

Connections

The **Entertainment Technology** Magazine

SEPTEMBER 2000 A\$5.50 (inc GST)

The OLYMPICS BUTTON IS READY

Press this to fire up 14,208 channels of DMX, 970 automated fixtures and 658 conventional lights. Controlled by 14 Whole Hog consoles. We detail the technicalities behind the largest gig ever staged....



with **PRESENTech**



- MERLIN'S MAGNIFICENT OLYMPICS DEBUT
- UP MARKET WEDGES: A COMPANY CHOOSES
- **DRIVING THE BIG DESKS: PICTORIAL**
- MIDNIGHT OIL ON TOUR: BETTER WITH AGE
- OASIS BREAK NEW GROUND WITH VIDEO

Pro Audio draws new faces

SO TOUGH, EVEN INTERFERENCE IS AFRAID TO MESS WITH IT.

The UP4 Portable UHF Wireless Receiver

Not every shoot is a walk in the park on a sunny day. Which is why you need a receiver that's as tough on the outside as it is smart on the inside.

The Shure UP4 delivers crystal clear reception in even the most challenging locations.

- Frequency agility – over 100 selectable UHF channels
- Shure's Microprocessor-controlled Predictive Diversity
- Phase Locked Loop (PLL) circuitry
- Optimized IF filtering
- Tone key and noise squelch circuitry
- At least 10 hours of continuous operation from a single 9V battery

And it's designed to withstand real-life operating conditions.

- Extruded aluminum chassis
- Aluminum mounting box attaches securely to any NP-style and Anton Bauer® Gold Mount battery outfit
- Unique mounting design allows you to change the battery without removing the receiver
- Rugged carrying case holds complete UP4 Portable Wireless System with your choice of Shure UHF transmitters
- Innovative weather-resistant cover lets you keep going even if the weather thinks otherwise

For more information call:
Jands on (02) 9582 0909

or visit us online at www.shure.com

You have to perform in all sorts of environments. Shouldn't your receiver do the same?



SHURE®



©1999 Shure Incorporated

JANDS

Distributed in Australia by 40 Kent Road Mascot NSW 2020 Phone: (02) 9582 0909 Fax: (02) 9582 0999



Mackie's SRS1530 Active 3-Way Speaker System ...\$2995

Each
Includes GST
Suggested Retail Price



**..with audiophile accuracy
and output levels that can
bleach the tattoos off the
loudest thrash band.**

The First Affordable Active System with 3-Way Accuracy

If you shop music stores or browse the web, you'll discover that there aren't a lot of portable three-way sound reinforcement systems. Moreover, there aren't any active three-way systems designed for smaller venues.

We thought that was a shame... since a three-way system can deliver enhanced fidelity and detail to vocals and instruments that fall in the critical midrange frequency spectrum. A three-way system's perfect for churches, groups with vocal ensembles, lots of string or woodwind instruments - or anywhere that accuracy and fidelity are important.

So we set out to realize the potential of a three-way PA system by applying our active electronic and amplifier technology, a completely new type of integrated horn system, and some of the world's finest precision transducers.

When we got through, we had a system with audiophile accuracy and output levels that can bleach the tattoos off the loudest thrash band.

- Linear response from 40Hz to 20kHz at high SPLs
- High definition, high output, and wide dispersion
- FR Series tri-amplification: 500 actual watts RMS delivered to internal transducers
- Electronic equalization, time correction, and phase alignment
- RCF Precision Transducers
- 15-inch LF transducer with Inside/Outside heat-resistant voice coil and high-flux magnetic circuit
- 6-inch horn-loaded midrange
- 1-inch-exit compression driver
- Trapezoidal Baltic Birch plywood enclosure with rugged molded resin end caps
- Weight-balanced with side handles for easy carry and set up
- Full electronic and component protection circuitry

Need more information?

Free call 1800 50 20 15 for our latest Studio and Live Brochure or you can visit Mackie's website at:

www.mackie.com
for complete information on the new Mackie 1530 Active 3-Way Speaker System.



