perfect with the SRM450. Also perfect with existing passive systems: its built-in electronic crossover handles line level or speaker inputs. A 5-gal pass-thru feeds passive speakers' amps - or other active speakers. The SRS1500 will be available in Australia in April/May, 2000. Stay tuned.



CFX-20

20 total channels • 4 buses • 16 mic/line channels • 2 stereo line level channels • 15 channel inserts



CFX-16

16 total channels • 4 buses • 12 mic/line channels • 2 stereo line level channels • 12 channel inserts



CFX-12

12 total channels • 4 buses • 8 mic/line channels • 2 stereo line level channels • 3 channel inserts

CFX SERIES MIXERS

The first effects mixers you won't be embarrassed to be heard in public with.

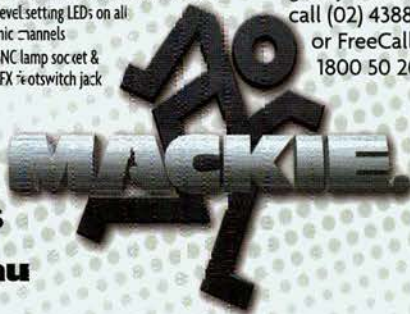
Mackie's CFX Series start with a typically feature-laden low-noise high-headroom Mackie mixer design...and then add ultra realistic 32-bit digital effects derived from Mackie Digital 8-Bus recording console. Plus a lavishly over-engineered 9-band stereo graphic EQ that doesn't degrade sound quality the way cheap ones do.

CFX Series mixers are easy for the non-technoids to set up and use, yet are packed with features seasoned professionals appreciate, such as 3-band EQ with sweepable mid-range, variable effects parameters, and a cool Break Switch that mutes all channels and automatically switches to tape input (which has its own level control, no less).

For more information, a glossy brochure, call (02) 4388 4666, or FreeCall 1800 50 20 15.

CFX SERIES MIXERS INCLUDE:

- True 4-bus design
- 16 built-in 32-bit EMAC effects
- 9-band stereo graphic EQ
- 3-band EQ with swept mid on mics
- 4-band fixed EQ on stereo line channels
- 60mm log taper faders
- 2 Aux sends (AFL/PFL) plus internal and external EFX level controls on each channel
- Extra utility output with level control
- 75Hz subwoofer crossover with XLR cut
- Level setting LEDs on all mic channels
- BNC lamp socket & EFX footswitch jack



Australian Audio SUPPLIES

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FREECALL 1800 50 20 15
www.ausaudio.com.au



Made by Mackoids in Woodinville, USA and Reggio Emilia, Italy

New Distribution, new amps for A.M.

Frankfurt release for EAW-ready multi-channel amp

Audio Telex Communications Australia has announced that its European Export Operation for Australian Monitor and Audio Telex is to be managed by Global Marketing Associates - part of the World Marketing Associates group. The new venture is a major plus for existing Australian Monitor export clients as they will now have local support through Julian Young of GMA, who also represents EAW in Europe.

The appointment will see new opportunities for international distributors who have long required a prestigious amplifier line for their portfolio.

A.M. Marketing and Export Manager Stuart Craig explains 'the timing for this new venture is just right. We have increased production, lowered prices and results have already paid off for us in Australasia. Now it is time to reward our loyal European clients

who have long asked for more local support. We intend to support our current and new distributors with an extensive marketing campaign that shows the heritage of this great brand, and its success around the globe.'

□ **A.M. have just released two new amplifiers- the KMA750 is a multi-channel amplifier with six channels all rated at 125 watts into 4ohms. Channels 3 and 4 can be bridged, and a sub woofer filter can be selected for this bridged output.**

The second new amplifier is called the AM3600. This is a tri-amp which is designed specifically to power two EAW KF750's from one 3ru box and delivers 2400w @ 2 ohms - Low channel, 800w @ 4 ohms - Mid Channel and 400w @ 4 ohms - High Channel.

The amplifier will also be suitable to drive many other systems as well.

DONE DEAL - MACKIE TAKES EAW

First RCF, now EAW. Mackie arranges the pieces for the master move. But what is it?

Mackie Designs has completed the purchase of Eastern Acoustic Works Inc. (EAW). EAW design and manufacture high-performance professional loudspeaker systems.

"We are excited about the opportunities afforded us by this acquisition," stated Greg Mackie, founder and Chairman of Mackie Designs. "EAW is a leading brand in the professional audio industry and is recognised as a world class developer and manufacturer of high-end professional audio equipment."

Jamie Engen, Mackie's Chief Operating Officer stated, "There are significant synergies which will come from the combination of Mackie, EAW, and RCF, our Italian

subsidiary. Our brands, our engineering, our manufacturing capabilities, our distribution channels, our target markets and especially our people, all complement one another."

All parties have stressed that distribution agreements in various territories will remain unchanged.

Mackie completed the EAW purchase in fast time, and now become - like Peavey, who purchased Crest amplification last year - a formidable independent force in pro audio.

These specialist pro audio conglomerates now line up against corporate groupings such as Harman (JBL, Crown) and Telex (E.V., Midas, Klark Teknik). What's next?

- Buck Freeman

SADiE for NEOTEC

SADiE is now represented in Australia by Don Dowling's new company NEOTEC AUDIO. It means continuity for SADiE customers as Don was previously the SADiE specialist at Studio Connections.

NSCA EXPAND LINES

National Systems Corporation of Australia - distributors of Chiayo wireless mic systems and portable PA's - has also secured distribution arrangements of several other products that they introduced at ENTECH.

These include **JTS microphones, McLelland signal processors, Sound Advance Invisible speaker systems, Deton power amplifiers, Etek leads and connectors, IMP systems, Wavecom, Listen Technologies, Pro Akustika microphones** and **CIE test equipment.**

Also shown at ENTECH were the very latest releases from Chiayo including the new high powered Victory 2000 Portable PA system with CD player.

SAGITTER FOR ULA

ULA have been appointed exclusive Australian distributors for leading Italian lighting manufacturer **Sagitter**. They bring ULA a comprehensive range of Moving Yoke and Moving Mirror luminaries designed for the Television, Touring and Club markets.



GEAR TO MOVE?

**IF YOU'VE GOT GEAR TO MOVE,
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LARGE FRAME CONSOLE AT A SMALL FRAME PRICE.

INTRODUCING 8 VCA GROUPS,
GROUP/AUX DIVERSITY,
A 20 X 8 MIX MATRIX,
MIDI MUTE SCENES
IN A 40 MONO & 4 STEREO X 16 X 2 BUS MIXER,
INCLUDING MAIN AND BACK UP POWER SUPPLIES



Group/Aux Bus Diversity

Mix busses configure to become group or aux busses with the touch of a switch. Mix busses function to fit your mix requirements. For example, one moment M3000 has 8 group outs and 8 aux outs, the next 16 aux outs, the next it has 6 groups and 10 auxes.

**FOR \$34,995 RRP
NO KIDDING.**

Also available in a 24 Mono & 4 Stereo frame

8 VCA Groups

Yamaha pioneered VCAs in sound reinforcement consoles. Now we deliver them at an unprecedented price point.

MIDI Mute Scenes

Store and recall up to 128 scenes or patches for instant response to rapid performance transitions.

The Yamaha Sound Reinforcement Console line is legendary. From the PM1000 on, they have set the price/performance standard for the industry.

Now there is a new standard.

The M3000.

With the diversity to serve as a front of house or a monitor mixer or both simultaneously,

It's ideally suited for fixed installations. Churches, theatres, night clubs and theme parks – not to mention concert and industrial gigs.

Rental companies can reduce inventory costs!

M3000 can mix FOH on Friday and monitors on Saturday. So there's no need to stock both main and monitor consoles.

Touring companies can get PM features at an affordable price point.

Please take time to review the specs. We think you will agree that this level of performance along with the quality and reliability you have come to expect from Yamaha will make the M3000 an invaluable tool for your work.

The legend grows!

PLEASE CALL YAMAHA MUSIC AUSTRALIA ON 1800 805 413 FOR MORE INFORMATION
YAMAHA MUSIC AUSTRALIA 17-33 MARKET STREET, SOUTH MELBOURNE VIC 3205

Yamaha PA Web Site—<http://www.yamaha.co.jp/product/proaudio/homeenglish/>



ACN 004 259 527

Industry Training

Bose Professional Development Seminars

SYDNEY: The Bose Professional Division has developed a training series designed to increase audio system designer's knowledge of Bose products and confidence in designing a larger range of audio systems.

Promoting Bose products and the Bose design process to the end-user is another key objective of the newly re-structured Bose Professional Products Division.

The first series of seminars in an on-going professional development programme, are being run in Sydney (May 9, 10, 11) and Perth (May 23, 24, 25).

The cost of the programme is A\$150.

• For further enquiries, please contact Nicole Hainsworth on +61 2 9204 6162.

LIVE SOUND COURSE

Troy Balance roll out new 12 week program in Melbourne this month

There is a real lack of practical, hands-on training courses for the discipline of Live Sound, and a new course in Melbourne aims to fill the void.

It is aimed at students with little or no practical experience, and offers a workshop style. The course is run over 12 weeks, with one four hour class - either at 2pm or at 7pm, each Wednesday.

While there is no written exam, assessment is made at the end, with students participating in a live sound production held at a local venue with a band performing.

The course cost is A\$850, which can be paid by installments. Presenter is Brett King, assisted by Jenny Davidson. The course starts May 10, so you'll need to hurry.

• Call Troy Balance on +61 3 9699-3844

JANDS MAY CLINIC:

AUDIO & CONTROL VIA ETHERNET

Jands May "Industry night" on May 16 is a must for audio system designers, consultants, contractors and anyone else interested in keeping on top of the latest trends in technology.

The topic is audio and control via EtherNet.

The seminar will look at current standards for delivery of audio through EtherNet computer networks and talk about emerging standards for control of these systems with plenty of practical demonstrations.

The presentation is the latest in a popular series hosted by Jands on the third Tuesday of each month at the New Theatre in Newtown for the audio, lighting and staging industry. The company stresses the emphasis is on using new technology rather than on sales - and guest speakers, demonstrations and course notes are all provided free of charge.

To register or for more information, please contact Jands on +61 2 9582 0909.

☐ JANDS have extended their Industry Night program to Brisbane and Melbourne.

Coemar Product Clinics

NEW CF7 MOVING YOKES ON SHOW

It's a sexy looking beast in either wash zoom or hard edge variants. The new CF-7 moving yoke automated luminaire is the star attraction at a series of product seminar and practical demonstration nights this month.

Starting in Melbourne on May 2 and 3 the roadshow rolls up the coast to Sydney on May 16 and 17. Thence Brisbane on the 23rd, and the Gold Coast on May 24th.

Distributor Coemar DeSisti Australia (CDA) say these 'hands on' sessions are part of their commitment to ongoing industry education.

• Book on +61 3 9467-8667 to attend.

About your magazine

Welcome to the new look Connections Magazine! The layout and style changes this month are designed to enhance Connections, and to make a break with the past.

We've had some reorganisation within the company too.

Big change: our lighting coverage is now incorporated into the main body of the magazine. No more lighting apartheid. We feel the disciplines need to talk more to each other, not less. What do you think about this?

In case anyone thinks that Connections isn't interested in LIGHTING coverage: Nothing could be further from the truth.

Our stable of writers with lighting specialities is growing. The lighting coverage in this issue exceeds last month, if you would like to count pages.

Something else we've been busy with is improving our editorial alliances with other quality magazines worldwide.

We're committed to reporting further, faster, and more effectively. We are very excited by the pace of technology, and feel confident we can continue to bring you all the news you need to read, on time, and with accountable accuracy.

CONTRIBUTE TO CONNECTIONS

We appreciate and enjoy the increasing number of submissions we are sent. You may simply wish to alert us to a story, or you may have an idea for a story that you'd like us to follow up. Or, you write for us.

Call the editorial team in Sydney on +61 2 9876-3530 during business hours, or email mail@conpub.com.au anytime.

If you are considering submitting a story and need some guidelines, check out our website at www.conpub.com.au or call us.

Finally, if you have a GREAT photo, send it in.

-Julius Grafton, Editor

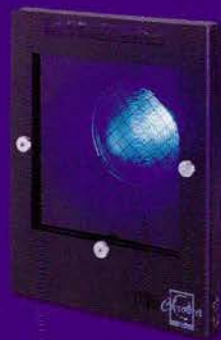


Welcome to the **Family**



Since its introduction in 1996 the Chroma-Q, followed by the smaller Chroma-Q Broadway, has revolutionized the world of color changers, opening the doors of technology to a wide range of users.

Continuing this tradition, the Chroma-Q M-Range introduces a family of new units that open the doors of affordable and reliable color changing to a much wider range of fixtures:



- M1 - for fixtures from 575W up to 1kW
- M2 - for fixtures up to 2kW
- M5 - for fixtures up to 5kW and 4-Lites
- M8 - for 8-Lite fixtures



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E-mail: info@aclighting.co.uk

Internet: <http://www.aclighting.co.uk>



Who is doing what?



Megatrax Digital Recording Studio opens in Cairns

Pro Tools Mix Plus 24 and Pro Control desk the highlights at new million dollar facility

While the wet season seemingly poured the equivalent of half the world's supply of water onto Cairns in less than a day, Club impresario Rino Nicastro was indoors, supervising construction of his new Megatrax Digital Recording Studio.

The facility is aimed at professional music and album projects, and features Digidesign Pro Tools MixPlus 24, with 64 tracks, and approx 200 different plugins. These include Ampfarm, the Wave Mechanics bundle, TC Works mastering plugin TC Master X, the Gold Bundle, and many more – with updates being made all the time.

The Digi system is powered by three 24 bit 888's thru one Apogee AD-8000 24 bit digital converter, and it all runs from a new Apple Macintosh G4, with 2 Digidesign drives capable of holding 24 Gb of audio.

Mixing is done via a new Digidesign ProControl mixing control console expanded to 32 faders.

There are 3 levels of Genelec monitoring in the control room- Genelec 1031a's for main nearfield monitoring, Genelec 1029a's for alternative nearfield monitoring and Genelec 1035a's for the main room monitors.

The place is awash with outboard, including 10 Avalon VT 737 sp Vacuum Tube EQ compression units, 2 Avalon M5 pre-amplifiers, 1 Avalon AD 2055 Equaliser, 1 Avalon AD 2044 Opto Compressor and 2 Avalon U5 DI units

There are Lexicon 480L and MFX1 effects, plus a Tascam DAT and HHB CD burner.

• Contact Studio Manager Michael Adams (AKA Gomez, pictured above with a client) on 0419 574 265.

3D/STOLICHNAYA AUSTRALIAN DANCE MUSIC AWARDS

Stolichnaya and 3D World Magazine, Australia's longest running dance music street publication, will present the first ever national dance music awards in July. Techno, r'n'b, hi nrg, drum n bass, hip hop, and all other forms of dance music will come together to celebrate the ever-growing presence of dance music in Australia's culture, to recognise the people who have helped dance music reach such heights, and to encourage aspiring dance music makers and producers.

Over 600 djs, artists and record companies around Australia were approached to decide on the nominees for each category. Nominations include high profile artists such as Groove Terminator, Madison Avenue and Stephen Alkins, as well as lesser known underground artists like Kye, Koolism, and Cycloid.

• Info from www.threedworld.com.au

Dr G's Gadgets

Valentino's SFX Library

Recently, when looking for a particularly obscure sound effect for "A Streetcar Named Desire", I found a web site that holds a very large sound effects library of CDs that are designed for specific shows. The Valentino range of Sound Effects CDs are handled in Australia by Boosey and Hawkes- by the time you read this, you should be able to check out the list at www.boosey.aust.com/~boosey or call +61 2 9439 4144. The discs are \$100 plus shipping, and you will need to allow two weeks for delivery.

Batteries Update

Last issue, I showed some prices for Energizer Industrial batteries, and asked you to let me know if someone can do better. Well, thanks to Michael Hewitt of Staging Connections who emailed me thus: "Are you kidding? I buy a lot of batteries, admittedly, but I pay (Duracell Procell) aa \$0.42, aaa \$0.44 and 9v \$1.52 from Olympic Batteries - 1800 657 775"

Olympic Batteries are based in South Australia, but will deliver anywhere.

Petzl Swivel

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• Rescue Equipment

Ph +61 2 9966 9070 or: www.rescue-equipment.com.au

Industry Events

2000

- **PLASA Shanghai**
June 7-9.
www.lightandsound-shanghai.com
- **Broadcast Asia**
June 6 - 9. Singapore.
www.broadcast-asia.com
- **InfoComm International**
15 - 17 June. Anaheim, LA.
www.icia.org
- **WORLD LIGHTING FAIR**
22-24 June. Tokyo.
www.wlf.co.jp
- **AMAC 2000 (Music gear)**
3 - 5 Sept. Gold Coast
Email rwalker@mira.net
- **PLASA**
10 - 13 Sept. London.
www.plasa.org
- **AES (Audio)**
22 - 25 Sept. Los Angeles.
www.aes.org
- **LDI (Lighting)**
20 - 22 Oct. Las Vegas.
www.intertec.com

2001

- **NAMM (Music/Audio)**
18 - 21 January 2001.
Anaheim, LA.
www.namm.org
- **MusikMesse**
07 - 11 March, Frankfurt
www.messefrankfurt.com
- **AES 110th (Audio)**
12 - 15 May, Amsterdam.
www.aes.org
- **SMPTE (Broadcast)**
July 10-13. Sydney.
www.smpte.org
- **AES 111th (Audio)**
21 - 24 September. New York.
www.aes.org

2002

- **NAMM (Music/Audio)**
Jan 17 - 20, 2002
Anaheim, LA.
www.namm.org
- **ENTECH 2002**
February 2002, Sydney.
www.conpub.com.au
- **MusikMesse**
13 - 17 March, 2002, Frankfurt
www.messefrankfurt.com

CHECK dates direct with show BEFORE making travel arrangements. They may change!

Music & Entertainment Media Online (MEMO) Conference

8 panels, 40 speakers, 4 keynotes over two days delve into Net and broadband delivery of music and entertainment media at new conference in Sydney in August

Hot topics: how the entertainment business - and most specifically the music industry - are being revolutionised by the Internet and the soon to be available broadband delivery of same.

These are the leading issues for a major conference being held in Sydney at the ABC Radio Centre, August 18-19.

The Music & Entertainment Media Online (MEMO!) Conference is sponsored by Apple Computer Australia and will attract over 500 local and overseas industry professionals. A sellout is expected.

It's produced by Phil Tripp's IMMEDIA!, who created the sellout National Entertainment Industry Conference held in Sydney every second year for five events.

Four keynote speakers over the two day MEMO! Conference will join over 40 top experts in a series of eight panels discussing a broad range of topics. The first keynote speaker is *Clive Mayhew-Begg*, Vice President International for CDNOW who will join a panel of leading Australian online CD retailers and 'bricks & mortar' retailers.

SONY roll out big Picture roadshow

SONY Australia have a digital production technology roadshow starting this month. Featuring widescreen DTV transmission products, it opens in Sydney on May 9, running through May 11.

Sydney venue is Mandalay, 72 Burns Bay Road, Lane Cove.

Thence Queensland, on May 16 and 17, at the Hilton in Brisbane. On to Melbourne, 23 - 25 May at the Melbourne Exhibition and Conference Centre, then Adelaide on June 1st and 2nd, at the Spotlights Function Centre in Hindmarch.

Final venue is at Como, on June 7 and 8, at the Pagoda Conference and Function Centre.

All shows are open from 9.30am until 6.00pm, and expect to see lots of HDCam, DVCam, Digital Betacam and Betacam SX technologies.

• More info from Michele Fenerty, +61 2 9878-9784 or mfenerty@saus.au.com

They'll debate the future of online sales of CDs and DVDs as well as how digital downloading of music and video will affect their wired businesses.

Controversy and the issues of delivering digital content will fire up the event, says Tripp, who understands how to do just that.

Other panels, none of which has a short name, include 'Beyond MP3 and Free Downloads as Dubious Tap Water- Bring on the Bottled Water of Secure Music on Demand'; and 'White Collar, Blue Collar and Black Hat Crime-Fighting Piracy and Unfair Use'.

Info: www.immedia.com.au/memo.

• Registration costs A\$350 for two days. Call +61 2 9557 7766.

PRO AV OPENS IN PERTH THIS MONTH

The annual Pro Av Expo is the major event for Western Australia's audio visual industry. The seventh showing of this trade show is scheduled to open at 10am on Tuesday May 16th, ending the next day at 7.30pm.

It is a trade exhibition of products from audio, to video and multimedia type devices, with state based distributors taking display booth type stands in the Jim Webster Pavilion at the Claremont Show Grounds.

Tagged 'Professional Vision for the Future', the show has this year found a professional organiser, which should give it a boost.

Details: Kevin, +61 89314-7886.

Barratt Bash in Sydney

On Sunday 4th June industry people get together for a drink on the anniversary of the death of very well loved LD Roger Barratt. It's on between 3.00pm and 10.00pm in the saloon bar at the Chamberlain Hotel, at the corner of Pitt and Campbell St, Sydney (diagonally across from the Capitol Theatre). Arrive anytime, no bookings.

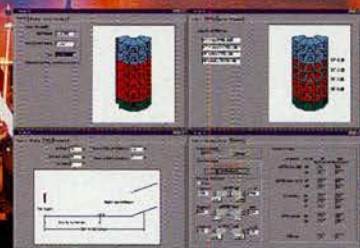
• Info from Dani at Chameleon +61 2 9310-5222, or Ian Baseby at Rosco +61 2 9906 6262

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Email: mudlark3@iinet.net.au

Web: www.iinet.net.au/~mudlark3

Established 1992

Music Equipment Business Convention returns to Gold Coast in September

AMAC 2000 secures strong trade commitments as music equipment trade see new import growth

The Music Equipment industry convention is shaping up a winner. The inaugural AMAC held in April 1999, attracted hundreds of music traders who enjoyed an excellent business environment, a comprehensive industry development program and packed social networking agenda.

An impressive list of exhibitors will display music equipment at Queensland Gold Coasts Conrad Jupiters Convention Centre from Saturday September 3rd to Tuesday 5th.

AMAC Professional Development Sessions will include serious comic Elliot Goblet and Business Industry Development with Joe Lamond, Director of Industry Development, NAMM. Sessions across the convention include 'The Fifteen Marketing Keys', presented by Bob Pritchard Marketing.

Social events are where the Gold Coast venue comes into its own, with the AMAC Industry Awards Dinner at Seaworld on Monday night.