Australian Audio
SUPPLIES

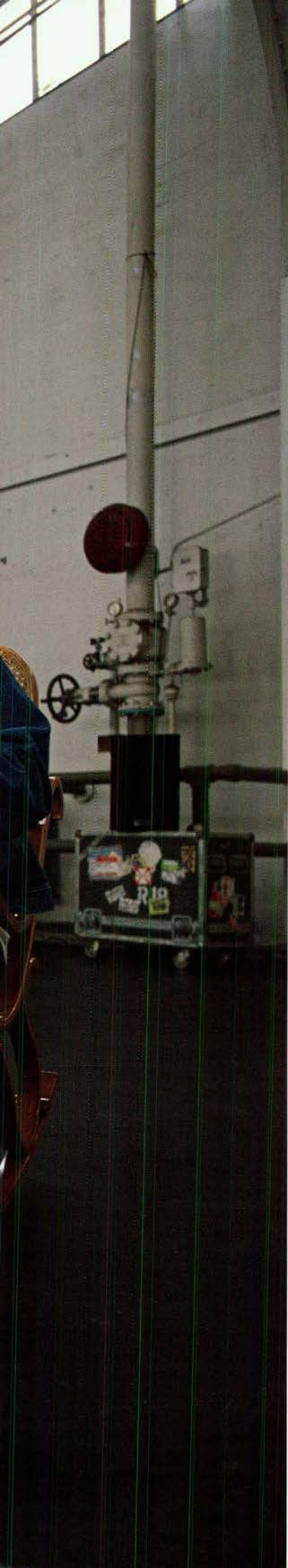
Mackie Designs is exclusively distributed in Australia by:
AUSTRALIAN AUDIO SUPPLIES • TELEPHONE (02) 4388 4666
EMAIL sales@ausaudio.com.au WEBSITE www.ausaudio.com.au



Made by gentle, sensitive
Mackies in
Woodville, USA

www.mackie.com





With all your Meyer Sound gear out there working for you, you'll need to find new ways to use that empty warehouse.

It might be time for a good hobby.

In the best of all worlds, your warehouse stays empty, with every piece of gear out there working. And with that in mind, it's time to take a fresh look at Meyer Sound. Our loudspeaker systems provide the finest audio quality, are simple to set up and exceptionally reliable – designed to be in demand.

We've never approached the professional sound reinforcement market like others do. We've never been followers. That's why all Meyer Sound loudspeakers are self-powered. Every system component is a self-contained building block. Amplifier racks are eliminated, so systems are easier to configure, set up and transport. Wiring is a piece of cake. Set-up and tear-down are faster, needing smaller crews and less truck space. And our new QuickFly™ rigging system makes array assembly and flying a breeze. Just add signal and mix well.

So why not check out Meyer's self-powered touring systems and talk to us about your system needs? Then start working on your lockstitch.

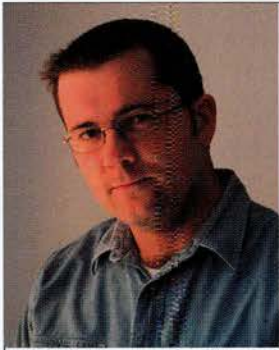


Meyer Sound

**www.meyersound.com.au
sales@meyersound.com.au**

**Toll Free
1800 4 MEYER (Australia)
0800 3 MEYER (New Zealand)**

Meyer Sound Australia Pty Ltd
PO Box 595 Albion Qld 4010, Ph 07 3252-4493, Fax 07 3319-6016



Have you ever tried to make sense out of the rules regulating the use of electricity? **Do you know when the equipment in your studio/theatre/office is meant to be tested and tagged?**

It is worth remembering that less than a quarter of an amp can kill you, so those ten amp outlets are pretty deadly. However, the standards do not directly deal with the many problems faced by our industry, and as a result, many construction industry standards have been applied to us.

I have heard a few variations on the story why piggy-back plugs were recently removed from the wholesalers shelves, only to be slowly re-introduced along with some very strict guidelines governing their use. In addition, there is the whole unresolved issue relating to the testing and tagging - which has to be done every month, quarter, six months or even less frequently depending on which standard you intend to apply.

Governments have produced a series of guidelines relating to electrical safety in our industry, but this is still a long way from having solid rules to abide by.

I very much agree with the overriding concern that our workplace must be safe, but there are some guidelines that need to be looked at that specifically deal with our industry. I would invite technicians out there to have a think about how the system could be improved, and email or write to me with your thoughts.