• Details: +61 3 9867 4222

□ Meanwhile, the Australian Music Association reports strong equipment sales in the latest half year of its survey. Australian musical instrument imports have grown 6% in unit terms and 4% in import value terms when compared to the same six month period in the previous year.

The market added over 50,000 units and around A\$7.5 million dollars in additional import value when comparing the result to that of the previous year. The majority of the increase in units is coming from lower value items such as educational percussion, speakers. However some key product lines such as the majority of band and orchestral products, electronic keyboards and acoustic guitars performed well in excess of their previous result.

Professional Audio has been the source of industry growth in recent times is showing signs of reaching its cyclical peak and declined for the first time in more than three years.

'NOISY' HMI LEADS TO MAGAZINE OUTBURST

Flicker free HMI luminaires and allegedly noisy lamps can impede a film shoot, but article lands sound recordist in (very) hot water

What's happening to us? cries Australian Screen Sound Guild magazine editor Ross Boyer in his latest editorial. Boyer was on a shoot where the gaffer allegedly refused to replace a 'noisy' HMI.

"Once upon a time, on film sets long ago - gaffers and grips were sound aware - even sound friendly" says Boyer.

"On the set of (a recent) job, admittedly not the perfect sound job, we experienced three 5K's screaming and two ticking ballasts the other day".

All ballasts were running flicker free - claimed to be necessary if there is vari-speed on the cameras - which wasn't the case at that shoot.

Boyer then went on to attack a rental company in his magazine column, going so far as to suggest a boycott of their business.

Connections approached the rental company for comment on Mr. Boyer's article, and the CEO was quite pleasant. He didn't

know of the original article by Mr. Boyer or of the circumstances surrounding the film shoot that Mr. Boyer mentioned. He did suggest that the problem appeared to be between the gaffer and the sound dept. on a shoot, and that it should be resolved by dialogue. "If a unit is running flicker-free and this isn't required, it can be simply switched" he further said.

A day or so later, the producer of a movie on which Mr. Boyer is working allegedly called a meeting where promises of defamation action were made if Connections repeated certain comments made by Mr. Boyer in his magazine column.

We originally went to press with further quotes from the original magazine article by Mr. Boyer. Despite the previous version of this article having been carefully checked for defamatory comment, (we think it was clean) it has been rewritten after presstime - and this section of the magazine reprinted at our cost.

PEOPLE CHANGES

Bytecraft Hire are pleased to announce the appointment of **Allan Anderson** to the Hire Team in Melbourne as second in charge, supporting Jay Davis.

- AT Bytecraft Sales **Shirley Jensen** is again commencing full-time employment as a Sales Executive with the Distribution Sales Team. Shirley has had an ongoing part-time role with Bytecraft whilst raising a young family.

- John Reynolds has resigned from Bytecraft to pursue other opportunities and **Steve Webb** takes on the responsibility for High End sales nationally whilst continuing to manage Bytecraft distribution sales.

SHIFTED

- **Yamaha Music Australia** have moved to Level 1, 99 Queensbridge street, Southbank, Victoria 3205. New phone number is +61 3 9693-5111, fax 9699-2332.

- **Stageworks Australia** has moved to 165 English Street, Mandunda, Cairns QLD 4870. Call +61 7 4032-2411, fax 4032-2811.

- **Holograms Fantastic and 3D Optical Illusions** have relocated from Melbourne to the Sunshine Coast. They are at 2/5 Machinery Ave, Warana QLD 4575. Call +61 7 5493-8999, fax 5493-9300.

OPENED

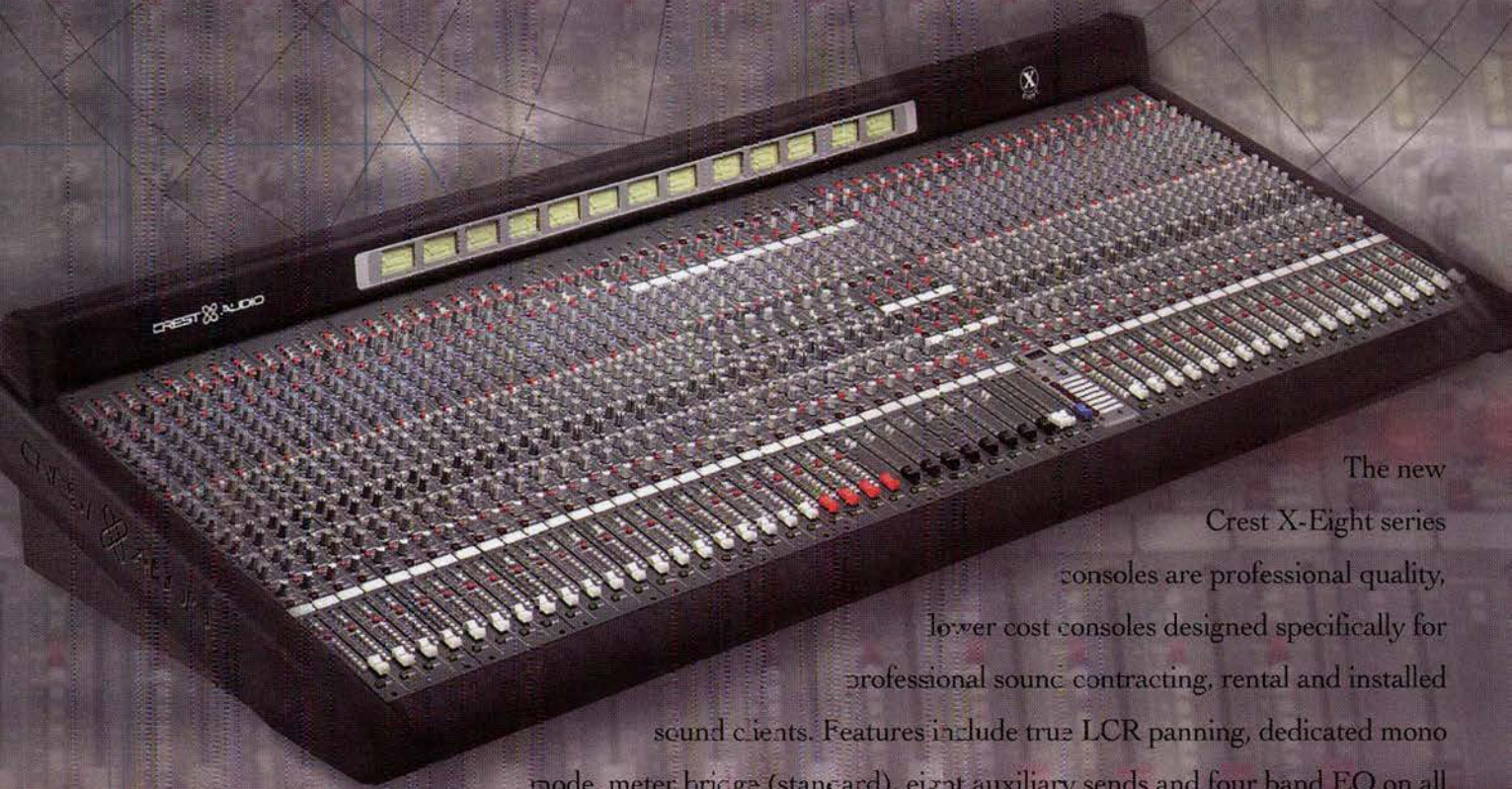
The Original Howard & Sons Pyrotechnics has established of our Victorian office and warehouse. Victorian Manager, **Peter Townsend**, has had a long association with our company, spanning some 28 years. He can be contacted on 0419 469 146, or fax +61 3 5755 2317 or email - peter@howardsfireworks.com.au



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Crest Audio Website: www.crestaudio.com **Production Audio Services Website:** www.productionaudio.com.au

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Victorian Art Centre Technical Upgrades

The Victorian Art Centre's lighting department is undergoing a major upgrade. Operations Manager of VAC Production, Jamie Henson (left), told *Connections* that lighting stock, consoles and DMX distribution systems are on the shopping list for the Art Centre.

There is a need for 200 more par cans for the outside stages now that they used more regularly. However the main stock needing replacement is 1k and 2k Profiles of varying beam angles: 18-32° and 10° in the State Theatre and the Concert Hall.

The Art Centre's newest venue - the Black Box is also being equipped. Utilising the former Performing Arts Museum space, the Black Box is a fixed grid theatre space.

Jamie said there are also plans to introduce more architectural lighting to the Arts Centre - particularly external lighting around the Black Box to give it more of a theme.

Also needing two new lighting desks, Jamie decided on two of the new Strand 300 consoles.

"The 300 is perfect for what we need - the only thing it doesn't have is a handle so we can carry it between the different venues".

Other upgrades at the VAC include a \$1.2m Meyer speaker system to be installed in the Melbourne Concert Hall later on in the year.

- Mandy Jones



Dr G's Gadgets

Petzl Absorbica Y MGO

A few nifty products in one excellent package! The two large karabiner hooks are designed to attach to large fixing points - like lighting bars. With the two hooks attached to a "Y" shaped sling, a user can easily and safely connect to the next safety rail without disconnecting from the previous one. The in-built shock absorber is designed to arrest a fall. • From **Rescue Equipment** Ph +51 2 9966 9070 or go to: www.rescue-equipment.com.au



Invisible Speakers

Over 80 **Sound Advance Invisible Speakers** have been specified for the new Federation Square Project in Melbourne. The speakers offer a true 140 degrees dispersion in both horizontal and vertical planes across all frequencies.

- NCSA +61 3 94341888.

Sydney Airport PA


Sydney International Airport has undergone a major upgrade for the Olympics. Critical to the upgrade was the Public Address System. At the heart of the system is a Peavey Media Matrix CobraNet System which controls all routing, mixing, message announcements and gate paging.

The gate paging stations were a specially designed system by the PA People in Sydney, the MediaMatrix was supplied by Audio Telex Communications. The installation was a joint effort by the PA People and Electritech.

All amplification is supplied by Audio Telex. There are a total of 80 Audio Telex DCM120 amplifiers in the airport

- Audio Telex +61 2 9647 1411

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- Online access to technical documentation

**See terms and conditions on the website

WIN



Order online before June 30, 2000 for a chance to **WIN** one of 3 Philips DVD718 players. See website for details. NSW Permit No: TCC00/1896

April 3, 2000 is the official launch date for Philips Communication, Security & Imaging's exciting new E-Commerce web-site. Registered Team Philips Members will gain access to the latest in high technology Closed Circuit TV (CCTV) and Public Address (PA) products. Now it is even easier to connect and transact with a brand that you can trust. Freecall 1800 132 022 or visit us at www.teamphilips.com.au



PHILIPS

Let's make things better.

Who is doing what?

JANDS JOINS THE V-DOSC NETWORK

The Australian sound equipment provider Jands Production Services has entered into an agreement with L-ACOUSTICS, the Paris based loudspeaker manufacturer, to purchase a complete V-DOSC system for use in its sound operation.

In doing so, Jands becomes the network partner for all V-DOSC rentals in Australia and New Zealand.

"For some time now we have been looking at what L-ACOUSTICS have achieved with their revolutionary Wavefront Sculpture Technology" (WST), says Peter Ratcliff, part owner of Jands and head of sound operations.

"We were attracted to the compact size of the cabinets along with the V-DOSC system's remarkable power, pattern control and near field response over distance. We wanted a system that would be suitable for Touring, Corporate, Theatre and Special Events. V-DOSC offers a quantifiable improvement in sound quality in all these applications".

The V-DOSC system is a complete solution including V-DOSC enclosures, SB218 subwoofers, dV-DOS enclosures, ARCS enclosures, power amplifier racks, filter and EQ racks, rigging hardware and all necessary cables. The system typically occupies about half the truck space of a comparable sound system.

"L-ACOUSTICS is very pleased to have Jands as a Network Partner," says Dr Christian Heil, founder of L-ACOUSTICS. "They are a very professional company who have committed considerable resources to bring the V-DOSC technology to Australia and New Zealand including having its staff fully trained in optimal system set-up and operation".

Contact David Sneddon at Jands Production Services, +61 2 9317 5200

Jaguar's return to the Formula One Grand Prix circuit in Melbourne gave The Great Outdoor Lighting Company plenty of reason to show off its array of special effects outdoor lighting. TGOLC set equipment bases at a number of key locations. Laser images of Jaguar logos and the famous cat and were projected onto a number of skyscrapers as searchlight pierced the night sky from atop of Rialto Tower.

• Call them on +61 2 9966 9111



Pacific goes Broadway

Lighting Designer Ken Billington has recently used the award-winning Selecon Pacific luminaire on his latest Broadway triumph: Noel Cowards Waiting in the Wings.

Billington used the 90 degree Pacifics on the show and commented: "As well as everyone else working on the show, I was blown away by the Pacifics performance." Popular for their cost-effective, safe and reliable qualities, the Selecon Pacific was recently awarded the Entech 2000 Innovation in Lighting Award and is gracing venues all over the world including: City Recital Hall, Sydney; The Promenade Shopping Centre, Singapore (architectural version) and in the UK, the Blackpool Grand Theatre.



Photograph: Henry Crossman

ESP sign for AM amps

Event Sound People (ESP) in the ACT have negotiated an agreement with Audio Telex Communications to exclusively use Australian Monitor amplifiers in their hire rigs. The agreement was finalised at ENTECH 2000 and involves some fourteen PA Series Australian Monitor amplifiers (including 12 x PA1500 and 2 x PA800), all with in built limiter cards.

New GIS Theatrical Hoist

Australian agent for GIS Chain Hoists, T.C. Hasemer Pty. Ltd., have just received and sold the first shipment of the new GIS Entertainment Hoist.

The new models have been developed specifically for the entertainment industry and feature a new, 4 mtr/min, lifting speed for those wishing to integrate GIS with their existing stock. The new model is also fitted with a geared limit which is adjustable for the required chain travel.

GIS Hoists have been used in the entertainment industry for many years for their light weight, modern design, quiet running and above all their reliability. You will find them installed and preferred in places like the Sydney Superdome, both the Sydney Entertainment and Exhibition Centres and productions like Sunset Boulevard.

The new models are available in 500kg, 1 tonne and 2 tonne capacities and with the next shipment arriving this month, the staff at T.C. Hasemer expect to do a whirlwind trade once the hoists hit our shores.

• T.C. Hasemer Pty. Ltd. +61 2 9519 8188 www.gishoists.com

AV online

The audio visual industry continues to remain a leader in adopting new technology. A new website dedicated to the AV industry has just been launched. The site offers products from all the leading manufacturers, links to manufacturers, a bulletin board, and lots of other interesting information.

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Who is doing what?

High End Systems search for new investors

More growth means more capital, so High End Systems, the Austin Texas manufacturer have engaged an investment banking firm to find a new partner. Existing management hold a significant equity position in the firm, and say they plan to continue to remain actively involved.

Two years ago equity investor Generation Partners made a substantial investment in the firm, and they now would like to capitalise on the increase in value created since.

The firm has appointed Harris Williams and Co of Richmond Virginia as financial advisor.

Cable Modem result

Readers may recall that Connections had a nasty shock in the form of a bill for over \$10,000 for 'excess use' of our Telstra Big Pond Cable Modem account.

Telstra have issued a credit for \$9,920.90 and admitted that the extraordinary excess usage remains a mystery. "Our existing resources have a primary responsibility of maintaining the operation of the network", says Ben Cole from Big Pond.

The abnormal usage included multiple mysterious file transfers as large as 200 megabytes each at a time, late at night.

VECTORWORKS HELPS THE MATRIX WIN FOUR AWARDS

MiniCAD VectorWorks shared in four Oscars won at the Academy Awards for The Matrix. Visual effects in the movie were helped along, for example in the design of the Ecto-chair - the device which was used to transport Keanu Reeves into the visually charged world of The Matrix.

To see more on the design of Ecto-chair and how VectorWorks helped in the design, go to www.diegraphsoft.com/products/vectorworks/cases/amatrix.html.

Contact OZCAD for info on VectorWorks, +61 2 8338-8622.

AWARDED

• Australian **David Lee** won an Oscar as sound recordist for The Matrix at the 72nd Academy Awards. On The Matrix David worked with boom operators **Gerry Nucifora** and **Jack Friedman**.

• **Roger Savage** (of Soundfirm fame) was awarded an honour by the New York based Society of Motion Picture and Television Engineers: for attaining an outstanding rank among engineers or executives in the industry", according to the Australian Screen Sound Guild magazine *Heard The News*.

NEW STAFF, RIGGING

Showtech Australia announce the addition of **Simon Midgley** as Rigging Production Manager & **Tara McDonald** on Reception.

Showtech have just come out of a huge Summer period which included Adelaide Festival of the Arts and the Adelaide Fringe Festival.

They have also just completed the truss & rigging install at the Melbourne Town Hall for The Melbourne International Comedy Festival.

Laservision Award Hope

Laservision Macro-Media's Sinodial-Series show control technology has been short listed as a finalist in the 'Year 200 Australian Technology Awards'. Launched locally at ENTECH, Sinodial is an automated self contained show control system which they say integrates previously incompatible performance technologies.

• Call +61 2 9658-1000 or www.laservision.com.au

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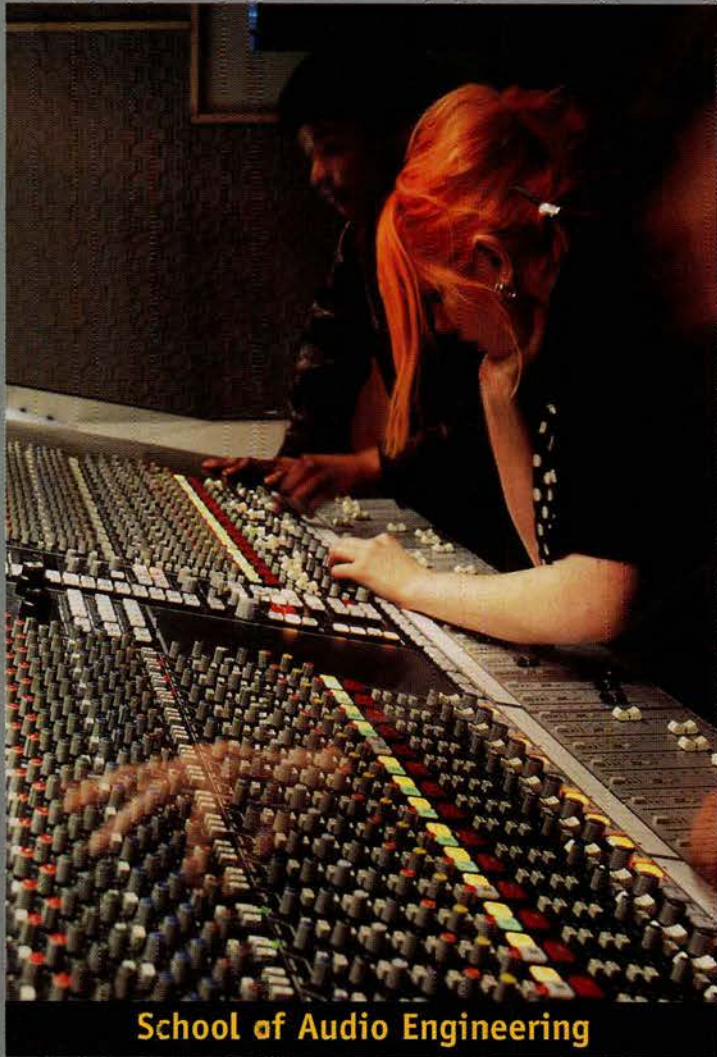
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• For registration details contact Khris in our Melbourne office.

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Readers tell

Bob Lions and the art of (very) cheap stage lighting

Bob Lions started operating a Patt 23N follow spot in a school production of *The Mikado* - from 30 metres! We hope they dimmed the exit lights..... but the Patt 23N seemed SO BRIGHT back then.

At uni he got into a few productions, his first major effort was a show called 'Victoriana' which was to be performed with zero lighting equipment and a budget of zilch. He tells his story:

"I started to think about ways of building low cost lighting equipment. The 150 watt mirror back lamp collimated in a 450 mm length of 150 mm galvanised downpipe painted flat black, provided a useful unit for a 6m throw. Cinemoid was stiff enough to be held across the front with wire so you had a colour capability. Par 38s offered more consistent beam shapes but were more expensive so were only used later. Control was achieved by borrowing variable autotransformers from the electrical engineering laboratories.

The 150 watt lamps were very useful because lighting supplies were often just one or two 10amp GPO's, the throws weren't very long and a soft edged focus with a gaslight effect (Cinemoid Gold Tint 51) was what was required. The lighting plot was also relatively simple, moving from the MC to a general full stage in gold tint or on odd occasions, items have been done in blue, red or green.

The task for the lighting operator was not very onerous, with a cross fade from the MC to full stage and back again being most often what was required. Thus the operator could become part of the audience, enjoy a drink or two and sing along in choruses.

In 1964 the show was given a permanent home in the St Paul's College Dining Hall where it has had an annual season ever since.

The first few seasons were experimental in finding the right format for the space (a 9m x 18m Gothic hall, architecturally fantastic but theatrically disastrous), but this quickly settled on a thrust stage about midway along one of the long sides. The 9-12m throws were too long for 150w par 38s and so a move was made to Par 56 lamps in 500mm of 200mm air duct. (This may have been the first stage use of this lamp, which we thought was first discovered in 1977. -Ed)

Along the way a small number of profile spots have been gathered and added to the collection.

Victoriana will be on again soon and I will

again take part. My daughter, also an electrical engineer, will help with the setup and share the operating. The photo shows me hard at work in one of the earlier shows. Since the control console is so small and on a long cord, I can sit in the audience, among my friends, enjoy the show and operate. Thus dress is black tie though on this occasion, with a Scottish theme my tie was somewhat brighter.

[Why I like Connections!]

Having had an interest in stage lighting since I was at high school, I have been delighted to find a professional magazine which represents this branch of theatre technology. That it also handles audio is a bonus as this is another area in which I have an interest and for which there is need to gather lots of information. While it is a bit too glossy, it contains practical hints and reviews which enable those not involved fulltime to make some attempts to keep up.



! Tell us about you too. Send a pic.
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439 EPPING NSW 2121 Australia.

WHY IS IT SO?

Dyke Dunning from Southbank TAFE in Queensland asks why a GOBO is called just that. What is it an acronym for?

The best scenario we could come up with is that the first gobo (a metal plate with a pattern cut into it, which is placed in the gate of a profile spotlight) was cut from the metal of a discarded gobomobile car! OK, OK, poor attempt.

Anyone with a credible theory should drop us a line at the conpub bunker.

My Favourite Microphone

Kevin Kerr, Little Fish/
Metropolis 2 Studios



"My favourite is one of the new Shure cardioids, the KSM 32. I don't actually own one here but they have them at the main Metropolis studio across the road so I borrow them whenever I get the chance.

The last session we had in here we used two of them. We had one on kick and one on snare, and we got the best kick and snare sound I've heard for ages. Using the same mic for both was a bit of an achievement to mic up pressure levels of that order, and because the frequency range is so different.

They didn't need any special positioning and in that same session I pulled the one off kick and used it for vocal and it was beautiful. So you can pretty much use them for anything. They're really clean and crisp with an extended bottom end

I boosted the tops a little bit for snare, and tops and bottoms were boosted a bit for kick but nothing outrageous.

Shure aren't really known for their up-market mics but the KSM 32s are dynamite. They're fabulous. I plan to use them as often as I can. I doubt I'll be buying any because I can borrow them from the other studio, but if I was to buy any new mics, it would be them.

And they're pretty spunky looking with a nice smooth brushed aluminium body and an aluminium road case."

- As told to Mandy Jones.

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Industry feedback

Sus bag!

Great Mag but looks really sus when it arrives in a brown paper bag.

Brad Pilatti, email.

Women, again

Why did your last issue have almost all men in the ENTECH coverage? I know of at least eight women in my chosen vocation - all AV tech's. And I know some of them made the ridiculously long trip way out to Homebush (why run a show out there anyway?) to ENTECH. So what's going on?

Visiongrll, email.

Dinosaurs

I didn't really enjoy Dunc's page so much last month, 'cuase he's decided he is a show critic. But after reading it anyway, I turn to LIVE and shit! Connections is wasting more space on The Ultimate Rock Tragedy --oops-- symphony. Did you run out of ideas last month?

Brunost, email.

In ear monitors

Hi my name is Mark.

I noticed in the latest mag the in ear monitors for the orchestra of Barbra S. Could you please tell me the full details of them as they would be a great addition to my church system.

mpbwlb, email.

They were a wired system with common Sony ear pieces plugged into a Sennheiser HZR6 volume control, dozens of which were then combined (in parallel) onto one amplifier channel of a normal PA amp. The Sennheiser importer is Syntec, call +61 2 9417-4700.

Great venue?

Homebush wasn't great, let alone good, for ENTECH, no matter what you say.

- Truth, email

Women at ENTECH

I am writing to express my disappointment with the gender imbalance evident in the "Entech Special Report" in the April Issue.

Out of 33 mini interviews listed - only one woman attending Entech was queried for comment, and I believe that is a gross misinterpretation of the number of industry women who attended - and were not part of a suppliers display stand!

Considering the high level of female representatives who work on producing Connections and are involved in the event management of Entech - it is surprising that not more emphasis was placed on female opinion. In the year 2000 we have come a long way, and women make a strong contribution to the technical and production areas of the entertainment, event and arts industries.

I, along with 5 other industry professionals - all women, attended Entech, and were there researching new technology and networking as we always have. How about we start recognising women in the industry from now on!

Melinda Fedorow

Producer Major Events

NSW Centenary of Federation Committee & Australia Day Council of NSW

• Your letter created a lot of discussion at Connections, Melinda. Actually, more than you may imagine.

Firstly, we certainly didn't use positive discrimination to seek out the opinions of women rather than men. Maybe we should have. Feedback on this possibility is invited.

Madeleine Murray, who did most of the interviews, says: "I talked to 2 out of the 20, which is 10% which is more or less right. One girl said, 'ask him he knows more...'. Sorry, it was mostly men--- and besides, I'm trying to find a husband!" She is funny, huh?

The actual statistic for trade visitors at ENTECH showed just 12.5 percent were women, which we think is a wakeup call to all employers, if it represents

-Julius Grafton, editor.

LETTERS ALWAYS WELCOMED!

Try to keep them tight. We reserve the right to edit them. We need your whole name and contact details, we can withhold this if asked.

Send to mail@conpub.com.au or fax to +61 2 9876-5715.

Concert Acoustics

I read with professional interest your piece in April Connections regarding concert acoustics.

For some time now I have grappled with some ideas of my own as to how to temporarily (but more effectively and more easily) improve acoustics in venues chosen for the size and locale rather than their suitability for the purpose.

You mentioned the use of drapes, and whilst my idea is similar, it utilises a proven acoustic absorber (with adaptations) that will still integrate into the existing structural features. It could prove easier to handle, store, install and transport than metres upon metres of drapes. It is perhaps possible that by manipulation of quantity and placement it could tailor a venue to both the artist and the particular performance, even allowing for adjustments between shows or changed circumstances (as illustrated by the article that mentioned the problems with The Ultimate Rock Symphony when Colonial Stadium management closed the roof at short notice.)

As someone who advertises product in your magazine, I have no desire to be seen to "pushing my own barrow" in the letters section but I do have a couple of questions that readers may be able to assist with.

Is it the responsibility of the venue, the promoter or the artists technical crew to devise and source a solution?

Any advice at all would be greatly appreciated. Either directly on 02 4736 7723 or through this column.

Mark Skeldon, South Penrith.

• It's up to the act. But most promoters are on a small percentage of the gross after taking the risk and supplying a guarantee. So when an audience either stay away because they know the venue is poor (and this is now starting to happen in Australia) or worse still, pursue refunds, a nasty standoff develops.

Venues generally know if they have a problem with acoustics, it is whether they can convince themselves to fix it that is a growing issue.

Frankly, we are on the side of the punter, and as Trip Khalaf (Maria Carey's sound engineer) said last month: "Large array's of speakers in crappy sounding venues really do suck!" Live performance audiences are waking up real fast - and don't have the NEED to see most shows anymore. They now expect live large screen video in large venues, reasonable sound that is loud enough to mask the idiot sitting next to them singing along, and easy access with reasonable food and drink concessions. Is that a lot to ask for? I don't think so. -Ed

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Crown's CE4000 amplifier - the top of the range in the CE Series - was shown for the first time at ENTECH. Delivering 1800 watts per channel into 2 ohms, 1200 watts into 4 ohms and 600 watts into 8 ohms, the CE 4000 weighs only 15kg - thanks to the use of a switch mode power supply.

Using a switching amp design rather than a linear design, the CE 4000's BCA topology delivers power while generating just one-tenth the heat of a conventional amplifier.



The CE 4000 is extremely energy efficient. Like the CE 1000 and CE 2000, the model features front-panel level controls, fan-assisted cooling and short circuit protection.

The CE 4000 is distributed by Jands Electronics. Price: A\$4,995 retail

Info +61 2 9582 0909.

BEHRINGER & CoolAudio

BEHRINGER has acquired the rights to the entire CoolAudio technology from Intersil Corporation, a leading US-based semiconductor manufacturer. CoolAudio is a digital amplification technology for amplifiers with power ratings of up to 4,000 Watts RMS.

HERITAGE RANGE GROWING

The Heritage 3000 large format console (right) and the 2000 version are shipping into the region. They've spawned a little brother, the Heritage 1000 - previewed at ENTECH. Specifically designed for the live sound/theatre/OB market featuring a compact frame that allows for location in tight spaces, the console features the same automation system as the H2000/H3000. In addition it features the same mic pre-amp as the H2000/H3000 and an upgraded version of the EQ from the XL 3. The console features ten auxiliaries and ten subgroups with the flexibility of adding or subtracting matrix modules as required.

As with the other consoles in the Heritage range, the H1000 features a controlled area network buss that allows for multiple consoles to be slaved together.

The H1000 is available in a standard touring package in Packhorse flightcase with dual redundant power supplies. Available in various frame sizes, the retail price is A\$170,000 inc tax (48 input touring package).

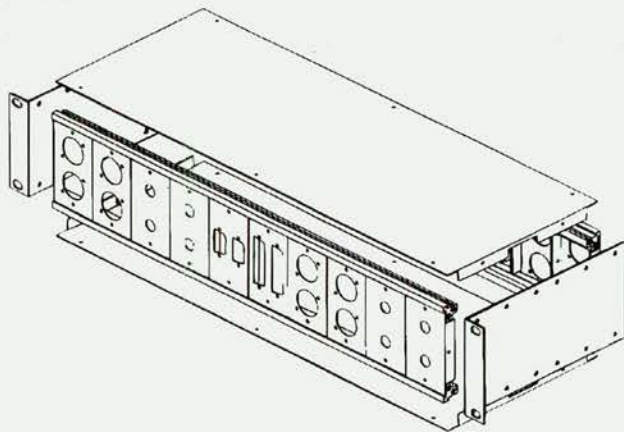
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SPIRIT LIVE 324 COMPACT DIGITAL MIXER

Spirit's new compact 324 Live Digital Mixer is based on the technology of the Spirit Digital 328 - with adaptations and new features to suit live sound mixing.

Like the 328, the key to the 324 Live's simple operation is its E-Strip, a row of encoders and backlit switches which run through the centre of the console. Pressing SEL(ect) on any input channel turns the E-Strip into a conventional horizontal channel strip, giving instant access to all EQ, aux and pan parameters via a row of 16 encoders that run across the console.

Input status can be viewed instantly from the control surface as each encoder is circled by a ring of LEDs that can be assigned to indicate levels. The user is never more than a single button press away from a clear view of a whole channel - essential in live sound where speed of access is paramount.

All digital parameters can be stored in one of 100 snapshot locations for later manual or MIDI program change recall, and dynamic automation is possible through sequencer software.

The 324 Live also offers machine control, reading SMPTE and both reading and writing MTC. A security function offers different

levels of lockout to prevent unauthorised use of the desk. *Sells for A\$10,995 retail.*

• Info Jands on +51 2 9582 0909



Beyer debut M99

BeyerDynamic have released a new large diaphragm dynamic microphone - the M99. It has onboard equalisation settings for either voice, kick drum or linear. Selling at A\$999, it includes shock mount and a hard case.

• Syncrotech +51 2 9879 0800

Dr G's Gadgets

Petzl Saxo Headlamp

There are a few uncomplimentary things you can say



about the appearance of people that wear this device, but if you are working in the darkness of, say, a theatre, and you need both hands to fix the problem in front of you then this is a good solution. You can avoid popping your maglite into your mouth (try doing this for a few hours non-stop) and you can get your hands on one of these. Apart from providing "hands free" lighting, this device is designed to be detached from the strap and used in the conventional manner.

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NEW TURBOSOUND FLASHLIGHT DIGITAL CONTROLLER

Turbosound is shipping the latest in its range of loudspeaker management systems, the LMS-D6.

Based on the XTA DP226, it is a compact and powerful DSP based programmable crossover. It is supplied with factory-loaded programmes for use with Turbosound Flashlight, Floodlight, QLight, and HiLight series loudspeaker enclosures, and TFM series floor monitors.

The LMS-D6 features 2 inputs and 6 outputs, all electronically balanced. These can be configured to provide an extremely flexible choice of system set up including stereo 3-way, or stereo 2-way plus sub, and single channel 4-way, 5-way or 6-way operation.

In addition to the pre-loaded programs (updates to which can be downloaded from the Turbosound web site), 60 user programmable memories are available. All system functions are monitored on a high resolution back-lit LCD display, and controlled via push buttons or rotary encoders.

The LMS-D6 can accept AC mains supply voltages from 90V to 250V. Each output includes a 5 band parametric equaliser, high and low shelving filters, high performance limiters and delay (of up to 650ms in ultra-fine steps).

Metering is provided for both inputs and outputs, as well as mute and access buttons.

• Details from Corporate Audio Services, +61 3 9474-1067.

In classic Turbosound style, the new TCS Series loudspeakers cast precise beams of sound. Every TCS enclosure has accurate and even dispersion characteristics, so they make it easy to put sound exactly where you want it - while keeping sound away from where you don't.

Predicting results has never been easier. You can use comprehensive technical information from our website or your Turbosound dealer to "see how they sound".

The exact location and angle of the enclosures are key to realising your designs. A choice of engineered multi-position brackets and optional fly-bars for TCS loudspeakers means perfect installation is simple.

new light

Designing and installing sound systems with such confidence may be enough to win you over. But there is one more point: the sound is 100% Turbosound.

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tel: 03 9490 5588 fax: 03 9494 6708 web: www.corporateaudio.com.au e-mail: rowlands@corporateaudio.com.au

Turbosound
KNOW HOW

MIXER STANDS

Quiklok ZM mixer stands will hold almost any console up to 157kg in weight. Four models are available, from A\$169.

• Details from Electric Factory, +61 3 9474-1000.

Speaker stands evolve

New line comes with single, double speaker mounts, plus extensions for lights. Neat huh?

Protuff has released its latest product, the Protuff Speaker Stand.

Designed to give a professional and tidy look, this compact folding stand is constructed from steel and finished in black powder coat and will stand at 1.6m high.

The Protuff accessories make this product very interesting, allowing multiple configurations of speakers and lighting with the one stand. Using a steel double adapter and adjustable lighting extension you can rig two speakers and a four par-can light show from the one stand. Alternatively, if only one speaker is required, up to eight lights can be supported instead - to a height of 2.65m.

Considerable savings in set up time and storage space are achievable as the system reduces the amount of traditional gear required for the same purpose.

The base unit comes with the standard locking nut or for extra safety you can use the spring clip mechanism at the two standard heights. Accessories can be purchased as required and custom modifications can be made on request.

• Prices start from A\$169.

Contact Audio and Visual Innovations in Brisbane.
Ph +61 7 3252 4022.



ALTRONIC BIRTH NEW AMP LINE

Australian manufacturer and distributor **Altronics Distributors** is proud to announce the release of their new range of PA amplifiers (30W, 40W and 60W). Incorporating PTT muting, 240V or 24VDC operation, optional VOX muting and including 4 inputs this is a neat solution for small to medium BGM installations. This rack mountable unit offers a 2 year warranty and has been restyled in an attractive 2RU case.

Call 1800 682 199 for your nearest dealer.



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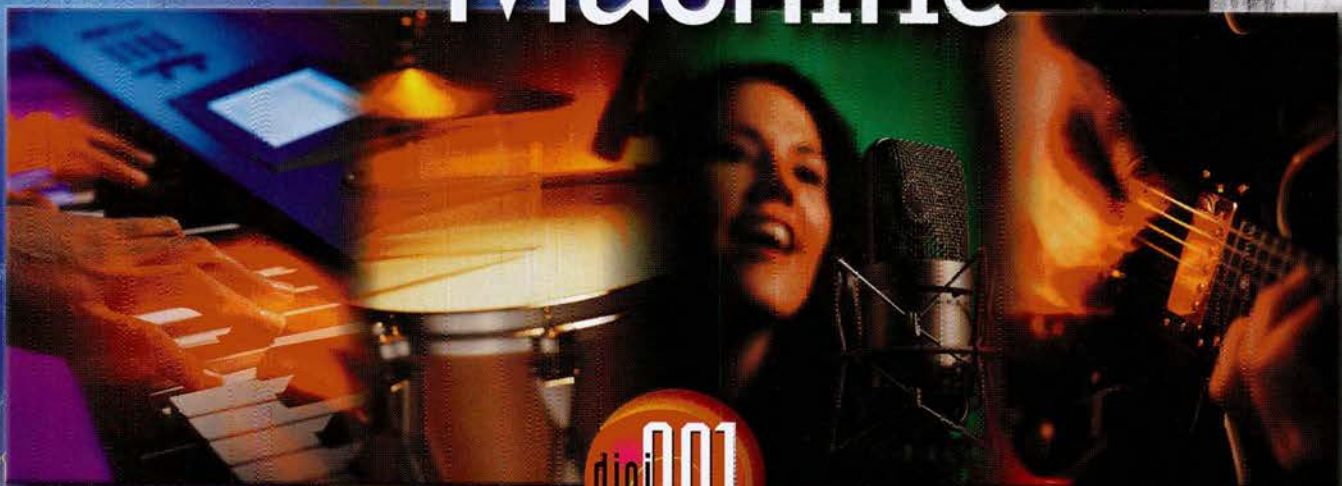
Model	RMS Power	SP Size	Limiter	Fly Points	Stand Mount	Jack input	XLR input	Line input	Mic input
Opera 212	200W	12"	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Opera 215	200W	15"	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Opera 415	400W	15"	Yes	Yes	Yes	Yes	Yes	Yes	Yes

For more info visit the Australian distributor's web site at www.cmi.com.au/audio or phone CMI on 03 9315 2244

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Devices & Upgrades

DAR's OMR8 edit controller

DAR's successful OMR8 24 bit recorder/editor family has a new edit controller. It has a smooth, weighted action rock wheel, and dedicated function keys.

Two other recently introduced features include a CD Mastering facility and a new fine Edit function.

OMR 8 spans a variety of audio workplaces. In simplest form it is an 8 track rack mount moduler multitrack, with a wide choice of storage media options. Two or more machines can be linked together. Made by Digital Audio Research, the OMR 8 features open media design, with seamless file compatibility across a range of formats. It can also be networked into a very large multitrack resource.

•ATT Audio Controls, call + 613 9379 1511



New Wiggly Stand

A floor stand specifically designed for use with "wiggly mirror" type luminaires: with a cushioned, adjustable height lamp rest - and it stacks square in your truck.

Available in 2 Powder Coated finishes (Black or Brushed Silver), it is also available in Aluminium fold-up version.

The basic dimensions are 1000 x 600 and 480mm high.

• PR Lighting & Set Design, Call +61 8 8391 3233

E.V.'s Dx38 DIGITAL SOUND SYSTEM PROCESSOR

The Dx38 is a 24-bit digital sound system processor for digital loudspeaker control and sound processing. Providing 48-bit filter performance, its 2-in/4-out configuration makes the Dx38 the ideal controller in any 2-, 3- or 4-way loudspeaker application. The device addresses many different sound system configurations and is factory programmed for a number of Electro-Voice speaker systems, including X-Array Xi-Series, X-Array X-Series, FRX series, MH stadium horn systems and selected models in the T, Sx and Sb series. Each input has five filters available, configurable with parametric, low/high-pass or low/high shelving characteristics, plus a master signal delay variable from two to 900 msec.

•Sells at A. \$2,999.00 inc tax. EVI Audio, +61 2 9648-3455.



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• Moore Music,
Phone +61 3 9419 0344

dB Technologies roll out Opera

OPERA is a new range of advanced active loudspeakers combining new technologies with advanced materials. The latest entrant in the Powered Plastic Box market is from dB Technologies in Italy who have just released 2 new models.

They say: "the Opera series combination of advanced electronic and acoustic engineering has resulted in a perfectly matched loudspeaker system that delivers considerable power into a compact and stylish unit".

The boxes have 2 dedicated amplifiers (making them truly bi-amped) with active crossover network and dynamic limiter systems to ensure maximum sound levels without distortion. (An indicator displays when limiter is active.)

This provides self-protection circuits for the drivers and the amplifiers. Importantly, the boxes feature extremely low standby noise, balanced and unbalanced mic/line inputs with level control, and balanced output link connector for additional speakers.

The Opera 212 (12" and horn, 200 watts) sells for RRP A\$1,350, while the Opera 215 (15" and horn, 200 watts) sells at RRP A\$1,550.

• For more info visit the Australian distributor's web site at www.cmi.com.au or phone CMI on +61 3 9315 2244



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SGM Launch 250w moving yoke contenders

SGM introduced their all new Giotto Wash 250 and Giotto Spot 250 moving yokes (right) last month at the huge Rimini trade show in Italy. Both units are designed with the performance and quality of their big brothers Giotto 1200 Spot and Wash.

The Giotto 250 series has been aimed directly at the television and performing markets. The units feature fanless cooling for silent operation, 250 MSD/2 lamp, CMY colour change on the wash, electronic ballast, auto re-positioning in the event of accidental knocking, rotating gobo's, zoom, electronic focus and many more features.

The SGM Giotto 1200 wash and spot were also well received at Rimini, with the wash having some truly unique features like fully motorised barn doors. SGM also featured their full range of mirror scans from the Victory II 250 to the Galileo IV Live 1200.

• Distributed by ULA, 1800 648 111 or www.ula.com.au



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Nothing Else Compares to NEC's VT series projectors for speed of set-up

NEC's new VT series projectors allow you to "plug-in and project in as little as three seconds flat," thanks to our exclusive one-touch Auto-Sense™ system. With a long history of leadership and innovation in projection technology, NEC is the only brand that lets you reap the benefits of advanced menu options and HDTV & DVD ready components. Then there's our automatic "eco-mode." It can increase your lamp life by 50% and reduce fan noise to an amazing, whisper quiet, 35 decibels.

Check also the NEC ultra-ultra portable **LT series**, weighing in at a featherweight 2.4kg. Or, consider the practical advantages of our cost-effective MT series of LCD projectors. Phone for a demonstration today. And you'll see why, when it comes to NEC - **Nothing Else Compares.**



MultiSync LT Series Projector

MultiSync VT540 Projector





NEW SELECON LV. PACIFIC LAUNCHED IN U.K.

Pacific 80v produces a brighter, whiter light than a 2kw Profile @ 40% less energy

Nick Gale of Hawthorne Electrical was certainly impressed by the new Selecon 80v Pacific launched at AETT in April. Pictured admiring the bright light with Nick is Selecon MD, Jeremy Collins, who commented: "the Pacific 80v can produce a brighter, whiter light than a 2.0kw Profile - for 40% less energy - an output which is unmatched by any other luminaire of its type and size currently available on the market."

The new Pacific 80v 1200W lamp brings the lower voltage tungsten halogen lamp to the theatre and studio, delivering an intense white light. The sheer brilliance and pure white character of

the light produced by the 80v will be of great interest to designers. The blue and pink tones normally associated with discharge light sources have been avoided, thanks to the sheer intensity of the lamp.

The 80v can be used in the standard Pacific range (both fixed beam and zoom) Selecon's R&D team has worked closely with Philip's specialist tungsten lamp division to design a compact filament package that ensures maximum light collection within the Pacific optical system.

Powerlock NRG Sequential Locking System

Herkes Electrical Supplies Pty. Ltd. has announced the launch of the new NRG sequential locking system from Powerlock manufacturers Litton Veam.

It's the perfect solution for managers of venues and production companies who are responsible for the safety of electrical installations. Power supplies for productions, and temporary installations such as festivals and location film shoots are just some of the typical applications where the NRG system is suited. It's a welcome piece of security wherever the public, or uninitiated staff, may have access to power connection areas.