-John Grimshaw, Editor.
email john@conpub.com.au
or call +61 2 9876-3530.

• **GOBOS:** In our feature on Gobo's in the August issue, a table showing the relative prices of a few company's gobos did not include a couple of major manufacturers. These tables have been re-produced in this issue on pg 49 with the missing manufacturers also included. We regret the omission.

Inside your news magazine:



Lighting for the Olympics
Page 14



Foldback Wedges
Page 71

Oasis in London
Page 38



Strand Control
Page 73

News

Staging Connections in court	8
SGM Intelligent Lighting Range Launched in Melbourne	10
DSP Media opens an office in Europe	20
Presentations courses by ICIA	44
Gearhouse appoint new MD	48

New Products

JBL's Business Music Controller	22
Numark Pro SM-3 Mixing for DJs	22
LDR - Italian lighting manufacturer finds Australian distributor	22
Bytecraft release their latest dimmer	22
JBL - a new EON speaker	24
Get ready for Martin's Mac2000	24
Selecon make the Accliam Axial	26
Pulse Amplifiers Arrive in Australia	26
Nexo speakers - the French export audio	28
Video Projectors by Panasonic and Hitachi	37
Mongoose EV03 gets a facelift	48

Regular Features

Women in the Industry - Jay Ewen's grand plans	30
Duncan Fry - Zen and the Dancing Goddess	50
How to do it - Duncan Fry still on Compressor/limiters	56
BASF Tracking Guide	66
Graham Walne on Technology	70
Directory - the classifieds get a new look	79

Features

Creating the Olympic Soundtrack	11
Lighting the Olympics - the biggest show on earth?	14
The Olympic Sound Crew preparations	18
The future of portable projectors	32
OASIS in Wembley - Loud music in London	38
X-Isle Night Club installation	46
Gobo Price Comparison Update	49
Lighting Design for Sweet Road (Melbourne)	52
Midnight Oil - production on the road	58
Studios: Recording John Farnham's latest	64
Choosing a wedge	71
Driving the big desks - Strand 500 series	73

World's easiest subscriptions!

Au \$52 1 year inc gst (Save \$8.50) Au \$86 2 years inc gst (Save \$35 on normal cover price!)

\$29

LIMITED TIME ONLY: 6 MONTHS SUBSCRIPTION FOR JUST \$29 (INC GST!) Australia only, A\$40 NZ 6 months

3 VERY EASY WAYS TO SUBSCRIBE:

- (A) Use our online form at www.conpub.com.au ; or -
- (b) Call Sarah on 1-800-635-514 in business hours ; or -
- (c) Fax us your name, address, phone and email, and creditcard details. Just note if you want one or two years. (2 years saves even more!)

Creativity and technology.

A spectacular combination.

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

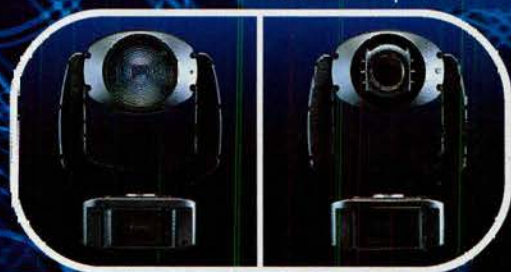
Giotto moving head fixtures, with their ground-breaking technical originality, are the result of twenty years' experience: completely designed and tested in the SGM Research & Development Centre with the consultation and collaboration of world-famous show industry professionals and lighting designers.



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 $\pm 95^\circ$.

Light Dome

VISIT US AT PLASA • LONDON, 10th - 13th SEPTEMBER • BOOTH J37


LIGHT TECHNOLOGY

SGM Elettronica srl • Via Pio La Torre, 1 • 61010 Tavullia (PS), Italy
Tel. +39 0721 476477 • Fax +39 0721 476170 • <http://www.sgm.it> • E-mail: info@sgm.it
Jansen Limited • 4 Huntly Ave, Grafton • Auckland • New Zealand
Tel. +64 9 3773663 • Fax +64 9 3075884 • E-mail: mail@jansen.co.nz
Universal Lighting & Audio Pty Ltd • Freephone Australia Wide 1 800 648 111
QLD Tel. +61 7 5532 9922 • VIC Tel. +61 3 9310 4499 • www.ula.com.au • E-mail: ula@ula.com.au

THE NEW POWERLIGHT 2.



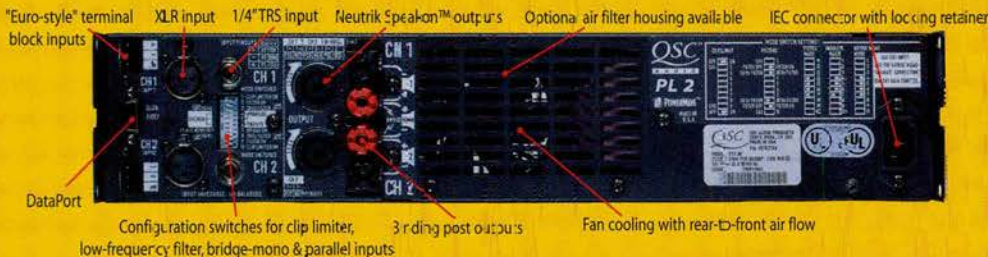
YOUR CUSTOM-BUILT POWER SOLUTION.

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 25 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
 - Locking IEC AC cable
 - Custom front-panel labeling available
 - Styled to complement your existing PowerLights
 - Designed specifically for touring
- 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

FTC rating: 20 Hz–20 kHz, 0.03% THD
*1 kHz, 1% THD



TAG
TECHNICAL AUDIO GROUP

558 Darling Street, Balmain NSW 2041
Ph: (02) 9810 5300 Fax: (02) 9810 5355
Web: www.tag.au.com E-mail: info@tag.au.com

QSC
AUDIO

Hear the Power of Technology.

*PowerLight,™ "PowerWave" is a trademark of QSC Audio Products, Inc. "QSC" and the QSC logo are registered with the U.S. Patent and Trademark Office. © QSC Audio Products, Inc., 1675 MacArthur Blvd., Costa Mesa, CA 92626 USA.

Connections

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

Staging Connections in court

Head Office and Melbourne branch fall out

By Julius Grafton

Staging Connections are involved in a protracted Supreme Court action where its Melbourne division has been sued by Village Roadshow Theatres Pty Ltd, the ultimate operating entity of the group.

The dispute arose late last year, and is scheduled for trial on October 23 in Melbourne. Village seek payment of moneys said to be owed by interests attached to Staging Connections (Vic) Pty Ltd. In turn, Staging Connections' Melbourne CEO Terry Davenport, his family and family company Lasry Pty Ltd have sought orders that the court determine the future share holding of the company.

The dispute between the parties revolves around their interests in Staging Con-

nections. Village and its associates own 50% of the shares in Staging Connections. The Davenport interests own 50% of the shares in the Melbourne operation.

Terry Davenport through Lasry Pty Ltd provides day to day management of Staging Connections Melbourne, which is the largest company of its kind in Victoria. He sought a court order last month that a monthly management fee of A\$11,250 be paid by Village, as he alleges it has not been paid for eight months. Davenport alleges that the management fee is his sole source of income, and that the withholding of the money is affecting his ability to pay living expenses and other obligations.

While Davenport's QC urged the court to make the order, the judge declined to do

so and ruled in favour of Village. Village have also alleged that significant amounts are in dispute between themselves, their interests, and Staging Connections (Vic) Pty Ltd. Village allege that they have overpaid Lasry Pty Ltd by A\$170,000 previously.

Staging Connections is Australia's largest audio visual staging company, and comprises a collection of separate branch companies in which share holding is split between the main holding company, and the operator of the branch.

Staging Connections managing director Gary Hackett declined to comment when we contacted him at presstime. Terry Davenport, managing director of Staging Connections (Vic) Pty Ltd was unavailable.

Finally - lighting technology pays off

Accountants were worried a few years ago, because rigs got FAR too expensive



The advent of the moving light was supposed to improve the working life of lighting people everywhere, but by the mid 1990's lighting was out of control. Where the decade started with a hundred or more luminaires boasting fixed gels, a 1995 show added on moving mirror automated lighting, and colour scrollers. Three operators were common on touring shows, and the moving lights often needed a backup console in case number one went dark.