The system comes in a 15" rack format and guarantees the proper sequence of mating and un-mating a set of Powerlock connectors. The patented cam operated covers on each of the panel connectors ensure that the correct sequence of ground, neutral, phase 1, phase 2,



and phase 3 is adhered to. Once connected, the system can be locked by two keys to prevent un-mating of the system by unauthorised people.

• Info: Herkes +61 2 9319 3133

Pictured is a system with European colour coded connectors, other colour codings are available.

Dr G's Gadgets

Birdie Accessories by Nelson

Little MR16 light fittings can take on a whole new look with a series of items made by the German company, Nelson. Designed to clip on to an MR 16, these accessories include glass filters (in blue, green, red and yellow), barndoors, a louvre fitting (to create an oval beam shape), and a honeycomb fitting (to reduce sideways glare and decrease beam angle). Not "cheap", but good problem solvers. Thru Herkes Electrical +61 2 9319 3133

Birdie Top Hat

After giving all of those tips above for birdies, I had to add just one more - the custom birdie top hat. In situation where a narrow beam Birdie is required, there is a fair amount of spill that occurs as the light passes out of the fitting and through the filter.

Essentially, the length of the fitting is designed to allow wide beam angles, so when a narrow bulb is installed there is reflected spill. This can light the end of the fitting and puts an extra ring of light around the main beam.

So if you want to make the fitting hide a little bit or get rid of the extra ring, cut a 40mm to 50mm section off the end of an appropriately sized poster tube and cable tie this to the outside half of a colour frame. While the actual fitting was mounted behind the scrim, it was in line of sight for the audience and could be seen when lit. However, with the top hat, the fitting became "invisible".

PopStars in the studio





A hit album for the unknowns. How Bardot coped with a new studio. And, how the studio coped with Bardot.

By Julius Grafton

Readers have been amazed how in the space of just thirteen weeks, 2,500 hopeful girls were auditioned, and then five of them released an album and went on tour. That is the time frame of the TV show called PopStars, which was an instant hit on TV. The music is now a hit in the record stores. How can this happen so fast?

PopStars at Tiger

**BARDOT:**

Sophie Monk, Tiffany Wocc, Belinda Chappel (top), Sally Polihronas and Katie Underwood (front)

Producer:

Michael Szumowski.

Engineer:

David Hemming

Assistant Engineer:

Danielle McWilliam.

It took a little longer, obviously. The producers of the show and the artist management company did an amazing job, across a time span that saw potential album tracks assembled in September last year - before the girls themselves were chosen.

Viewers of the show, ourselves included, were gobsmacked at the quality of the seemingly endless stream of young women singers who auditioned on camera. It seemed every 17-to-25-year-old woman in Australia who could sing was there!

Meanwhile, Grant Thomas Management were hunting down producers and songs. A short list of potential producers was made, and whittled down to the final choice - Australian Michael Szumowski, and New Yorker Tommy Farragher. They each produced a bunch of tracks for the debut album. Then the band was named Bardot.

So then five extremely talented performers were introduced to each other, given some voice training - which they probably didn't really need - and thrown into a recording studio.

Tiger is the sudden success story of music recording in Sydney, a boutique, flashy, friendly place with a pool table, clean toilets, and a BIG cappuccino machine. It is in North Sydney, and operates in the guise of an advertising recording facility, which is its main source of business.

A while ago it was discovered, and Humar Nature cut an album there. House engineer David Hemming attracted a lot of work, simply because he was there. Word got around and the A&R types started hassling owner Greg Devine for session rates. Greg did some deft juggling between adjacent studios and rosters, and found himself running a part time pro music recording studio.

It got so manic that last year he did some sums and figured if he spent big on a CD 3000 Euphonix console, he would save money. This was because a music session typically started at midday and went on, and on, and on - to maybe the very early (late) hours. But then he couldn't do any ad work in the main studio, because the music project was all set on the DDA console. If you wanted to change anything, you wouldn't bother, because then you'd probably almost have no chance of resetting the 600+ knobs on a normal console. So if a music session was on, it was on 100% of the time, even if no-one was in the building.

The Euphonix came along at Christmas, and totally changed the way Tiger do their work. A music session can be set to memory, and recalled as needed. You can jump between sessions as fast as you like. That's the reason people embrace digital audio technology, even though the Euphonix CS 3000 isn't 100% digital - the work surface is, but the audio stays in the analogue domain.

"I'm saving a couple of hours a day in productivity" he says.

That's the story of Tiger, who also are unique in that they work with a 36 track Sonic Solutions hard disk recording system - which they say has served them extremely well.

Day one, Bardot. The five girls come into the studio. Michael Szumowski meets and greets, David Hemming and assistant Danielle McWilliam stand by, wondering how it will go.

Most of the girls haven't been in a studio before.

"The very first day, the very first song, was mine. Poison." says Michael. He was chuffed that one of his songs made the final list of

PopStars at Tiger

tunes he was to work on, but convinced it wasn't single material. "It had a kind of rap in the middle, and was quite different".

Once the uneasy adjustment to working in a studio was bridged, things settled down. The girls were not bothered by camera's in the studio, which took some getting used to for the studio crew. Fairly quickly Michael discovered that the compliant bit-players he had expected were actually quite opinionated.

The girls threw the rap out of his song. "They said, 'we wouldn't be good at it', so it was out!" His basic music beds were already recorded, the girls sang their parts, the song evolved, and then Michael put a REALLY FAT live bass part in- played by Sam Dixon.

The song was released as a single, and went straight to number one. Love the bass!

The producer/engineer relationship is always interesting. Some producers have their very own language for what they want. Some think they know a lot

about the nuances of audio. Then some engineers get precious when the producer doesn't like a take.

Michael and David work really well together, they insist, and the results tend to back that up. "I tell him that something sounds fucked, and he doesn't throw a hissy" says Michael. "It goes both ways".

How much power should a producer have over a project, I asked?

"That's a good question, normally if it were a band I'd watch how they reacted and worked, because they would have a history. Once or twice I put my foot down (with Bardot) and said 'there has to be some trust'. And, the girls were still finding out what they liked".

The TV series started, and public anticipation rose. The show was a ratings winner, and once the five girls were exposed, they became immediate genuine pop stars. At Tiger, the final mixes for the album were underway.

The album will be released this month, and then TV series will finish. New stars are born.

About TIGER:

This multi-studio facility is located in North Sydney, in the heat of advertising world. The main studio now features the Euphonix CS-3000 console (pictured) and records to Sonic Solutions, a Mac based hard disk recording package. They can records 32 tracks.

The studio has recorded a variety of music acts including Human Nature.

Trendy looking acoustic treatments were created by the elusive, choosy, timeless but ultimately brilliant acoustical designer Richard Priddle.

Contact TIGER +61 2 9922-4700



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CELESTION

With Andy Ciddor

Making a DMX Net Work

It may have started out as a simple means of reducing the size and cost of the cabling between the control console and the dimmer racks but the proliferation of DMX512 as a protocol for controlling everything from smoke machines to coffee pots (see footnote 1) and robotic luminaires has meant the development of ever more complex DMX512 networks. One of the biggest difficulties with setting up a DMX512 network is that DMX512 was not designed for networking.

DMX512 is a protocol (an agreed method of communication) which is carried over an RS-485 serial data line. RS-485 is a signalling method similar to the RS-232 serial data which is often used to connect computers to modems or used to control slide projectors and VCR's.

The major difference between these signalling systems is that while RS-232 is designed for *point-to-point* data transmission between two devices, RS-485 is a multi-drop *transmission line* system that can have multiple transmitters and receivers connected to the line.

In the DMX512 application of RS-485 only a single transmitter is permitted, but there can be up to 32 receivers. The RS-485 transmission line is a pair of wires with a nominal impedance of 120 ohms that are terminated at each end. This is usually implemented in a DMX512 system by having:

- a 120 ohm terminator built in to the transmitter (control console, rigger's remote, show controller, distribution amplifier, buffer, etc).
- a shielded cable of approximately 120 ohms (100 to 160 ohms) impedance, daisy-chained to all receiving devices (dimmers, robotic luminaires, strobes, foggers, coffee pots etc).
- a 120 ohm terminator plugged on to the line after the last receiver (or the "loop/terminate" switch on this receiver set to "terminate"). The order of the receivers on the line has no bearing on their DMX512

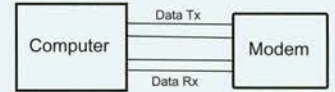
channel numbers. It is the physical order on the line that dictates where the termination should be located.

This system is easy enough to implement when there are dimmers in one or two locations around the venue or in a dimmer room, but becomes complicated as soon as a system has either many devices, or the devices are spread over a wide area. The transmission line has to pass through every receiver in the venue. It can't be split into branches with a "Y" cord or have groups of devices connected to a spur line, without risk of data transmission errors.

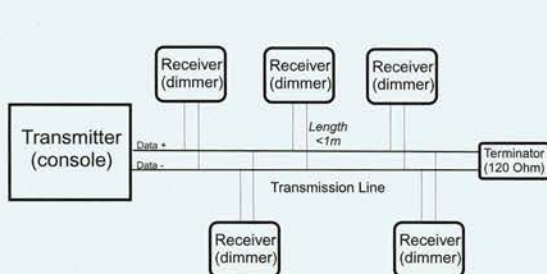
Data in the form of pulses of voltage is injected on to the line by the transmitter and travels down the line until it reaches the terminating resistor. The voltage is dissipated in the terminator, thus preventing the pulses from being reflected back up the line where they could become confused with new pulses being sent from the transmitter. Omitting the terminator or having branches in the line is likely to cause pulse reflections that produce garbled data. This manifests itself as erratic behaviour of dimmers, luminaires etc.

Terminating the line more than once will reduce the voltage of the pulses to the point that they might not be recognised as valid DMX512 data by the receivers.

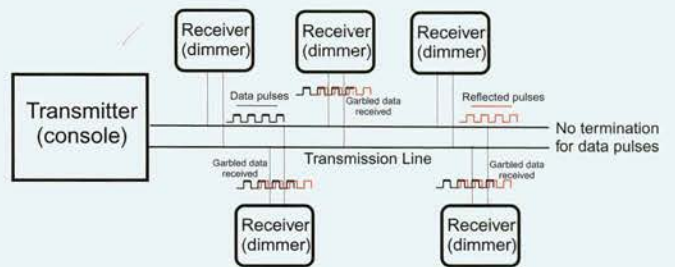
- M**any venues and productions require:
- multiple sources of DMX512 to be processed and distributed;
 - more than 32 devices;



RS-232 serial data communications



RS-485 serial data communications for DMX 512



Data reflections in unterminated transmission line

• **Andy Ciddor** has been involved in lighting for over three decades; as a practitioner, teacher and technical writer. From his new base in Hobart he regularly contributes to entertainment technology magazines on four continents.

CONTROL

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Diamond II

Diamond III



99 live! GOLD Award for LIGHTING CONSOLE OF THE YEAR



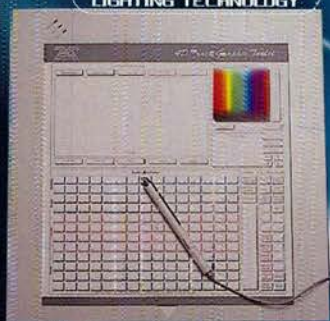
Art Dimmer 72

Pearl 2000



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- distribution schemes which do not easily fit with the notion a single transmission line.

The solution is to use multiple DMX512 transmission line systems linked via mergers, switches, patch systems, distribution amplifiers, splitters, and buffers.

Mergers combine data from two or more DMX512 universes (footnote 2) into a single stream. Some devices simply merge the streams of data on a highest-takes-precedence (HTP) basis. Others such as the LSC *DmiX*, allow an address offset of one stream against the other to enable two controllers to control different segments of the same DMX universe, while their *Softlink* enables three DMX512 streams to be combined, split or proportionally patched between up to three DMX universes.

The Bytecraft *Sage* has provision for data in other formats (D54, 10v analog or AVAB) to be merged with two DMX512 streams, on either an HTP basis, a channel offset basis, or some combination thereof.

Many of the higher end control consoles and several of the PC-based DMX512 controllers now also have the ability to merge an incoming DMX512 stream with the output/s of the console. Even the little Deltatronics *Focus 60* wireless remote merges its control data onto the incoming DMX512 stream.

Switchers are used to switch between DMX512 streams and range in sophistication from a simple A/B data switch similar to those used to share a printer between computers, to the 3-way changeover relay boards which Bytecraft have developed for various projects, and way beyond to the LSC *DMXChange*.

This device is a 32 preset, remote-control-lable, 6 x 12 cross-point switcher that, when fully expanded with three slave units, can route up to 12 DMX512 data streams into

any one of up to 48 outputs.

In the same general family are auto-sensing switchers which, on detecting the presence of a DMX512 data stream on their high priority input port, switch that stream to their output, reverting to the lower priority input if no high priority stream is present.

The *GAM Switch DMX* from Showcraft is an example of a device designed specifically as a priority switch, while priority switching is only one of the functions of the LSC *Isonode*, a device which forms part of LSC's *DNA* system for DMX512 reticulation.

Simple **patch panels**, similar to those found in audio systems, where DMX512 inputs and outputs are linked by short patch leads, also have their part to play in the routing of DMX512, although they may not appeal to everybody's sense of high technology solutions.

Optical isolation (See footnote 3) is employed in some distribution devices to eliminate some electrical problems, particularly those related to earth loops.

These can arise when separate DMX512 transmission line systems are located in different parts of the rig and are powered from separate distribution boards, substations or generators.

Buffers are generally used to provide separation between a DMX512 transmission line and the devices attached to it. The buffer will usually provide not only electrical isolation between the attached receiver and the transmission line, but serve as the DMX512 source for a new branch transmission line with its capability of driving 32 more receivers, and of course its requirement for termination.

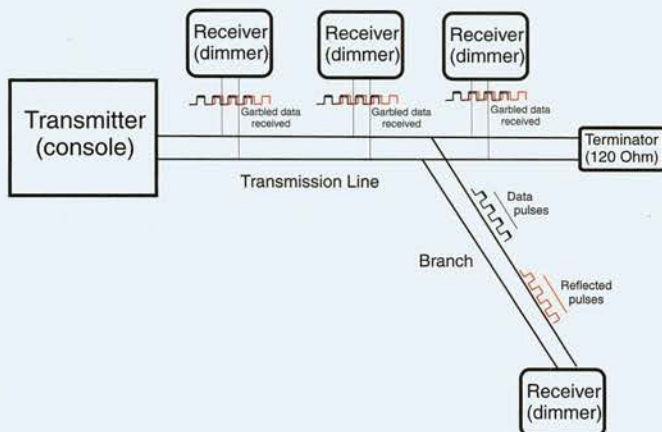
The electrical isolation of the new branch will also quarantine any data reflection and termination problems which may arise in the branch line, preventing them from effecting the rest of the system. Showcraft's buffers are sold as *GAM Opto-Iso*, *Showcraft Opto-Iso* and the *DMX Opto-Splitter Card* and LSC calls their buffer an *Isoport*.

Splitters and distribution amplifiers are different names for essentially identical devices which serve to take a DMX512 data input and buffer that data onto several new DMX512 transmission lines. These are the devices which make star and multi-branch DMX512 networks possible by eliminating the need to have a single line running through every receiver in the system.

Theatrelight make a four-way splitter as do LSC whose *MultiSplit* is also available in 10-way, 15-way and 20-way formats. Jands *DD8*

DMX FOOTNOTES

- (1) Doug Fleenor Design, Inc actually demonstrated a DMX coffee pot on their stand at an LDI show.
- (2) A DMX universe is the full group of up to 512 control channels which can be addressed by a DMX512 controller.
- (3) In an opto isolator device the incoming electrical signal is converted into light from an LED which is then converted back to an electrical signal by a photo sensor, thereby moving the data from one point to another but eliminating any direct electrical connection.



Reflections from branched transmission line garble data

is an eight-way device while Bytecraft's *D-Amp* is a four-way distribution amplifier for each of four DMX512 data streams.

Although at first appearances the DMX512 transmission line would appear to make convenient and reliable control distribution difficult to achieve, designing a network composed of multiple, correctly-configured transmission lines is relatively straightforward if you take the time to use the right tools.

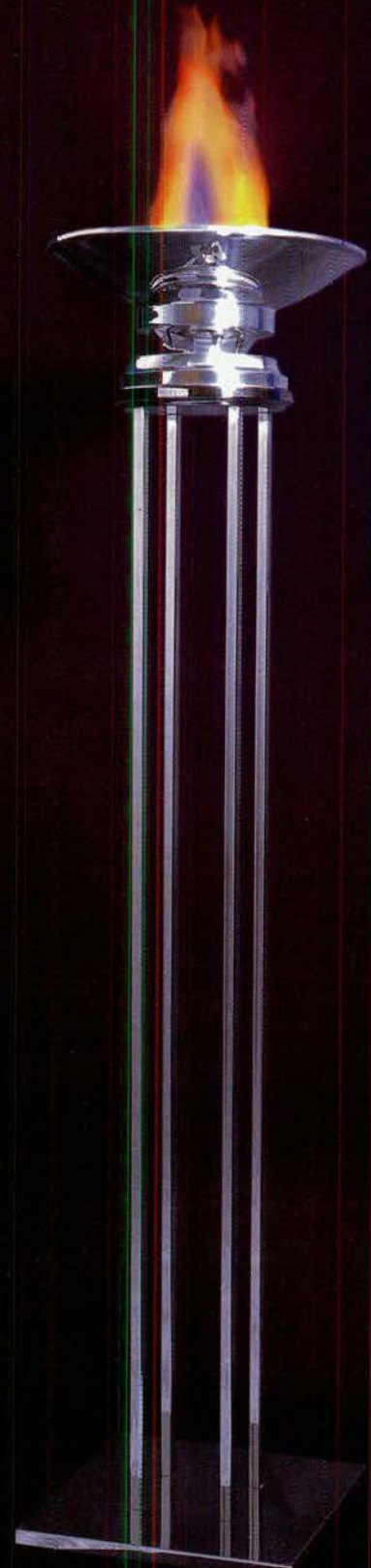
In a later article the process of defining and configuring DMX512 networks to meet specific production requirements will be covered in detail.

In the mean time, if you have any DMX related issues or questions you would like to discuss with others who use DMX512, Gary Pritchard at LSC Lighting Systems has started a DMX list group on the Internet. To join, send an email to lists@lscighting.com.au with the words SUBSCRIBE DMX as the first line of the message body.

The subject line can be left blank.

Products mentioned in DMX Article

Product	A\$ RRP.
<i>(Prices, descriptions understood to be correct at presstime. E&OE)</i>	
Bytecraft	
Sage 483 Merger/converter	7,320.00
D-Amp Distribution amplifier	1,464.00
Changeover Relay Board	366.00
Jands	
DD8 DMX Splitter (8 way)	1,095.00
LSC	
DmiX merger (2 DMX In, 1 DMX Out)	2,313.00
Softlink merger/softpatch (3 DMX In, 3 DMX Out, floppy disk)	9,150.00
DMXChange 6 input, 12 Output Master DMX crosspatch	4,099.20
DMX Splitter (4 Way)	902.80
Multisplit optically isolated splitter (5 way)	1,830.00
Multisplit optically isolated splitter (10 way)	2,562.00
Multisplit optically isolated splitter (15 way)	3,355.00
Multisplit optically isolated splitter (20 way)	3,965.00
Isoport optically isolated buffer (single DMX stream)	366.00
Isoport optically isolated buffer (2 DMX streams)	488.00
Isoport optically isolated buffer (3 DMX streams)	510.00
Isonode DMX inlet/ switcher	427.00
Isoport 24 DC supply. Required for up to 32 Isonodes / Isoports	1,330.00
Showcraft	
GAM Opto-Iso	311.10
GAM Switch DMX (2 DMX In, 1 DMX Out)	359.90
DMX Opto Splitter (card-only)	201.30
Showcraft Opto-Iso	341.60
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DMX Splitter (4 way)	884.50
DMX Link merger/softpatch/backup (2 DMX In, 1 DMX Out)	3,653.90




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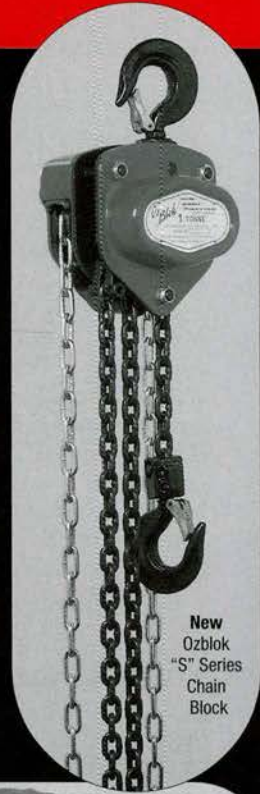


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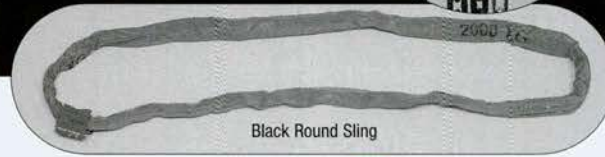
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Euphonix System 5

Euphonix System 5 Digital Console - mixing for the new digital audio markets

*Euphonix have just extensively toured and demonstrated the System 5 digital mixing console across the region. The control surface looks like a mixer, works like a mixer - but it isn't a mixer. It's the front end of a 96kHz, 24 bit mixing system. **Julius Grafton** spent time with the system in Sydney.*

This is the product you use when you mix surround sound, for broadcast, music or post. This new generation of mixing systems is in demand as surround sound, DVD audio and HDTV formats roll out everywhere. Suddenly a whole new mixing solution is necessary, as it is damn hard to route outputs and assign channel program for 5.1 or - heaven forbid - 7.1 from ordinary mixing consoles. Digital broadcast has also created a future for this kind of product.

At the bleeding edge of audio, you tend to have many projects cycling through the same desk. At the Australian Broadcasting Commission's TV HQ where I saw System Five, they have many permutations where a lot of audio channels need to be changed on a console, very often. Until now, this has required a lot of channels on an analogue console. The more channels, the more real

estate. Engineers need very long arms.

Bruce Wheatley is Audio Director for 10.30 Slot, where multi-setups are standard. Recorded in studio 22, it usually features a bunch of bands, each with -say- 24 channels, along with audio coming in from DAT, Video, and around a set. With a System 5, he could preset the bands and work the whole show on one reasonably small (less than 2 metres wide) work surface.

The main studio in Sydney, Studio 21, has as many as three news and current affairs shows, each with a different setup, running during the evening shift - through one console

Assume this is a digital audio mixing console, which is what it is, despite the network/system wordage that Euphonix throw at you. There are three parts



Euphonix System 5



to the 'console' - a work surface, a bunch of hardware somewhere else, and software.

The hardware defeated me. There are input and output converters, where you get your audio in and out of the system. That is an easy concept to handle. But then there is a bewildering array of devices - a 'Studio Hub' which has an inbuilt PC, boxes called 'Pilots' - Interface Pilot and Digital Pilot, then there is a Digital Frame with a bunch of modules, a machine control box, MIDI box, interface for this, for that, and the rest. I'm ashamed to say it, readers, but the Hardware Block Diagram, complete with MADI, Cat 5 and AES/EBU connections everywhere, had me stumped.

Lucky I wasn't alone. "I'd just ask for a configuration and let them figure out what hardware I needed" advised Bruce Wheatley at the ABC. Thanks mate! Euphonix say "The Core is purchased with the amount of processing needed for the application".

As explained to me, there are many possible combinations of inputs and outputs, and each requires a variety of supporting hardware. You'll always find a lot of hardware attached to any mega digital console like this one. There is a hardware block diagram on the Euphonix web site for those inclined to delve.

A safety advisory. While grovelling on the floor at the back of the racks in a futile attempt at tracing a loom of MADI cables, an ABC engineer drilled the unfortunate Euphonix rep, Alistair Dewar from Technical Audio Group, on what happens if this or that arises.

We went through the various disaster

scenarios. Complete power down? Currently it takes three minutes to boot everything up, possibly as long as five minutes if the sequence of devices is forgotten or hashed. Remember, there are a whole BUNCH of discrete PC's inside the whole system, more on these later. A revision due soon may shave the startup down to one and half minutes, says Alistair. A UPS solution would obviously be a good idea to iron out any momentary power spikes or disruptions.

What about disconnecting the control surface from the hardware racks? We did it, while the execrable Hughie Lewis and the News multitrack played out The Power Of Love for the nine hundredth time. Guess what? The audio kept on coming, even with the desk disconnected!

What about if the installation is hit by lightning? Then you are in trouble, we think! No system will enjoy this.

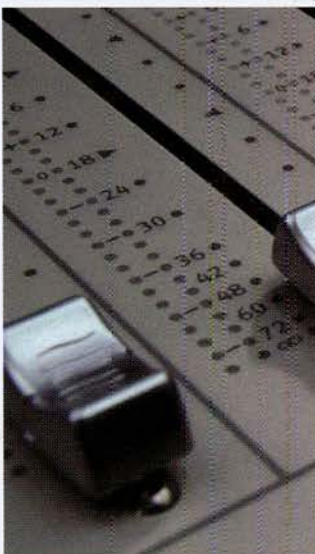
There is a lot of redundancy in the system. The control surface is made up of modules, each of which has 8 faders along the bottom, a pile of rotary knobs, buttons and lights in the middle, and a super sexy TFT screen at the top. This is a whole, stand alone, single chassis device with it's very own Cat 5 cable connection to the system. And inside each module lurks a Pentium PC!

Most incredibly impressive, is that the control surface works almost cold. This is almost a world first, because any digital anything I've been anywhere near until now, radiates heat - and usually always has a battalion of crappy cheap YumCha brand squirrel fans blowing hot air all over the place. Not this one! The ABC types were suitably impressed at that.

While some more ABC audio engineers (they seem to have one for every occasion) debated how many OB trucks they actually owned, and how they may so configure the control surface/s, I had hands on with same.

You know when you read the PR puff for any new system, it always says 'user friendly' while detailing some new acronym like DAFT - Digital Audio Faster Transfer? Well, System 5 is actually easy to use.

There are three kinds of modules for the control surface. Channels, as we know them, arrive at the Channel module. There are usually three or more of these, as each controls 8 or 16 channels at a time - but more channels are/can be switched onto each Channel section. Typically, you'd have 16 channels available on the module, the second channel above each fader is accessed with a



Euphonix System 5

FLIP button. All the pertinent info for your main 8 channels is in front of you, either on the 8 rotary encoders, or on the area of the TFT screen above the relevant channel.

It's real, tangible and direct information too.

Example: if you are working on -say- channel one, you have fader control via the motorised 100mm fader (of course) and then above that are six large rear lit buttons. Select the button called EQ, and the eight rotary encoders snap to the previous saved or set EQ settings, and the label strips under each tells you what you are looking at - in this case, a four band fully parametric equaliser with peak shelving on high and low bands. The screen shows the curve.

The Pan selection is used for surround mixing, and has 'focus' and 'non-boom' controls, along with a separate rear pan, which is available when needed.

In simplest terms, the desk has up to 48 sub groups, 48 mix buses, 24 auxiliary and 22 monitor buses. Each input channel has A + B inputs which may be analogue or digital, depending on interface hardware. Thence, trim/phase, delay, input metering, insert ability (at the interface rack), dynamics like gating and limiting, equalisation and filters, then the pan section, and pre/post assignment to all the buses that your hardware will support.

At the Centre section module, you have fader control over any 8 groups or buses, plus 48 rotary knobs.

The Master module has a Master channel which allows you to switch ANY input over to this central fader, which is set up as a normal input channel, with the 8 knobs and

all the buttons. But you can then also access all of your selected channel's group or auxiliary sends via the 48 rotary knobs that are just next door on the Centre section.

There are more ways to use a channel too. If you want access to more than any 8 buses, you can select an adjoining channel's 8 rotary encoders, or even another few adjacent channels. This creates a 'super' channel.

There are bus masters, and extensive automation and machine control features on the Master panel, along with a really neat set of 'presets' where the desk layout can be changed with the hit of a switch.

Software allows digital patching of any input to any output on your laptop too.

As for system latency, Euphonix quote a very short half millisecond or so processing time for most functions. Naturally, no digital console or device can work in actual 'real time' because it must process everything. But processor speed with this console is not a problem, it seems.

Summing up, the System Five is a super powerful audio mixing system, with a seemingly limitless number of inputs, more than enough buses, and flexible hardware options. It lines up price-wise against the Otari Advanta, and maybe the Soundtracs DPC II - which has less to offer.

A couple of final thoughts. First, the console isn't (yet) suitable for theatre, because the automation doesn't quite do what theatre engineers need. This could be fixed with a revision. Second, the design time behind this project must've been sensationally long, because when you think about it, Euphonix are basically integrating a pile of stand alone computers, all running under their own

interface protocol, and with maximum redundancy. Try designing that yourself!

System 5 starts at about a third of a million Australian dollars, says the distributor there.

- www.euphonix.com
- www.tag.com.au

Alistair Dewar with System Five in Sydney



Euphonix R1 Recording system

The System 5 comes with its complementary recording cousin, the R1 recorder. This 48 track, 24bit, 96Khz hard disk recorder is the latest in the new top-end of solutions where a stand alone multitrack is required.

Being hard disk based, it offers random access with no waiting, and of course fast looping. It maintains reel feel with fast lockup and machine control.

R1 is a reel to reel alternative, and competes against the new Fairlight Merlin, and the Otari Radar II.





What the books don't tell you

Graham Walne offers advice to young lighting designers

A lighting design is brought to life through a logical process but the result needs to be greater than the sum of the parts. For example, it shouldn't be necessary to analyse why a particular colour works if instinct alone tells the LD it will do so. In fact, most designs contain a large percentage of colours and angles which the LD has proven elsewhere, partially because LDs always think their next show will be the one which exposes them (and they want a safety net) and partially because LDs are usually denied the time to experiment with their design. Experimentation implies failure and scrapped work, not qualities our culture welcomes, or affords.

So LDs need ways of experimenting economically in order to develop the work and with it the dynamic of the production. Visiting other shows, visiting the venue you are about to work in and testing some ideas out beforehand are all helpful. I've frequently irritated my crew by flashing through the unfocussed rig to see if there are any interesting haphazard shots which I otherwise wouldn't have thought of. Sometimes I leave other designer's colours in before I refocus parts of a standing rig, just to see what the effect would be.

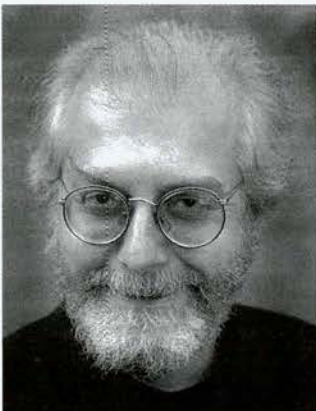
Playing lights on models is also wise, it can save time, money, tempers and muscles - it's a lot easier to move a torch than a 2K. However, few set designers put masking in their design unless it is integral, consequently it frequently fails to the LD to locate legs and borders through the

drawing of a section; the LD will need to draw this anyway to work out the shots from the overhead light bars. This should then be checked with the set designer because they usually prefer masking as far off as possible, whereas LDs prefer the reverse because it allows better angles.

Of course the style of the show might require the lighting to be visible, but even here the design of the rig should be sympathetic to the overall picture and not be an untidy distraction. It is important to work with the production manager to schedule a time when the masking can be set because the LD can't focus until the borders (and consequently the light bars) are at their correct trim, few schedules make time for this process and thus it tends to eat into the focus.

LDs need to be good time managers. Monitor the fit-up closely to see if the production schedule needs to be adjusted as work progresses, not necessarily to gain more time for you, but to help others. For example, if the set isn't quite ready maybe you should give away some of your focus time, otherwise you'll only have to refocus on the bits which will turn up later.

Francis Reid has said 70% of the success of the design is in the focus; it's certainly the only time the LD will get the stage so it's vital to use the time well. Keep records of the focus, when you visit this venue again it will be useful to know who should be (and should not be) at the top of the telescope. I generally start with the hardest jobs and work



Graham Walne has designed the lighting for over 500 productions worldwide and now lives in Perth. He is also well known as a consultant and author.

Graham Walne

towards the easiest so that as fatigue develops the rate of work remains constant.

No focus session goes totally to plan so it's wise to face head on those problems which are critical and sleep on the others. It is vital to give the crew an understanding of what you are trying to achieve, they've seen it all before, and might have some very helpful suggestions; at the very least understanding your problems will assuage their feelings when you ask for some things to be rerigged: change isn't fatal.

Kee an open mind on how everyone needs to deliver the end result. But there's a difference between an open mind and one that can't be made up and muddy thinking leads to muddy lighting. I've always told my students to imagine what happens on stage when a globe blows, if they can tell, then that lamp must have been making some contribution, if they can't then why was it there? During the technical and dress rehearsals I try to find times when I can discretely fade out each lamp (and in each cue) to test if the state then becomes cleaner. Perspective is essential, don't waste time dealing with things only you can see at the expense of something which will benefit the audience.

When plotting remember that lighting is a matter of comparison, so something which looks too dark also means that something elsewhere might be too bright. Every so often try a state with the master down a little, underlighting (especially on sets) can be very effective and don't forget that by sitting in the theatre for hours your eyes become accustomed to the darkness, it's not how the audience will see it. Don't sit there for hours whatever the pressure, take a break and leave the auditorium, it will help your perspective when you return.

Don't rush to modify a cue until you are sure it is being operated at the correct place in the script and at the correct speed, how it looks influences only part of the audience's response, timing is critical.

Above all don't let logic seduce you away from painting pictures. I fell into this trap when lighting 16 ballets in repertoire for the Bolshoi's season in London's Royal Albert Hall, never before used for this purpose.

The Bolshoi's need to have access to any ballet instantly, and the restrictions on crew meant a carefully designed fixed rig with ColorFaders everywhere. After the focus I found myself relaxing, months of intensive planning had paid off, it was working.

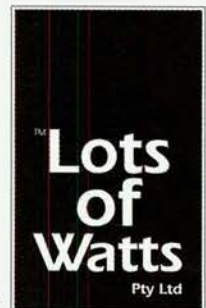
Then I realised, we hadn't lit the show yet!

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Norwest to do Olympics PA

EAW network boosted, KF 860 VLA and KF 750 boxes to cover 110,000 seat stadium

Chris Kennedy's sound production company Norwest Productions has been offered the contract to do audio for the opening and closing ceremonies of the 2000 Olympic Games in Sydney. The highly coveted contract involves supplying all live audio for the ceremonies, to be held in the new Sydney Olympic Stadium during September.

Norwest are the fifth largest live audio production company in the Australasian region, and feature an extensive inventory of near new EAW loudspeaker systems, driven by Crest amplification.

At press time no statement had been issued by Spektak - the events company operated by Ric Birch, or SOCOG, the Sydney Organising Committee of the Olympic Games. But Connections was able to establish that a draft contract had been issued naming Norwest as audio contractor.

We cold called the Sydney warehouse in Ryde where Norwest are based, and found Chris Kennedy prepared to confirm our line of questioning, but asserting that the contract was not signed. "I need to be careful, because the contract also prevents me publicising the fact we are to do the Olympics, but I can't deny your questions", he stated.

The story starts in July last year when audio legend and LA based Australian ex-pat Bruce Jacksor, was contracted to design the audio for the shows, and do the live audio mix. He called for a demonstration at the Olympic Stadium, and our story in August detailed how five competing systems were auditioned there. At that time the contract became a two horse race, between Jands Production Services, and Norwest.

Jands offered a proprietary speaker system they call the Sportster. Essentially a powered

Key points-

- The new Bose PA installed in Stadium Australia will be used as intended - for track and field events.
- Norwest will supply temporary audio for massive live events - the opening and closing events.
- The contract is commercial - Norwest tendered a fee, and say they are charging 'a fair price'.

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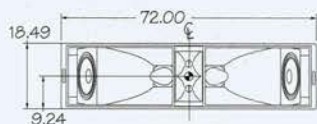
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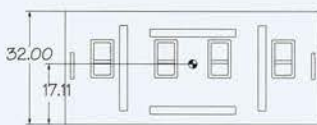
Norwest & The Olympics



KF860



FRONT



TOP

loudspeaker cabinet on wheels, the Sportster didn't offer the directionality that Jackson demanded.

Norwest surprised many of the industry types who somehow wormed their way into the shootout, by supplying four VDosc cabinets, from L-Acoustics in France. These were airlifted in from London, where they had been in use with Rod Stewart. They were showed in addition to Norwest's EAW KF860 virtual line array cabinets, which were set up side by side with the VDosc cabinets in front of one of the stands at the stadium.

The hookup with VDosc was fascinating, because until now no-one in this part of the world has owned a V-Dosc system, which is now regarded as the number one preference of most leading sound engineers engaged in large concert audio. Norwest had a Byzantine deal with PRG, the growing conglomerate of production companies in the Northern hemisphere, who assisted them with a bid to supply V-Dosc for the Games.

With two clearly different, but similar, system approaches, Norwest applied the killer stroke by demonstrating a cluster of four EAW KF 750 cabinets, flown to cover the open end stands at the Stadium. This additional effort (not called for in the demo specification) allowed Jackson to hear and compare the existing house system, and ascertain the viability of using the EAW system in this position.

Some time elapsed, but several subsequent demonstrations were run at the Stadium. It became apparent that Jackson favoured a system based on line array speaker cabinets, for reasons of tighter dispersion control in the vertical plane.

Connections received a steady stream of requests from around the world for an update on the story, and numerous communications with the parties concerned all lead to the same place. The position was that any speculation or conjecture about the contract was not useful. We were asked to keep quiet.

Meanwhile, probably realising the Olympics horse had bolted, Jands Production Services entered into negotiations with L-Acoustics in France to buy 36 V-Dosc cabinets, a deal announced last month, but apparently too late for the Olympics contract. It gives Jands a sorely needed new loudspeaker technology to offer alongside their large inventory of aging Clair Brothers and Turbo systems.

Over at Ryde, its a wet Autumn day outside, and fairly utilitarian inside the Norwest HQ. Chris Kennedy was an entertainment agent for 20 years before entering a five year partnership in his previous sound company, A1 Audio (Australia). When that partnership ended, he established Norwest with his late wife Suzie.

The one constant through his career is that Chris has always worked on corporate events. It's the point of differentiation for Norwest, he says, that its crew can adapt and fit into a show. "As these events have grown larger, so too has my company".

A corporate theatre show is a demanding beast. "There needs to be lots of co-operation, compromise, and adaptability - and there are usually many other suppliers involved" says Kennedy. "It's not like an arena tour, where speed in and out is all that matters".

"The gear needs to be in good condition, and the people need to be good. You need to offer a concise service" says Kennedy.

Clearly Norwest had enough credentials to win over the tough decision makers, headed by Morris Lyda, the head of technical services. And at the time, Jackson said: "It's not a simple decision, we are looking at the depth of support a company can give us - there is not just one factor".

The winning specification from Norwest involves pairs of their EAW 860 and 861 VLA (virtual line array) cabinets. Used together, they offer either 60° wide (860) or 90° wide (861) dispersion. The crucial vertical dispersion is nominally 10 degrees, frequency dependant.

40 or more VLA cabinets will be placed in pairs in front of the two main stands, with long custom made speaker cables run in precise lengths back to Crest loaded amplifier racks.

The second element in the contract calls for two clusters of eight EAW KF 750 cabinets to cover each of the end stands. 32 cabinets will

Norwest & The Olympics

be used in this manner.

Finally, seven pairs of KF 750's, hung sideways, will cover the upper seating in each of the two main stands. These will be flown between the eight clusters of house loudspeakers, which form part of a large Bose installation at the Stadium which is to be used for audio for all track and field events at the Games.

Aside from the factory supplied boxes, Norwest own the rest of the audio system, and considerably more. They first purchased EAW speaker systems in 1995, and have enough KF 850 and KF 750 speakers to do several large shows at one time. The KF 860/861 Virtual Line Array was used on the Cold Chisel tour, as previously detailed in Connections.

How much factory support are EAW offering Norwest? "The 28 KF 750's for the upper main stands are on loan" explains Chris.

There is considerable irony here, in that the original specification for Stadium Australia featured EAW loudspeakers. This was undone, in spectacular fashion, when the winning tenderer proved an alternate Bose/Crown specification could do the job for less money. Sydney company The PA People went on to install the stadium system, which features one of the largest CobraNet control systems in the world, and this house system has been in use for more than a year.

The house system was never intended to be used for one off concert events like the

opening or closing ceremonies.

Speaker cabinets alone don't make a sound system. Designer Bruce Jackson will use XTA Audio Core processors to maximise and tweak each set of cabinets at the Olympics. He will mix live audio on a Midas console, with a second Midas working as a distribution console in a control room.

This console will mix to various speaker zones, and send and receive program from/to the various broadcast mixers.

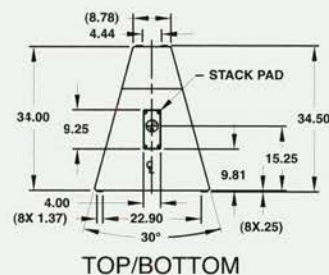
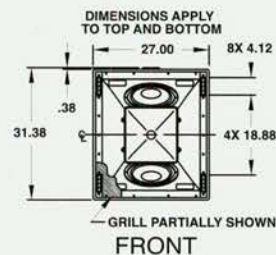
Getting audio around a very large stadium is no small task, and the actual distribution is to be done on a fibre optic network supplied by a third party under another contract. This leaves Norwest to simply deal with whatever microphone and monitoring requirements the program demands. Since the actual form and content of the opening and closing ceremonies are a closely guarded secret, Norwest will need to be flexible.

It's a long way from booking bands for corporate gigs to running a world class audio company poised to display itself at the largest gig of the century. Is the Olympics a promotional exercise, or a profitable show?

"I'm charging a fair price" says Kennedy. "And I'm taking a risk, because if I do a controversial job or bummer up, then it would do harm to my business."

By Julius Grafton

KF750F



Morris Lyda, Ric Birch and Bruce Jackson audition PA systems in Sydney last winter.

Ode to the Pattern 23



By John Grimshaw

If I said to you that I was going to build a piece of equipment that will be used in theatres throughout the world for the next fifty years and beyond, you would have to say that I was crazy.

The humble Strand Pattern 23 is one of the longest living icons of the theatrical lighting trade – and in some respects it is not hard to see why. There are not too many 500W profiles that you could drop from 5m and still have a fairly good chance that it will still work (once you

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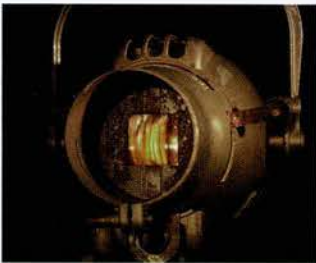
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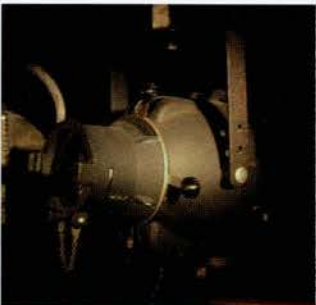


The original: Patt 23 Mk 1



Then came the Patt 23S - which stand for shutters - but may as well stand for square, because that's the shape of the gate. The picture is with the lens tube removed.

Pick it from afar by the different shutter slots to the Patt 23II which has a circular gate, below).



Patt 23 Mk II. The beast as it's best known.



Patt 23 with dangerous asbestos cable (left) and the black PTFE cable (right)

change the bubble!). It does not require direct DMX input, the pan/tilt/shutter control is fully manually implemented, and it has accessories galore. Check out that sleek fifties gunmetal grey, and the cast metal exterior. It has easily survived the kicks of hundreds of dancers that feel the need to collide with the carefully pre-set sidelights of too many shows to mention.

With a gel cut size of 100mm x 100mm, there is no other 500W profile can get a better number of gel cuts out of a full sheet. Rugged, small, light and built to last – and last they have.

Back in 1953 when the Patt 23 was released, there were not too many options for theatrical luminaires that the average venue could buy. Strand dominated the market worldwide. Over the 30 years that followed, the market penetration for this lamp and its many cousins in the Strand range was wide spread. When the last Patt 23 came off the production line in 1983, more than 500,000 of them had spread across the world.

Sure, they have their own problems – light output does not really compare well to the 650W lamps of today, getting a flat circle of light (or square - depending on the model) is next to impossible and the gel frames have a tendency to fall out. However, for many of us working in the industry, the Patt 23 was the first lamp we encountered in the school theatre, and they are still being regularly rigged today in a wide range of shows. (I can personally remember derigging one in the bump out of "Phantom Of The Opera" in

Sydney!)

Believe it or not, they still sell very well. Recently, when Chameleon was ridding itself of excess lighting stock, these lamps left the building with considerable speed. You can still expect to pay as much as \$150 for them second hand, which is only \$7 cheaper than their list price of \$157 in 1974.