It seemed the new technology was being added over the old, labour bills and working hours rocketed as LD's struggled to make it all work well together.

Now, the moving yoke automated light, typified by the Martin Mac 500 and 600, have converged with easier control desk operation technology to produce the 26 fixture tour. Midnight Oil have just toured such a show, with the rig having the horsepower of a couple of hundred analogue fixtures.

Connections went inside and talked to LD Nick Elvins about The New Order. > Page 58



Press this button

There is not likely to be another event that has the scale or scope of the Olympic opening and closing ceremonies. The sheer size of these events takes the benchmark for a "big" gig to a whole new level.

Getting past the fence in this high security world is not the easiest thing to do - but we have been given special permission to take you through the lighting and sound for the event.

• Our coverage starts on page 11

CONNECTIONS

ISBN: 1320-5595

CONNECTIONS is published monthly - except January - by Connections Publishing Pty Ltd
Australian Company number 058 443 182
ABN 66 058 443 182

Mail: PO BOX 439, EPPING
NSW 2121 AUSTRALIA.

Deliveries: 16 Willoughby street.

Web: www.conpub.com.au

Email: mail@conpub.com.au

Phone: +61 2 9876-3530

Fax: +61 2 9876-5715

BUSY Hours: 0900 - 1700 Sydney.

Advertising:

Julius Grafton, (Publisher)
julius@conpub.com.au,
call toll free 1-800-635-514
or +61 2 9876-3530.
Mobile 0408 498-180

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.

Publisher: Julius Grafton
julius@conpub.com.au
mobile 0408 498-180

Editor: John Grimshaw
john@conpub.com.au
mobile 0408 833-394

Sub Editor: Still missing in action.

Melbourne Editorial: Mandy Jones
mandaj@deakin.edu.au
mobile 0414 537-847

Contributors: Worldwide!

Write for us: We welcome your unsolicited material, however rough, and we don't mind spelling mistakes. If your stuff is exactly grammatically correct and gorgeously spelled, we reserve the right to introduce *small errors*, to maintain our track record....

Legals: Nothing herein to be reproduced or transmitted by any means without the express written approval of the publishers. All contents copyright of Connections Publishing Pty Ltd. All material thought to be correct at time of publication, but we accept no legal responsibility if it isn't. You can always take legal action against us, but in any case we always prefer to run a correction in the very next available issue if anything published herein is faulty in fact. We have made every reasonable effort to track original copyright holders.

Admin, Research: Sar (Chooky) Ford
Treasury, sanity: Jen (Loyal) Royal

Accountant: Bruce Rowland, Partlett,
Chave and Rowland, Sydney.

Printed in Sydney by: John and
Garry and crew at Superfine

Reprographics: Omicron. 8th year.

IT consultant: Bren (drumkit) King

Platform: Apple Mac G3, G4 (Page
Maker 5) on a Win 2000 server.

Superb advertising production:
shazartshop: Sharon Miceli,
call +61 2 9981-2891 or email
smiceli@one.net.au

Who is doing what?

SGM step up market penetration

DMX barndoor features on Giotto moving yoke, range launched in Melbourne

SGM Italy's **Franco Zaghini** was in Australia recently to launch the newest additions to the wide range of SGM professional lighting products. SGM's Australian distributor Universal Lighting and Audio hosted the launch of the Giotto range of moving yoke luminaires at their Melbourne outlet.

Designed for premium touring, as well as television, studio and theatre applications, the Giotto moving yoke range includes the 1200 Wash, 1200 Spot, 250 Wash and 250 Spot. SGM have also created motorised barndoors as an accessory to the 1200 Wash. Requiring five channels of DMX (one for each barndoor leaf and one for rotation of the entire unit) the barndoors would be particularly suited to theatre applications or in any venue where grid access is limited.

But the star of the range is the Giotto Spot 250 (*internal shot shown at right*) which Franco believes will challenge the main market competitors: Martin, High End and Clay Paky. "It is the most complete projector of its type, on the market," Franco said.