When it comes to the Patt 23, you really have to know which variation you have. Over the thirty years of production, a few variations to the original design have left us with a slew of options. The smooth reflector was replaced with a faceted one in 1973 (to flatten out the image a bit). Shutters were added, the gate went square – and then back to round, beam angle options were introduced. For a time, a fresnel lens option was also offered.

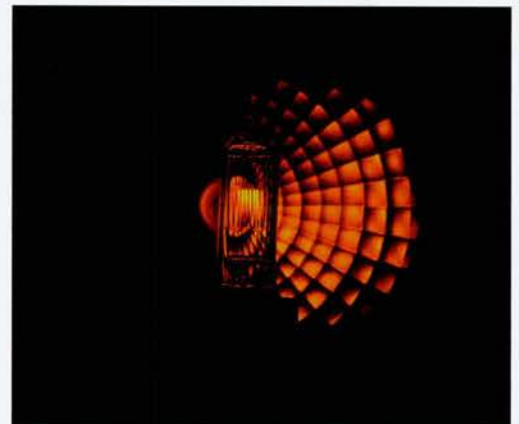
Regarding beam angles, it is interesting to note that many lamp manufactures of today are making the lens options that fit onto a single lamp base. It seems to me that this is just like swapping to the narrow lens tube on the Patt 23, or inserting a second standard lens in the normal lens tube to make a wide beam (this is done with the convex surfaces facing each other).

In the Patt 23, these variations were relatively cheap to achieve – perhaps a few manufacturers still have a bit to learn from the humble Patt 23?

If you want to find out more about the specifications of the Patt 23 (or many other Strand products) take a look and the Exeter University site- www.ex.ac.uk/drama/strand/



Facetted reflector (above right) and the normal smooth one (above). We took all these pictures at the Ensemble Theatre in Sydney. Thanks to them.



We love them!

10 great Patt 23 tips!

1. Cleaning - always, often! Get the lens out and clean it too.
2. Spring washers on the yoke nuts essential, ie: remove front reflector, be sure nuts very tight on yoke bolts with spring washers - when they loosen the lamp flops on the yoke.
3. Chuck out the original factory supplied wire gel frame and replace with par 64 type folded one. (The wire burns gels and cuts light output).
4. If the lens cracks at edge (where supported by one of three lugs in lens tube) and threatens to drop out, turn 15 degrees or so inside lens tube.
5. Some models allow you to adjust the lamp base to minimise lamp striation. Do it!
6. Remove and replace the DANGEROUS asbestos cable used on original version. **Get professional advice on how best to get this done and disposed of. Asbestos kills.**
7. Likewise, the PTFE (thin black) heatproof cable on the MkII frays badly at the cable entry to lamp tray and often shorts. Replace, and with a longer cable too. (The original cable was a tad too short).
8. If you have multiple types of Patt23's in stock, use coloured electrical tape on the yoke to tell the difference between the types (Ensemble Theatre uses red for square, blue for Mk2, white for wide). Obviously, this is not required for the Patt23 Mk1 (no shutters), Patt23N (big lens tube), Patt23N Mk2 (bigger lens tube)

9. Avoid storing these lamps by standing on their lens barrel. Apart from having a tendency to fall over, the small gel frame holding lugs can be easily broken.

10. When focusing these lights, always have a pocket full of a light frost, pre-cut to the right size.

Variations described

Patt 23 Mark 1: No shutters and no way to retro fit them. 30 degree beam spread.

Patt 23 S: Shutters and Square gate (just exactly why they made this lamp is still beyond me!) 30 degrees? Less the square bits!

Patt 23 Mark 2: Shutters, round gate. 30°.

Patt 23 N: Narrow beam (11 degrees) lens tube mounted on the front

Patt 23 N Mark 2: Redesigned lens tube - looks suspiciously like a Patt813/823. 11°.

Weird Variations

Patt 23 F: Fresnel lens fitted in place of standard convex lens. A rare bird!

Patt 23 W: Use a second standard lens in the normal lens tube to create a "wide" beam angle (curved surfaces face each other).

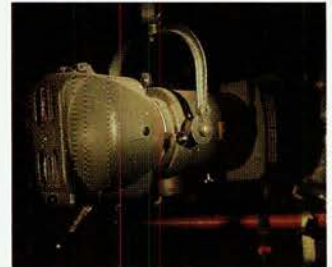
Patt 23 Flood: No lens fitted (probably because it was removed to make another one "wide" and then subsequently lost or broken). You'd have to be desperate to resort to using this! Or, short a lens or two.....



An exotic beast, and hard to find! The Patt 23F. Why the Fresnel lens, you may ask?



Patt 23V - a bit nose heavy!



Patt 23N Mk2 - balanced, and with a followspot handle!



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EFFECTORS

WHAT YOU GONNA DO? CONNECTIONS LOOKS AT WHAT'S OUT THERE, RIGHT NOW!

(NOTE THAT THIS IS A CROSS-SECTION OF THE MARKET - THERE ARE, OF COURSE, OTHER BRANDS AVAILABLE)

top sellers:

Peavey DeltaFex Stereo Effects Processor: A\$519

Value plus, with features such as; stereo inputs and outputs, sixteen different effect types incl. seven reverbs, four delays, one reverb and delay parallel multi effect, chorus, flange, phase shift, and rotary speaker. With foot switchable morphing speed control and two adjustable parameters to customise the sound to your needs.

Lexicon MPX 500: A\$1,295

24 bit dual channel effector with balanced analog and digital inputs and outputs. Easy to learn, and comes with 240 presets.

Yamaha SPX990: A\$1,895

A true 'industry standard', featuring 4 'pre-effects' including compressor and EQ, 36 main effects and 3 'post-effects' and true stereo operation.

Vestax FDG-1: \$499

This is different. A three band 'frequency isolator', it allows DJ's to isolate one or more frequencies. Kind of an atmospheric effector.

Behringer Virtualizer Pro: \$499. (Pictured at right).

A rack mount multi effector with XLR and jack inputs and outputs, 20 bit converters, true stereo processing, free windows editor and more. Other effects include: delay, pitch shift, and more. Best of all, no wall-wart power supply, as it has a built in transformer.

There are, at last count, over 75 different rack mount effects devices on the market today. And there are a poultrice of digital 'plug in' effects for existing hardware and software based recording systems.

In no particular order, Connections presents a random selection:

The Symetrix 606

The 606 offers two channel digital delay incorporating classic sounds with cutting



edge technology. The Symetrix unit (above) uses the simplest but most well known user controls, 'knobs'. It's a prestige unit. This system offers a maximum of 2.74 seconds delay per channel, adjustable modulation rate, feedback and mix. The 606 offers all the programming possibilities you could want. \$1599 rrp

YAMAHA PRO R3

PROR3 digital reverberator is currently their 'top-of-the-line' processor. It features 32 bit



tion of pre-eq - reverb - dynamic filter - compressor - post eq - gate to allow the user an amazing level of control.

User controls allow fine tuning of up to 24 parameters to customise the effects with 90 user memories on board.

The ProR3 has an rrp of \$2645 inc. tax.

M-ONE and D-TWO: reviewed

Sid Kidman had a look at two single rack unit FX processors, from t.c.electronic. They are targeted at all these people: the professional studio owner, the home studio operator, the PA production rig operator, and individual singers and instrumentalists.

Simply, these effectors look good, are pristine in operation, and are very versatile. Cost is a very affordable RRP of \$1295 each. There have been times when I have seen

people use some special reverb or delay that really did sound uniquely good. The M-ONE and D-TWO produced 'de ja vous' on a couple of settings.

I listened to each of the 100 presets of the MONE first up. There is not one that wouldn't be just right at some time. Many, such as narrow or wide room, are quite real. Go hear them for yourself. At the heart of the MONE are two powerful engines (digital signal processors), which can be combined in stereo, parallel, or serial, via user selectable

YAMAHA REV 500

(Below) Same DSP chip-set as the top-of-the-line PRO R3, just without a few features. Aimed more towards the live-sound arena, with fewer control parameters available and full time 'knob control' over pre delay, reverb time, hi-ratio and fx ret'n level. A \$895 i/tax



& REVERBS



algorithms.

The reverbs are Hall, Room, Plates 1 & 2, Spring, Live, and Ambience. Available in conjunction with these reverbs, according to the algorithm, are Delay One Tap, Delay Two Tap, Chorus Classic & 4-voice, Flange: Classic & 4-voice, Pitch: Detune & Pitch Shift, Parametric EQ, Compression/Limiter, Gate/Expander, De-esser, Tremolo, and Phaser.

The compressor, expander, and gate are quite comprehensive.

After the MONE, I was wondering about the need for the DTWO – just until I sampled a little of its capabilities. Again, just go and try a DTWO for yourself. There are 50 presets. I found no. 26, “Dark and Long” really beautiful. The DTWO can reverse the delayed sound – a ‘one’ becomes ‘no’, and ‘saw’ becomes something like ‘yes’. Strange feature!

Of course the DTWO specializes in delay. Delay suddenly becomes a profound field. The DTWO uses a delay engine, in series with a dynamics engine. The delay effects are Stereo/Mono, Rhythm Mode, and Reverse Mode. The latter is a division of the beat which is set by m.secs, or by tapping. Additional modifications to delay include Spatial, Filter, Chorus, Dynamic, and PingPong.

‘When all else fails, read the instructions’. None of that here – I just patched up and called up sounds. It didn’t take long to start modifying the sounds. Those of us who

found the D1500 Yamaha digital delay so practical, will immediately warm to the DTWO.

After enjoying the testing, I did some studying of the manuals. They are well laid out. Familiarization with the operating systems of the MONE and DTWO will pay dividends. Also no specs are quoted in this article. Let me say the specs are more than adequate – go and see for yourself.

Full marks go to t.c.electronic for supplying to the market, the MONE and DTWO. They are ‘onehellowa’ two very impressive FX units.

TC Electronic M3000 studio reverb

This is the number one selling unit in their line, and it is a stereo reverb and multi-effects system, featuring TC’s virtual space simulation reverb algorithms. TC have recently expanded its presets to 600, with a new set of presents tailored to the film and video post markets.

OTHER REVERB/EFFECTORS BY-

Sony, www.sony.com.au
 Roland, www.roland.co.jp
 DOD/Digitech, www.digitech.com
 Alesis, www.alesis.com
 Dynacord, www.eviaudio.com
 Phonic.



The top end- multi-channel systems

Lexicon’s 960L (above) and TC Electronic’s System 6000 (below) are what you need when you start working in surround sound. Many people will, as the new audio generation takes off.

The Lexicon boasts 8 channels, for 7.1 surround, while the TC will also handle any surround programme.

They are both full 24 bit units, with motorised faders and both have remote control units (pictured) that sit on your mixer.



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RIGGING

With Tiny Good

Spansets

Spansets are a brand name of a synthetic round sling. They are made for supporting loads suspended from a hoist so as not to damage the surface of the load. For the purpose of this note I will continue to call them spansets however I am not suggesting that the 'spanset' brand is any better or worse than other synthetic round slings on the market. Some other manufacturers are Tomcat, Beaver, Moxham, and CM.

The construction of a spanset is mainly polyester. Spansets consist of two parts. The first is the inner core, which is many polyester filaments, which are individually welded to form loops. This inner section is the load bearing part of the spanset and is vital to its operation.

The second part is the outer sheath, or jacket, which is made of woven polyester. This sheath is to protect the inner fibers from wear and damage. The outer sheath does not take load and so may appear slack when the sling is loaded.

Spansets should be visually inspected prior to use. The outer jacket is the visual indicator that the sling has been damaged. Discoloration due to rubbing or exposure to chemicals or heat is one sign that the sling should not be used.

Loose threads or holes in the outer sheath are also signs that the sling should not be used.

Spansets being a plastic product are prone to damage from heat, UV radiation, chemicals (such as bleach, chlorine, acid, lime, etc), sharp edges, abrasive surfaces, and water. Care should always be taken to store spansets in a way that will keep them dry and away from chemicals, and ensure they are not dragged around the floor.

PYROTECHNICS should never be used on a truss that is only supported by spansets or other synthetic sling. I have seen many cases where a pyro has seriously damaged a sling even after many warnings to the pyro crews they will continue to use your slings to mount the pyro on, and cold fire pyro is a myth, these devices are still very hot at the device. Even if you can put your hand in the jet 3 feet away they will burn the slings if in contact with them.

The load rating of a spanset is indicated on the attached tag, do not use a spanset that is not tagged, the load rating will be in tons or Kg. SWL safe working load and the safety factor is 8:1

Like all slings the load rating of the spanset is altered by the way it is wrapped on the load. The wrapping factors are also

on the tag.

EC: Straight X1, Choke X0.8, Basket X2

Spansets should only be connected using shackles or hooks in good order, smooth and operating correctly. The bow of the shackle should be on the spanset and the pin on the metal (hook, ring, plate, etc), this allows the spanset to find their own center and reduces the chance of the spanset being damaged when screwing the pin into the shackle.

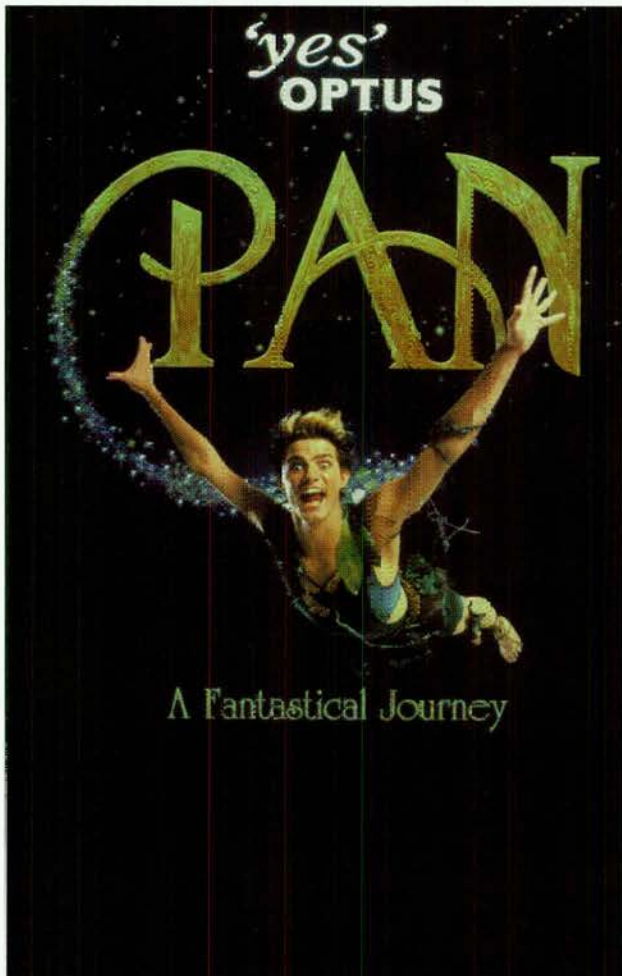
Spansets should only be joined using a shackle and should not be knotted. Knotting a spanset will severely weaken the spanset and will permanently damage the spanset in a way that is hard to detect by visual inspection.

Likewise care should be taken to remove twists when wrapping an object with a spanset. Twists also place undue strain on the spansets, and may cause damage that is hard to visually detect.

Spansets are a very safe and versatile part of a rigging system and with care will last for many years, follow the few simple rules and if unsure ask a rigging company or your supplier of rigging gear.

The information contained in this note is the opinion of Tiny Good based on industrial training as a rigger, and job experience. No liability is accepted for use or misuse of this information.

Behind the shows



PAN FIGHTS TO GET IN THE AIR

It's a Fantastical journey, in more ways than one. Connections went backstage in Sydney to find an incredibly complex production where pre production was continuing smoothly - despite the Producer's very public falling out.

Pan is the most ambitious theatre production yet undertaken in the southern hemisphere. It seeks to capitalise on a very visual story, and is loaded with stage effects and potentially magic moments.

The show opens May 14th after almost three months pre production in the Capitol - Sydney's largest and grandest theatre. During rehearsals the producers fell out and created a media nightmare for publicist Suzie Howie. Newspapers said the show's creator and producer Kerry Jewel was locked out of the theatre and was claiming copyright, while the financiers, German theatre conglomerate Musical Entertainment AG brought in theatre impresario Kevin Jacobsen to mediate. All while Jim Henson's Creature Shop - themselves finan-



cially involved - worked on their animatronics at the theatre.

Media reports have the dispute centred on budget blowouts, from six to nine million dollars - and a visit to the theatre shows why. It is an enormously technically complex show, and it's being created from scratch.

Pre-production and the theatre stalls are littered with work benches, computers, notes and work lights. We are there before lunch and the various departments are still winding up after a late night, but on stage the carpenters and mechanists are frantically resetting part of the scene for today.



The vibe is surprisingly good - and there are still Jewel family members involved in the production. Son Dean Jewel is the Technical Producer. He is upbeat about the wrangling behind the scenes.

Downstairs two technicians are working on some of the 24 creatures in the show, including Fribbits, Scassums, a Snurtle and a Grocer Bird. They have a large bank of battery chargers cranking away.

But the largest creature is already onstage. This 22' crocodile looks menacing sitting still under a worklight - in the show it must be

terrifying. Two operators crawl inside the thing, through an opening where one may expect to find the creature's arse. Operator one works the head and jaws, while number two works the power actuators for the tricycle wheel set and pulls wires to make the thing thrash around and appear to walk.

A third operator off stage uses a Futaba remote controller (most commonly seen operating model airplanes) to operate the beast's eyes and brows.

At rear of house sound editing is already underway. The show is unusual in that it uses pre-recorded music, and a staggering number of sound effects. An early problem faced by audio contractors System Sound was synchronising sound effects for the creatures which were operated by creature actors.

The sampler has space for 128 effects each triggered by a midi note. But how to transmit that note? Midi doesn't like being sent over a wireless system.

Enter a DTMF to MIDI system which is currently being used for one creature (The Grocer Bird), with the possibility that it will be required on another. This System Sound

PAN IN SYDNEY

solution equips each creature actor requiring a sound effect sample with a push button keypad like on a telephone, wired to a DTMF (dual tone modulated frequency) unit. This produces that quaint modem-like tone you hear when you dial a phone. If you have a DTMF decoder at the receiver end of the wireless system, it reliably receives the signal of a key push, which can then be programmed as a midi note! So dial one, get midi note 1, dial two etc. And, each midi note fires a unique sound effect.

The majority of creatures sounds (Honkers & Fribbits) are actually voiced by the creature actors themselves. Each of these creature actors not only wear In Ear Monitors for general foldback and listen-only comms (as they're sometimes under the stage or behind a piece of scenery) but also wear a Sennheiser SK2012 radio transmitter with an MKE2 boom mic so they can make appropriate creature sounds. The various creature sounds (live or samples) are then mixed on a Yamaha O1V where they're balanced, processed, placed in the stereo field and sent to the AudioBox for final routing and level control.

This was but one of many challenges faced by sound designer (and System Sound CEO) John Scandrett. Associate designer Kelvin Gedye arrives slightly bleary to tell me about the communications system. "Lucky we have some clever R & D people at SYSTEM like Ian Stevenson, Nick Reich and Cameron Herbert to help us make these gizmos work" he says.

The show uses what may be the most complicated comm's system seen on a stage in the region. There are 6 comm's loops, with 30 Clearcom stations - then a 24 station Motorola GP300 wireless 2 way system is fed in. There is a two-way full duplex system for two of the creatures that operators are inside of - namely the crocodile and the Sheldon (The Snurtle) suit operator so that the creature "captain" (kind of like their own personal stage manager) can maintain constant communication with them and give them directions regarding their location and orientation on stage.

The Sheldon also has a head operator who remotely controls his mouth and eyes and provides his live voice. The duplex comms system is also connected to a wired Clearcom station so that the Henson's creature director can keep tabs on what's happening and direct them from out in the house. (They don't and can't talk to the stage manager).

This system also applies to the IEM (In

Ear Monitors) the other creature actors wear, so that they can be given direction from the house and or the creature "captain". Naturally, because the IEM's are stereo, they get foldback on one channel and comms on the other. Also, because the Sennheiser Evolution series IEM's have a "focus" mode, it's possible to listen to the dual channel feed in mono in one ear and mix the relative level of the two sources using the balance control. (Sounds complicated? Yep!)

But all this pales into insignificance against the sound editing task. It seems that given the pioneering nature of this show, the music recording (at Song Zu) wasn't actually done to quite the exact lengths required for the scenes. No one should cast blame here, it is just the way it happened, and scene times and timing do change. That's usually why there is an orchestra on hand.

Enter Paul Hitchens, sound effects designer and ProTools wizard. He trades as Cyren Sound. Today he is busily editing some of more than 200 sound effects, sourced from everywhere. Some were even recorded in the theatre! Then there is the occasional and emerging need for a character to record their dialogue when a mask is found to impede the spoken part. More arduously, now a fully fledged defacto music editor, Paul is also cutting and stretching the score to fit the scenes with the assistance of Vanessa Scammell.

Never before has a program like ProTools (multitrack recording and editing software/

hardware on Mac or PC) been so tested..... for so long..... with so much pressure.....

Of course the stage manager also needs accurate music notation to call the show which Vanessa is doing on a daily basis once the latest music has been edited.

Imagine playing to cue more than 50 tunes and over 200 sound effects. Worse yet, imagine that the show - most shows - requires some to play asynchronously. Meaning, one is playing, while another - and another - start up and play independently.

"There's a lot of under scoring, it's more a film approach" says Kelvin.

Getting the final music and effects onto hard disk appears a far distant task when we are there, but once it is, the actual playout during the show will be reasonably orderly. Alix Campbell will be in charge of this, using AB Control software on a Mac to drive AudioBox, a multitrack system devised by Richmond Show Control. This allows eight independent tracks to be played to 8 independent outputs, at any time, in any order.

The software interface includes a mixer, matrix, and dynamic controls like EQ and time delay. So you may program a squawk sound to play now for - say - three seconds, while a music track is already running, then another sound effect to run. Up to a total of eight at once, and to any matrixed output. Whew!

The final link in the audio world is the actual live sound itself, and here we see

SYSTEM SOUND AUDIO CREW in Sydney-

(From left) Kelvin Gedye, Paul Tilley (front), Alix Campbell and Paul Hitchens



PAN IN SYDNEY

ENTECH award winning theatre sound engineer Paul Tilley at work on a Cadac F-Type console, supported by two wireless technicians. Jenny Morgan and Suzanne Jones are responsible for 24 Sennheiser SK 50/1046 and 12 SK 2012/1036 UHF wireless microphone/receiver combinations. And eight in ear monitors for the Creature actors.

I'd love to see the Duracell bill on this production!

The speaker system is mainly Meyer with a mixture of UPA-1C's, UPA-2C's, and UPM-1's for the vocal system and CQ1's, PSW's and MSL4's for the music and SFX system. System are also using Apogee SSM's for delays and foldback speakers and 12 x EAW JF80's for surround FX speakers. The system drive processing is a pair of BSS SoundWeb's which are providing practically all of the delay and EQ processing for the system as well as some pretty tricky pan/ delay processing for the vocal system. Amplification is mainly Yamaha H5000 and H7000 with a few Yamaha PC2002's for delays and SFX speakers.

-Julius Grafton

Pan's Automation

Pan's scenery is controlled by a diverse mix of methods - Counterweight fly lines, motor controlled portals (legs and other side masking) and moon effects, automated guided vehicles, conventional trucks, the "Flying By Foys" people flying systems (called simply "Foys" by the crew), and the motorised scenery rails. If fact, there are so many items to be moved, flown and tracked that it is easy to see why the technical rehearsals were planned over such a long period.

The five automated guides vehicles (AGV) are large scale pieces of scenery that are driven into position by battery operated motors. Essentially these are industrial forklift drives built into the set, and controlled via a hand control that is mounted to each truck. Using this, the set piece can be manually controlled. During the show, that item's sequence of moves will be stored into the memory of the hand controller and played back each night.

The motorised "portals" are controlled by APC Technology System Engineering's

control system that was originally built for Miss Saigon. Reconfigured in Adelaide by APC, Pan's Head of Automation - David Mansfield - uses this system to move the black legs or side scenery elements on/off stage as required. It is also used to create the "huge moon" effects used in the show.

There are five Foys systems installed for the show. Four of which are located next to each onstage, and the fifth mounted in lighting bridge one. Although we did not get a chance to see this system in operation, the crew we spoke to about it have been very impressed with its results.

Two fly persons are required for each line - one for up/down control and one for left/right control. Nine Pan crew have been trained at Foy's head office in Las Vegas.

-John Grimshaw

Other key PAN people -

- John Banis, Director
- Barry Quin, Assistant Director
- Ben Dickens, Designer.
- Elyse Jewel, Costume Design.
- Richard Martin, Technical Stage Director.

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By John Grimshaw

The first in a regular series about how women beat (or are defeated by) a degree of apparent gender bias in the industry. The idea for this regular feature came about as a direct result of a letter to Connections from **Melinda Fedorow** (see page 31) which lead us to establish that just 12.5% of trade who visited ENTECH were female.

Do you have a story to tell?

- Get in touch, john@conpub.com.au or call +61 2 9876-3530.

There has long been a perception in the entertainment industry that there are some jobs that women can not do.

Although this perception is changing, right now the blunt statistics would suggest that we still have a long way to go.

Even now, females entering the world of professional theatrical production tend to work the path of the Stage Manager to Production Manager and into Administration rather than the path that leads from Technician to Designer/Producer. While making sweeping generalisations like the ones above, it is important to note the individuals that have successfully broken the mould to become well respected in an area that has been traditionally dominated by men.

In her early thirties, Toni Glynn has recently been employed as the Head Electrician for Sydney Theatre Company - one of the most respected Head Electrician jobs in the country. It has taken twelve years of working in the industry to reach this position, and in that time she has seen misogynists at work, felt discrimination and touched a glass ceiling.

In working in this male dominated area, Toni has evolved her own approach to dealing with the other male technicians.

"You have to be a bit of a bloke if you are going to stay in the technical arena. You have to appreciate their sense of humour," she says with a laugh.

She is comfortable talking and working with men and maintaining the "blokey" approach. Blurring the distinction between male and female stereotypes works well for Toni. While some may say this is not an ideal position from a feminist point of view, it would be a mistake to interpret her strength as a lack of femininity.

Prior to taking the job at STC, Toni felt she had actually hit the glass ceiling for her part of the industry. She received three knock-backs for jobs that, according to hearsay, she lost due to her gender. As a highly competent and experienced technician, these knock-backs would have been quite disconcerting, and in some part lead to her work in film lighting.

Working in the film industry has been an eye-opening contrast to the world of theatre. Female technicians are about as common as reliable politicians. On the set of Mission Impossible 2, Toni found that the technicians she was working

with were, at first, a little unsure of how to treat her.

"You could see the fear in their eyes," she quips.

They were offering to pick up and move heavy items for her etc. Not because she couldn't do the work, but because the men were not used to working with a capable woman. Eventually they learned that she knew a thing or two when they moved into the studio and started using dimmers, desks and lamps - equipment that she was familiar with.

In her time in corporate theatre, Toni personally come across direct sexist attitudes only once when she was working for a man that seemed to delight in making her look foolish.

She has heard about a case in the film industry of someone who liked to employ his girlfriends to be technicians, and then not let them do a technician's job. However, it is more the case that woman do not tend to work in the technical aspects of film due to the sheer physical nature of the work.

"If I had to work in film for six months, I would have to take six months off to recover."

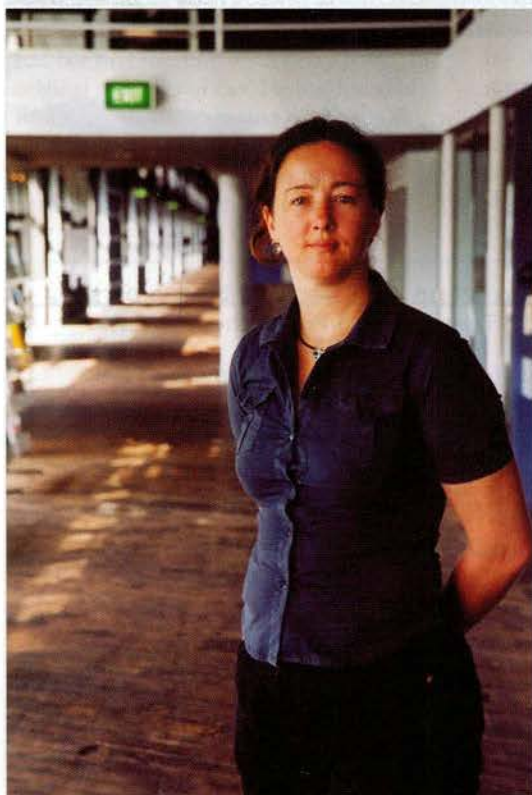
"I just don't have the physical strength required for lifting 12 and 18kW (fittings) all day, every day."

In any case, due to the money involved and scale of film production, this kind of work also involves so much more politics and networking than theatre. People tend to work in theatre because they enjoy the work - you just have to just look at the pay scales to prove that. Whereas film work pays considerably more, but requires a lot more physical work to maintain a living.

In time, she aspires to produce theatre. Given her experiences to date, this is not an idle whim, and she is willing to take the time needed to make this step. In any case, female technicians that choose to follow a similar path may find the going just a little easier - thanks to Toni.

Introduced to theatre at high school, Toni finished high school and had aspirations to be a journalist - however her father threatened to never speak to her if she did. Not having the marks or desire to pursue her second option of law, Toni decided to do the technical theatrical course run by Queensland University of Technology.

From QUT, Toni started working professionally in venues around Brisbane, and then made the move to Sydney and into the technical course at NIDA. Interestingly, she has a unique perspective of being able to compare these two institutions, and at the time QUT gave more hands on skills, while NIDA gave her more management skills.





The Man Who Came to Mix

Guest mixers and how to survive them

What do you do when the band that has rented your system has someone they want to do the mix? If it's a competent sound person, one you are happy to hand over your system to, then that's fine. You can relax and let someone else do the work and have the responsibility, while you just sit around looking cool!

But we all know that's usually not the case.

Picture this scene, one that must be repeated night after night, in thousands of gigs around the world:

You've loaded in, set everything up just the way you like it, looking forward to the gig, and then this guy with every possible part of his body perforated by metal rings, green hair, and snot dribbling out of his nose comes up to you and says "Hey man, I'm mixing the band." And your first thought is - Well, I don't think so.

Look, I know that you're not supposed to judge people by their appearance, but the simple fact is that everyone does. There are lots of things you're not supposed to do, from driving too fast through to avoiding taxes, but still people do them. Why should you be the first to do the right thing?

So you try to draw the guy out, to get some information on what experience he's had, has he ever used this type of rig before, has he done this room before, that sort of thing.

"Have you been mixing the band long?" you ask.

"Er, no man, I've never mixed before. But it's like, er, when the band got this gig they called me and said I could mix because I knew the songs. Anyway I did a load in once for The Fudgepackers at the Bucket o' Slops, so I know how it's done."

Yeah right. So you're supposed to let this guy loose on at least 100 grand's worth of PA system, someone who admits he's never done it before? In what other industry would you be expected to let someone with zero knowledge be responsible for looking after 100 grand of your money. OK, OK, let's leave the banks out of this! It's a bit of a quandary, isn't it. Everybody has to learn but do they have to learn at your expense? Still, at least knowing that you don't know is the first step on the path to knowledge, grasshopper.

At a heavy metal fest I did once, there were a whole string of guys mixing their mates' bands. Some were competent, some muddled their way through, and one guy mixed half the set with only the vocals coming out of the rig. I had left him down at Front of House with a quick run through on the console, then gone up to check on monitors. Everything was labelled so I figured he couldn't go far wrong. The vocals were running straight to the Left and Right masters, while the instruments went to the subgroups. I usually set things up this way so that the announcements and whatever could keep going uninterrupted during changeovers while the subgroups were down. Things seemed to be as good as they were going to get in the monitors, which were holding up quite well against the wall-to-wall Marshalls onstage, so after a few songs I wandered back down to F.O.H. and stood behind the guy mixing. It sounded a bit thin.

"Is everything OK mate?" I asked

"Sure," he replied

"Got everything you need?"

"Yeah, I think so."

"Are you sure you don't need any of these?" I asked, as I leaned over his shoulder and pushed up the subgroup faders. Wham - now it sounded like a heavy metal band!

"Wow, great," he beamed, "Is that what they're for!"

I guess I shouldn't knock him - those guys have bought a lot of my books!

Worse are the ones who know just enough to truly wreck your system.

My pet hates are the guys whose first words are "I hate processing - never use it, mate" then switch out everything and drive the system until: (a) the audience covers down the back of the room, (b) the bar staff's ears bleed, or (c) the speaker cones leap out into their lap. Or rather would have done if there hadn't been a couple of dbx 160s hidden away in the amp rack!

No-one ever pulled on a gun on me, though, but the live audio pages of the web are full of stories about PA owners in the States being held off at gunpoint while trying to stop the band's mixers trashing the system! Thankfully we haven't got to that stage here. (Pop quiz - name the four US states beginning with O: Ohio, Oregon, Oklahoma, and Omigodhesgottagun)

I was discussing this problem with Sid Kidman, another Connections contributor, at ENTECH, and Sid was detailing an experience with a wannabe mixer just like our Cecil Snot.

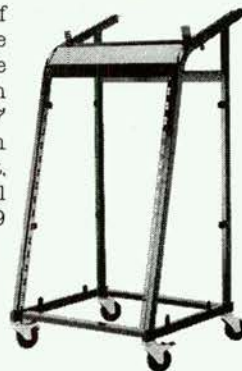
We pondered this question long into the night thanks to the bottomless Connections bar tab, and my solution was this: Always carry a dog lead in the truck for just such an occasion. At the start of the gig, clip it through one of the rings in his nose, and say "OK Cecil, it's all yours; let 'er rip. But every time you stuff up, I'm going to jerk this hard. Got it?"

I reckon that would make him very amenable to all of your suggestions regarding the mix!

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USING EFFECTS

(Effects, part 5, Extract 25)

Effects are just that - effects. They help you to enhance the sound of the various instruments to bring life into the mix.

They can add a feeling of space and depth, as we mentioned before, plus change the sound of instruments and vocals, and add excitement. How you use them is up to you - that's what the band pays you for.

Delay Effects

Here are some typical uses of different delay settings:

- 1 ms (millisecond) through to 16 ms, with a little modulation, will give you a gentle chorus type effect to a hard metallic flanging effect, by adding in more feedback or regeneration.
- 16 ms to 25 ms delays give a double tracking effect, which may be made more realistic by a very small amount of modulation. This simulates the inevitable differences that occur in real double tracking, due to things never being played or sung exactly the same way twice.
- Delays up to about 50 ms are not perceived by the ear as 'echoes' but as a gradual 'thickening' effect, and are very effective making instruments or voices appear 'fatter' without actually being louder.
- At 80 ms to 100 ms, depending on the person, the car starts hearing definite separate echoes, similar to the 'slap' echoes from the rear wall of a large room.
- From 200 ms onwards the discrete echoes can be used as special effects - in time with the beats of the music, for example.

If you're using long delays, don't have too many repeats dialled up as it can muddy up the sound of the vocals, with the echo of the previous words cluttering up the sound of the next words.

Reverb effects

Reverb programs often have names like 'Small Room' 'Large Hall' 'Warm Plate' 'Dark Auditorium' and so on, in order to try to convey some of the various textures in the sound. Don't worry what they're called, just find the ones that sound 'right' to you. You can frequently rename them to whatever you like, anyway.

You might think that a Large version of a Small Room sounds best on the drums, whereas someone else may prefer a Gated Reverse Reverb on them. Different styles of music have a lot to do with the type of effect required.

Listen to records and work out what effects are being used on them, then try them

out at your next gig. Go and listen to what other sound engineers do with their effects - one of the first things you learn in this industry is that you can always learn!

With the proliferation of reasonably priced digital effects units now, you can have live sounds that were just wishful thinking a few years ago.

You can have a Compressed and Gated Reverb on the Snare Drum, and a wide Stereo Large Room on the rest of the drums, plus a little Chorus for some 'sizzle'; a short compressed 'double tracking' type delay on the Lead vocals, with a longer one slightly in the background, and maybe a Bright Hall Reverb as well; a slight Chorus on the backing vocals plus a short warm Reverb; the list is endless, the choice is yours.

Effect in Place

At the start of this chapter, I mentioned that the effects are usually run from the Auxiliary sends of the console. However, if you are short on available sends for all these, you can always insert the effect on the actual channel using the insert points on the console, or inserted into the groups. Just bear in mind that by doing this, only that particular channel or group can access the effect. With the affordably priced effects units available today, you can economically put together a very useful set of discrete effects units to cover just about everything.

If you decide to use this method on some effects, you will have to mix the original signal and effect on the actual unit, rather than on the console as previously discussed.

This means that instead of having the Mix control on the unit set on 100% effect, as you would if you were using the console sends and returns, you have it set on maybe 70% original, 30% effect. Listen and use your judgment. Less is probably better than more, as you may run out of hands to pull these things down in between songs. If the effect is subtle you can probably leave it up in between songs. See 'Midi Control of Effects' further on in this chapter.

Some typical choices for this 'Effect in Place' technique would be Kick drum, Snare drum, Lead vocal, and Backing vocals (on a sub group).

All these things have specific effects requirements that are not always possible when using, say, a general reverb setting for all the drums. The snare may sound much better with a reverse gated reverb, but the other drums probably won't.

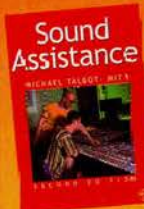
- Next month *Midi control of effects, and more.*

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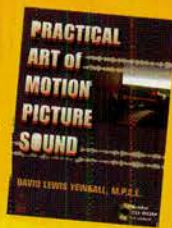


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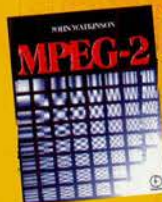
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New South Wales

#Sharp	Jeff Cripps	+61 2 9153 9988	24 Track Analog 8 Track Digital	
Villian	Jeff Cripps		Jeff Cripps	CD
Jay Justin	Jeff Cripps		Jeff Cripps	CD
The Bell Hops	Jeff Cripps		Jeff Cripps	CD
Shoogah Babes	Jeff Cripps		Jeff Cripps	Demo
Astro Girls	Jeff Cripps		Jeff Cripps	Demo
Aphek Studio	Greg Dixon	+61 2 9876 8170	16 Track 1" Analogue + H/D + Soundcraft Ghost.	
Space Doctors	Band		Greg Dixon (E)	Demo
Backy Skank	Simon Smith		Greg Dixon (E)	Album
K-Thwack	Band		Greg Dixon (E)	Album
Aerial	Band		Greg Dixon (E)	Demo
Leon Stemming Group	Band		Greg Dixon (E)	Album
Continuumusic	Nikk Carmichael	+61 2 9905 0010	24 Track 2" Analogue + Digital Recording	
Gladys the Groovy Mule	N Carmichael		P Kolbe/K Shearer	Album
John Brownrigg	N Carmichael/J Brownrigg		Paul Kolbe	Demo
Angry Anderson	N Carmichael		P Kolbe/N Carmichael	Demo
Damien Gerard	Marshall Cullen	+61 2 9555 1710	2" 24 Track/Pro Tools 24	
Bob Sledge	Dave Reynolds		Russ Pilling	EP
Lowride	Band		Russ Pilling	Gyo 5/EP
Bhavani	Mike Stavron		Kristian hill	Overdubs
Jimmy Vargas	Jimmy Vargas		Russ Pilling	Tracking
Faher	Marshall Cullen		Russ Pilling	Gyo 5 Track
Feral Studio	Jon Robertson	+61 2 6299 3224	16 Track Analogue Digital Mastering	
Paul Wesley	Jon Robertson		Jon Robertson (E)	Album
Mr Fista	Band		Jon Robertson (E)	Demos
Various(Caught in the Act 2000)	Various		Various	Album
Kandi Doz It	Jon Robertson		Jon Robertson (E)	Demos
Festival Mastering	Suzanne Hill	+61 2 9395 8070	Mastering Suite	
Pnau	Nick Littlemore/Peter Mayes		N Littlemore/P Mayes	Album
78 SAAB	Greg Wales		Greg Wales	Album + Single
Dig	Dig		Mark Worral	Live Album
Swirl	Daniel Denholm		Daniel Denholm	Album
Not For You	Russel Pilling		Russel Pilling	Album
Festival Studio "A"	+61 2 9395 8070	Recording Studio Analogue		
Leonardo's Bride	Justin Stanley		Justin Stanley	Album
Swirl	Daniel Denholm		Daniel Denholm	Demos
Tullipane	Daniel Denholm		Daniel Denholm	Album
Grinspoon	Jonathon Burnside		Jonathon Burnside	Single
The Tenants	David Trump		David Trump	Album
Floating Point Studios	Peter or Martin	+61 2 9318 1550	64 TRK Pro Tools Mix + 32 Channel Spirit Ghost Console, 16 1/0 H/D Recording	
Mc Trey	Mc Trey		Peter Mayse	12' Single Mixdown
Paul Smith	Paul Smith		Martin Eckel	EP Release
Bliss n' Esotericism	Adam/Jonathon Nutley		P Tzanetos/M Eckel	EP
Hindsong Studio	David & Lyn Hinds	+61 2 6582 7070	Digital Project	
Balance	D + L Hinds		D + L Hinds	Album Tracks
D+L Hinds	Hinds		Hinds	Shopping Ctr.TVC S/track
D+L Hynds	Hinds		Hinds	Blue Water Pizza TVC Soundtrack
Hullabaloo	Geoff	+61 2 9906 2933	Post Production/Music 3 x Post Suites	
Brent Rees	Glenn Heaton		2 x Documentaries/Post Mix	
Greater Union	Geoff McGarvey		TV & Radio Commercials	
ABC Audio	Dan Bowers		Various Talking Books/Retail Releases	
Disney	Glenn Heaton		Live Shows for Asia	
JMF Recording Studio	Fran Esther	+61 2 9790 4097	24 TRK 2" Analog 24 TRK ADAT Grand Piano	
Backbeat	band		Guy Saminaden (E)	Demo
Bill & Peter Croft	Guy Saminaden (E)		Album	
Slim Dusty	Rod Coe		Glenn Phimister (E)	Mixing
Graham & Naomi	Graham Dyer		Ralph Esther	Demo
Loko Llama Recordings	Abel 'el toro	+61 2 9519 4355	Dance Music Specialists	
Paul Mae	Paul Mae & Abel 'el toro		Paul Mae	All Systems are go
Sidewinder	A. 'el toro		Mat	Triphop Remix



Skunk Hour	A. 'el toro	H J Kim	'Breathing/eyes' Remix
Johnny Young	A. 'el toro	Adam	'All my Loving' Remix
Collette	A. 'el toro	Abel 'el toro	'You can Run' Remix

Megaphon Studios Shane Fahey +61 2 9550 6576 GreatAnalogue Tracking Studio for Album Recordings	1224	Jason Blackwell	Album
Steve Clark	Steve Clark & Shane Fahey	Shane Fayey	Album
The Millers Tale	steve Clark	Shane Fayey	Album
Chris Abrahams	Chris Abrahams	Guy Dickerson	Solo Piano Album
Louis Tillett	Tony Cohen	Tony Cohen	Album

Paul Bryant Mastering +61 2 9874 3133 CD Mastering			
Wongawilli	Rob Speconga	Paul Bryant	CD Album
Davic Westmore	Jeff Cripps	Paul Bryant	CD Album
Lawrence Borg	Lawrence Borg	Paul Bryant	CD Album
Mark Smith	Grant Luhrs	Paul Bryant	CD Album
Kerrie Sweeney	Jeff Cripps	Paul Bryant	CD Album

Q Recording +61 2 9212 4851 SSL G a + 4040 2" Analog			
Nitocris	Lachlan Mitchell	Lachlan Mitchell (E)	Album
Sunk Loto	Paul McKercher (E)	Album Track ng	

R & R Recording Robert Zimola +61 2 9672 4494			
Skeptic	Skeptic	Nick Haertsch (E)	EP
Nuskin	Nuskin	Rob Zimola (E)	Demos
32C	Nick Haertsh	Nick Haertsh (E)	Demos
Big Top	Big Top	Rob Zimola	Demos

Rockinghorse Anthony Lycenko +61 2 6688 4005 Neve V Series 48 Channel Console, Studer 24 TRK Machine			
Pro Tools Mix 24			
Palo Alto	Anthony Lycenko	Anthony Lycenko (E)	EP Mixing
F.A.T.S	Scott Tinkler	Anthony Lycenko (E)	Album Track & Mixing
Kailash	Kailash	Michae Worthington (E)	Album Tracking
Lancaster	Anthony Lycenko	Michae Worthington (E)	EP Mastering
F.A.T.S	Scott Tinkler	Michae Worthington (E)	Album Mastering

Sony Music Studios Ross A Hern +61 2 9383 6320 Multi Track Recording Mastering & Video Production.			
Art Phillips	Adrian Bolland	Adrian Bolland (E)	Tracking Album
Alister Spence Trio	Alister Spence	Ross A Herr (E)	Record & Mix album
Baecastuff	Band	Ross A Herr (E)	Record album
Featherstone	Richard Austin	Simon Tonks (E)	Record Album
Rebecca Rennie (Freya)	R Rennie	R A'Hern (E)	Record & Mix album

Soundwarp Meredith Brooks +61 2 9905 7144 Mastering			
Willow Connection	Trisha Watts	Meredith Brooks	Album
Neil Sutherland	Neil Sutherland	Meredith Brooks	"Star Struck" TV Promo
Christian City Church Hobart	Tim Scott	Meredith Brooks	Album
Imperial	Russell	Meredith Brooks	Album
Sulk	Sulk	Meredith Brooks	EP

Studios 301 +61 2 9698 5888 Mixing and Recording.			
Midnight Oil	Band	Magoo	Single
Amiel	Stuar't Chrichton	Brent Clark	Album Mix
Christinne Anu	Stuart Crichton	Brent Clark	Album Mix
Sean Ikin	Paul Gomersall	Paul Gomersall	Album Mix
On the Beach	Christopher Gordon	Christo Curtis	S/Track-MiniSeries

301 mastering Jaquie Espie +61 2 9211 7301 Mastering Facility			
Bardot	Michael Szumowski	Don Bartley	Single
Deadstar	Deadstar	Steve Smart	Single
Leonardo's Bride	Justin Stanley	Don Bartley	Forthcoming Album
28 Days	28 days	Steve Smart	Single
Nitocris	Lachlan Mitchell	Don Bartley	Forthcoming Album

Tiger Recording Lynda/Julie +61 2 9922 4700 32 Track Sonics Solutions, Euphonix CS3000			
Leah Haywood	Paul Begaud	David Hemming	Album Mixes, B Sides
Bardot	Michael Szumowski	David Hemming	Single
Wendy Mathews	Michael Szumowski	Michael Szumowski	Demos

Top Cat Recording Studio Brad Wann +61 2 6628 C233 Automated 24 TRK Analogue + Pro Tools Mix 24 45			
Dead Man Groove	Band	Brad Wann (E)	Album Mixing
Dream Seeds	Band/ Brad Wann	Brad Wann (E)	Album Mixing
Six Seconds Slower	Brad Wann	Brad Wann (E)	EP Mixing
Col Finley	Col Finley	Brad Wann (E)	Single /Nashville Production
Accordian Crimes	Brad Wann	Brad Wann (E)	EP Tracking

CHARTS



Artist: Bardot
Single: Poison
Producer: Michael Szumowski
Engineer: David Hemming
Assistant: Danielle McWilliam
Studio: Tiger, Sydney.



Artist: S2S
Single: What's a girl to do?
Producers: Pam Reswick & Joe Muscat
Mixing: Chris Lord-Alge
Studio: Image Recording, LA



Artist: Killing Heidi
Single: Live without it
Producer: Paul Kosky
Engineer: Paul Kosky, additional engineering by Andy Baldwin.
Studio: Periscope Studio
Mastering: Leon Zervos at Absolute Audio, New York

NEWS

Foxhole leaves home

One of Brisbane's best home studios has just left its Rochdale home. Foxhole Audio Productions have moved into a real! studio that they have built at Albion, where engineer Mick Raynor and sis Terri have all but finished the place.

All four rooms (control, live and 2 vocal/iso booths) have been acoustically designed by Bruce Colledge of Brisbane's Audio Art.

The control room is generous, with space for all your hangers on, boy/girl friends, and relatives.

The Raynor siblings offer a nice touch, they say that young freelance producers and engineers often feel a little intimidated in a new studio, so Mick will tailor a package with or without assistance.

• Call them on +61 7 3262-5150 for more.

BITS AND BYTES

• Sydney's **Velvet Recording Studios** report a busy month, new engineer Damien Chambers has mived and tracked demos, while bands Allniters and Skunkhour were hard at it. Call them on +61 2 9264-3420.

• Meantime, **Edensound Mastering** are working their Focusrite Blue system nice and hard, with a platinum disk hopefully headed their way for mastering Killing Heidi's Mascara single. +61 3 9682-9066

Join us on these pages. Call Sarah on +61 2 9876-3530.



Trackdown Digital Mike Duffy +61 2 9550 6890 64 Tracks, Post & Music.			
Serenades (Feature Film)	Davood Tabrizi	T Ryan (E)	Mix & Music Record
On the Beach	Chris Gordan	Simon Leadley (E)	Feature Film Mix
Walk the Talk (Feature Film)	Todd Hunter	T Ryan (E)	Mix/Music/Record
Flipper 2	Yoram Gross/EMTV	D Candusso/T Lista	Dialog Rec./TV Series
Tabaluga 2	Yoram Gross EMTV	D Candusso/T Lista	Dialog Rec./TV Series

Troy Horse Mickey Levis +61 2 9905 7144 24 Track Fully Automated			
Karen Baker	Baker/Levis	Mickey Levis (E)	Album
Trevor Knight	Band	Colin Wright (E)	Album
Fire Hose Reel	Band/Trump	Dave Trump (E)	EP
Jigzag	Peter Kennard	Colin Wright (E)	Album
Directions In Groove	Saunders/Worrall	M Worrall	Mixing Live Album

Velvet Sound Recording Studios Dave McCunn +61 2 9267 2915 Track 2" & Pro Tools Mixplus			
Welter	Elliott Weston	Tony Wall	Album Tracking
Skunkhour - PR	Paul Gonunersall	Paul Gonunersall	Album Tracking
The All-Nighters	Band	Tony Wall	Album Tracking
Sulk	Band	Tony Wall	EP Track & Mix
Formal Dekka	Mark Thomas	Mark Thomas	Album Mixing
Lazy Susan	Greg Wales	Greg Wales	EP Track & Mix

Queensland

Stargate Music Productions Dash Mclvor +61 7 3260 6294			
Angelita Gunston	Dash Mclvor/David Champion	EP	
Lisa Lawson	Dash Mclvor	Dash Mclvor	Single Release
Rob Black	Dash Mclvor	Dash Mclvor	Album
Mark Tempany	Dash Mclvor	Dash Mclvor	Remixes/Edits
Brett Goodwin	Dash Mclvor	Dash Mclvor	Demo

Taramalin Sound Allan +61 7 3208 9736 16 Track Analogue 24 Track Digital			
Palma Rosa Poets Part 3	Trisha Anderson	Craig Loyns	Album
Joey	Grant Ranger	Allan Laney	Demo
Ben Kerswell	Ben Kerswell	Allan Laney/Craig Loyns	Album
Slav	Slav	Allan Laney	Demo
Kelly Down & The Shakers	Allan Laney	Allan Laney	Album

Vandersound Eric Vandersande +61 7 5546 8100 All Digital + Valve OZR Masterting-Training			
Chin	Eric Vandersande	Dave Whitmer	Recording EP
Ian Francis	Eric Vandersande	Andrew Hines	Album Tracking
Blazay	Eric Vandersande	Christine Walls	Demo Recording
oz Deli	Eric Vandersande	Toby Masterson	Demo Edit
Lief Davies	Eric Vandersande	E Vandersande	Demo, Rec/Mix/Masters

Victoria

AD Studio Lindsay Buckland +61 3 9372 6828 Recording/Editing/Mixing/Mastering			
Lindsay Buckland	L Buckland	Brett Taylor	Album "Getting Karma"
Lindsay Buckland	L Buckland	Brett Taylor	Album "Retro Ride"

Audrey Studios Craig Pilkington +61 3 9415 8599 Analog, Digital, Hard Disk, CD Burning, Fully locked to MIDI Sequencing/Sampling. Automated mix.			
Simone Hardy	Craig Pilkington	Craig Pilkington	Single B Sides
Archie Roach	Craig Pilkington	Craig Pilkington	Demos
Ruby Hunter	Michael Thomas	Craig Pilkington	Album
Barb Waters	Craig Pilkington	Craig Pilkington	Album
Killjoys	Craig Pilkington	Craig Pilkington	Album

Back Beach Recording Mark Rachelle +61 3 5988 6948 24 Track 2" Class A Automated Mixing			
Frenzal Rhomb	Band	D.W Norton	Album Demos
Superheist	Band	D.W Norton	Album Demos
Abremelin	D.W Norton	D.W Norton	Album
Gredo	Band	Hibberd/Rachelle	Single
Blue Line Media	Band	Hibberd/Norton	Demos

Chris Wilson Recording Chris Wilson +61 3 9544 7026 24 Track ADAT 24 x 8 Mackie Desk CD's + Demos			
Johnny Young Band	Band & Chris Wilson	Chris Wilson	Album
Mick Pealing	Bob Thorpe	Chris Wilson	Demos for Publisher
Boom Tribe	Chris Wilson	Chris Wilson	Album

Crystal Mastering Joe Carra ++61 3 9326 2318 CD Mastering Facility			
Tommy Gun	Band	John Ruberto (E)	Mastering Album
Mirth	C McKenzie	John Ruberto (E)	Mastering Album

Tracking Guide



Sith Lord	Band	Joe Carra (E)	Mastering EP
Frontside	Band	John Ruberto (E)	Mastering Album
Underside	Band	Joe Carra (E)	Mastering Singles

Dex Mastering Adam Dempsey +61 3 9372 2266 Pro-Mastering since 1982, Sonic Solutions + Custom

Analogue.			
Guernica	Band	Adam Dempsey (E)	EP
Shelly Atkins	Stan Satour	Adam Dempsey (E)	Album
Urban Principle	John Phillips	Adam Dempsey (E)	Album Remastering
The Satellites	Graham Thomas	Adam Dempsey (E)	Album
Crazy Baldheads	Tim Prince	Adam Dempsey (E)	Album

Indent Music Dave Mc Dougall +61 3 9381 2636 64 Track Pro Tools, Specialises in recording bands live to multi-track, 5 separate recording areas.

KTV	D Mc Dougall	D Mc Dougall	CD High Volume Definition
Various	D McDougall/Asphalt Records	D McDougall	CD Sampler
Blue Grunwalds	D McDougall/Band	D McDougall	CD Release
Atreyu	D McDougall	D McDougall	Pre Production for CD
Rolling Blue	D McDougall/Band	D McDougall	CD EP

Lo Ricco Sound Studios Marcello +61 3 9701 6220 32 Track Logic Audio Platinum/16

AD	D. Bleieri/M Lo Riccco	M Lo Riccco (E/PR)	Demo
Brad Meekoms	Brad Meekoms/ M Lo Riccco	M Lo Riccco (E)	Demos
La Vida Loca	Band/ M Lo Riccco	M Lo Riccco (E)	Demos
Lisa Criton	Lisa Criton	M Lo Riccco (E)	Demos
Nick Quinn	Nick Quinn	M Lo Riccco	Backing Track Recording

Metropolis Audio Sally Rodrigues +61 3 9696 2111 48 Track Digital & MFX Digital Workstation

Herdsmen	Wei Bin	Scott Hemming (E)	Film Score Mix
Bootmen	D Perry/C Skubiszewski	L Maddy/A Baldwin	Film Score Mix
Deadstar	MCM/Austereo	Steve Delmenico (E)	TV Special & Webcast

The Ranch Norman James +61 3 9712 0136 Studio/Farm

L'Heure	Sean Claude	Norman James	CD Album
Fouad	Fouad	Norman James	Demos
Ian Blackeney	Ian Blackeney	Norman James	Radio Single
Various	A.M.M.A	Norman James	Eat'M 2000 CD
Various	A.M.M.A	Norman James	PopKomm 2000 CD's

Newmarket Studio Ben Hurt +61 3 9329 2877

Alex Burns	Alex Burns/ Ben Hurt	Ben Hurt (E)	Album
Rainmaker	Rainmaker/ Ben Hurt	Ben Hurt (E)	EP
Peter Tulloch/West Bulldogs	P Tulloch	Chris Core	Theme Song
Tim Hill	Tim Hill/ Ben Hurt	Ben Hurt (E)	Album
Taran Carter	T. Carter	B Hurt (E)	Olympic Swimming Team S/Track

Senn Music Recording Studios David Senn +61 3 9701 5303 24 TRK Digital Rec. Logic Audio, 48 Ch.

Behringer Mixer Grand Piano Rode classic Mic			
David Senn	D Senn	D Senn (writing)	Instrumentals/Soundtracks
Tania G	David Senn	David Senn	Demos
Des White	David Senn	David Senn	Album
Christine G	D Senn/T Senn	David Senn	Album
Lez Salisbury	Lez Salisbury	David Senn	Album

Studio 52 Paul Higgins +61 3 9417 7707 Studio A: 48 Track Analogue/Digital Studio B: 48 Digital

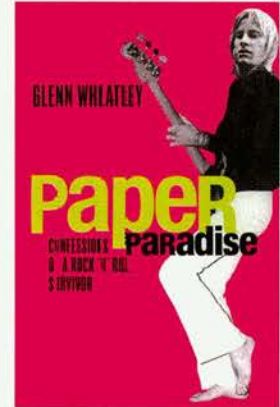
Delta	Trevor Carter	Andrew Meakes	Mixing Album
Wayland	Chris Thompson (Triple J)	Andrew Meakes	5 Track EP
Christian Samuel	Christian Samuel	Mitch Kenny	Album
Avenue (Tim Wheatley)	Trevor Carter	Andrew Meakes	Demos
Froglyns Tethys	Ben Edgar	Mitch Kenny	Demos/Pre-Production

True Form Recording Neil Gray +61 3 9391 0907 24 Track Analogue, Digital + Hard Disk

Jambo Jambo	Leona/Neil	Neil Gray (E)	Album
The Big Palookas	Neil Gray	Neil Gray	Demo
Squair	Band/Neil	Neil Gray (E)	EP
Allegro 1 Dance Studio	Joanne Richards	Neil Gray	Digital Editing
Deadpan	Neil/Band	Neil Gray (E)	EP

Wombat Rd Recording Studio Barrie Clissold +61 3 5145 4204 24 Track Digital + 16 Track analogue-Full

Digital Mastering-CD Replication			
Jim Taylor	J Taylor/B Clissold	Barrie Clissold (E)	Demo CD
"Y"	"Y"/B Clissold	Barrie Clissold (E)	Demo CD
David Arden	D Arden/B Clissold	B Clissold (E)	Demo CD Tracking
Raised Voices	J Candy	Barrie Clissold (E)	Album Tracking



If you're an observer of the Australian music industry you'll love Glenn Wheatley's book, *Paper Paradise*.

Dispensing early with his guitar days in the Masters Apprentices, he pushed a chart busting act into the USA. His journey with LRB is mapped through endless lobbying of radio stations, record company flunkeys and coked out industry heads. Wheatley bravely fesses up to a period of personal coke excess, revealing how it screwed up a big deal.

His relationship with John Farnham is fully covered, along with painful negotiations with the singer's lawyers at the time Wheatley was fighting off bankruptcy actions in the early 1990's. He tells of betrayals and medication, and tips a small bucket over Michael Gudinski, and a larger one over Harry M. Miller.

The closing chapters in the book details the fight that Wheatley and his obviously smart wife Caynor endured to starve off almost certain financial ruin after they had a rush of blood to the head with the Ivy nightclub. The club went millions over budget, then cost far too much to run, and the Wheatley's were caught in the Farrow Group collapse.

There's a good stab at some very mediocre managers of some now very diminished record companies.

-JG



[FOOTNOTE FROM TRIP]

We end our coverage this month with some important news from Columbia or somewhere near. Readers may recall that we recently published an excerpt from the adventures of Trip Khalaf, mystery man and sound engineer to the rich and fatuous. His monthly page in UK magazine *Total Production* is mandatory reading for us. This is his report on his new year's eve:

" My Millennium experience was all I hoped for, though most of it is still a bit hazy, and I have what appears to be a knife wound in my right thigh. The village near the ranch - Caatupatinga (pop. 350), which means something like 'Don't Shoot!' in the local Indian tongue - is slowly recovering.

Some of the population will probably never be found, but most are accounted for.

The two Lithuanian hookers, Olga and Kika, left a few days ago. They're good girls and the customs agents looked extremely jealous as we bid each other a fond adieu at the airport.

My friend Roberto, who owns the estancia where all this weird stuff went down, disappeared in his private jet yesterday. He just threw me the keys to the Range Rover and the rather imposing iron front gates, and said 'Be careful, amigo... I'd head North'.

It was an hour's drive from Asuncion International Airport to a small airstrip way outside of the city (Roberto likes to stay well below the national radar grid) and an hour up the Parana River in a prop plane. Olga and Kika were tired from the flight from Paris, but rallied when the first champagne cork hit the windshield.

Rancho 'Abogados Muertos' (Dead Lawyers) is almost its own country: a vast holding at the edge of the jungle. "

Tasmania

Woodstock Loft Doug Kelly +61 3 6391 2277 PARIS/ADAT			
Equinox	Doug Kelly	Doug Kelly	Album
Doug Kelly	Doug Kelly	Doug Kelly	Retrospective Historical CD
Aquarius Festival/Woodstock	Doug Kelly	Doug Kelly	Compilation CD

Western Australia

Bonsai Tom Thorpe +61 8 9246 4408			
RPM	T.T/Seeing Far	Tom Thorpe	Album
Mr Mac	Tom Thorpe/Keith Macdonald	Tom Thorpe	Album
Outcast	Outcast	Tom Thorpe	Demo
Gary Hanford	Gary Hanford	Tom Thorpe	Demo
Mike Blake	Tom Thorpe	Tom Thorpe	Album

Planet Studio's 48 track 32 Digital 24 Track Analogue SSL 72 Input			
Lee Bradshaw/Portfolio	Lee Bradshaw	John Villani	Album
Sonny Morsan	Sonny Morsan/John Villani	John Villani	Album
Hank Marvin	Hank Marvin	Les Williams	Album
Frenzee	Boyd Wilson	Boyd Wilson/John Villani/Les Williams	Single
Lash	Andrew Filipelli/Barry Palmer	John Villani	Single

Poonshead Rob & Sam +61 8 9339 4791 Music Recording & Mastering			
Chapter V	Rob Grant + Band	Rob Grant (E)	Album
Penelope	Rob Grant	Rob Grant (E)	Single
Klippspringer	Rob Grant + band	Rob Grant (E)	EP
Leon Ewing	Leon Ewing	Rob Grant (E)	Album
Down & Under	R + C Giles	Rob Grant (E)	Album

Revolver Vic Manfrin +61 8 9272 7505 32 Track Automated Analog & Digital			
Afterburn	Ben Glatzer	Ben Glatzer	Tracking
Bordello	Band/ Ben Glatzer	Ben Glatzer	Mixing
Greenroom	Band/ Ben Glatzer	Ben Glatzer	Tracking
Afterglow	Band/ Ben Glatzer	Ben Glatzer	Tracking
Overglow	Band	Vic Manfrin	Demos

South Australia

Fat Trax David Grice +61 8 8231 5199 Post & Music			
Teranoynol	Noel Bowden	David Grice (E)	Album
Crymson Fall	David Grice	David Grice (E)	EP
Blind Vision	Blind Vision	David Grice (E)	EP
Tommy	Tom	Matt Williams	EP
Fred Grice	David Grice	David Grice (E)	Album

"The Fridge" +61 8 8231 3588 16 Track Non Linear Digital-02R-Excellent Mic Selection.			
Joseph Williams	Nigel Sweeting	Nigel Sweeting	CD
Taz Razzle	Taz-Rod Martin	Nigel	Demo
Dogwater	Dave/Nigel	Nigel Sweeting	CD Book
Clint	Band/ Nigel Sweeting	Nigel Sweeting	MP3 CD Media Release
Michelle Pearson	Peter/ Nigel Sweeting	Demo	



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 MT&A (03) 9819-6455

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 Tek (07) 3239-4000

Classifieds

Only free if lodged by email, fax or post: email nic@compub.com.au, fax: +61 2 9876-5715, Post-PO Box 439, EPPING NSW 2121 Aust. Display/paid classifieds: call Nic, 1-800-635-514 Text: first 15 words free, then \$15 per 15 words or part

POSITIONS VACANT

SALES - Audio Visual. Professional audio visual installation company requires an experienced sales person. Full time position involves servicing current clients and ex-

panding client base in the corporate government area throughout Victoria. Good knowledge of audio/visual systems and products necessary with minimum 2 years experience in professional AV market. Send resume to Personnel Manager,

Ruttledge Engineering Pty Ltd, 199 Heidelberg Road, NORTHCOTE VIC 3070.

WORK WANTED

Based in Port Macquarie, a qualified schoolteacher is looking for a change of career in the direction of the Entertainment Technology industry. Willing to travel somewhat but this person is unqualified but

experienced in the use of all PA/Av situations. Phone 0407 217 115 anytime.

WANTED

AUSTRALIAN Tour memorabilia and paper goods wanted by private collector. Items include itineraries, stage passes, posters, handbills, picture tickets, live recordings, magazines (Juke, Go set, Soundblast, Spunky). Groups of inter-

est are - AC/DC, Cold Chisel, Angels, Rose Tattoo, Midnight Oil, Jimmy Barnes. Contact Leigh 0419 001 856, write to 125 Evan Street, Penrith NSW 2750. Email: LHarrison@npepan.uws.edu.au ENSONIQ TS10. Phone Doug Kelly (03) 6391 2277. Email: dougal@vision.net.au

RECORDING STUDIO FOR SALE

RECORDING Studio facility for sale in Sydney. Includes purchase of building, which contains control room, studio, office space, kitchen area and 3 other general-purpose rooms. Has all wiring in place. Price does not include equipment except for a NEC Ranger phone system. Located close to rail station and shops and is in prime development area. Price range \$270,000.00 to \$310,000.00. Call Ross (02) 9587 7711.

FOR SALE

2 x Urei LA22 Comp/Exo \$2,500.00ea, 1 x Urei LA12 Comp \$1,800.00, 2 x DBX 168A Dynamics Processor \$1,900.00ea, Any reasonable offer considered. Call Technicality (C3) 9737 0007.

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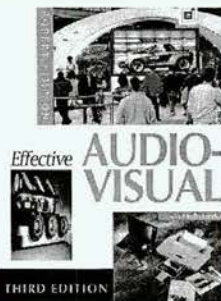
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