Weighing in at 20kg the Giotto Spot 250 is a compact unit (55cmH x 42cmL x 36cmD) with an electronic flicker-free ballast. 16-bit movement ensures smoothness and high speed - 540° pan in 2.8 seconds, and 270° tilt in 1.7 seconds. It features a linear zoom of 9° to 24°, and utilising a Philips MSD 250/2 discharge lamp, boasts perfect optics.

The Spot 250 also features 20 colours, shutter, strobe with music synchronisation, eight indexable rotating gobos plus three fixed gobos, frost, CTO and wood filters and two rotating prisms. Without a major cooling system, the Spot 250 operates in almost complete silence making it ideal for

theatre and film applications.

Franco also revealed that by the end of the year a 300 watt version of the spot and wash units will be available. "We're trying to close the gap between the 250 watt and 1200 watt units. The 300 watt unit will do it."

About 20 members of ULA's distribution network were in attendance (*pictured*) to put the fixtures through their paces. And SGM Italy's head technician Polo Modi was more than happy to pull the units apart to give everyone a look inside.

Other SGM products on show included the Pilot and Studio lighting consoles, Galileo and Victory scanners, and Colorlab and Colour Dynamic fixtures.

• SGM is represented in the region by ULA, call 1-800-648-111





Merlin watches over Tom Misner's SSL.

Richard Lush records Olympics soundtrack

With up to 700 people in one session, a programme of 15 musical pieces has been recorded for the Opening and Closing Ceremonies of the Olympics. The title of the tracks is under a strict embargo until the event this month.

The Sydney Symphony Orchestra were recorded in the Sydney Opera House Concert Hall, and at the new Studio 301 complex in Alexandria. Starting late June, the sessions ran until early August, and were recorded onto Fairlight's new Merlin multitrack recorder.

The Merlin was transported to and from the Opera House, and was used alongside a Fairlight MFX 3 plus, which was on hand purely as a backup device.

During the Ceremonies, sound engineer Bruce Jackson will mix direct from the 24 tracks supplied by the Merlin. Over 200 hours went into the sessions.

Connections spoke with Richard as the sessions were completed at the end of August.

For Richard Lush, expecting the unexpected is part and parcel of a long career in the recording business. Most recently resident at the new Studio 301, he is surrounded by the best possible ambience that Tom Misner's millions can buy. The place sparkles with the best new and old equipment anyone could get their hands on.

So when the call came in March, he pondered the task of recording the Sydney Symphony Orchestra, and a choir of up to 500 voices, in two locations. The Sydney Opera House concert hall was the obvious place, although the Sydney Town Hall was initially in contention too.

But Richard was more concerned about the actual recording devices. What would he have used? "God forbid - maybe DA-88's" he laughs, cringing at the concept of lots of 8 track tapes, formatting and juggling backups.

At the initial meeting, Fairlight's new Merlin multi track recorder was suggested as the medium. It is an Australian product, after all, and Richard had been invited down to see

a working prototype last year. It seemed like a good idea, and Fairlight were very keen too, as they were about to start shipping production versions.

A Merlin configured for 24 tracks, sampled at 48KHz was conjured up, the hardware frame came loaded with an Exabyte Marmoth tape backup drive, and a Kingston carrier slot for a 36Gb hard drive. It was loaded with 24 bit A/D and D/A converters.

"I was very pleased it was 24 bit, not 16 bit," stated Richard. "16 bits is slightly chronic and loses ambience more than 24 bits, which are much better. Anyway I've always been a tape man, but this Fairlight is the next best thing".

Over at the Sydney Opera House, the new studio isn't commissioned yet, but the prewiring was all done. The house provided consoles and hardware in consultation with Richard, and a studio was set up in the space that is to become the studio control room. It is quite some distance from the Concert Hall,

>continued on next page

Olympics bust?

Does the Closing Ceremony signal a dangerous overhang of production equipment and endemic unemployment amongst the technical fraternity? No way, says the trade.

Like many other production suppliers around Sydney, **Tony Davies of Chameleon Touring Systems** has invested in extra inventory - to the tune of 1.5 megadollars. "It's compressed 18 months normal business into 8" he says, explaining that his firm has solid bookings for well after the Paralympics is over.

But this isn't like 1988, when Expo finished in Brisbane and the whole inventory went to auction. After the Bi-Centenary celebrations, a deep recession hit with the production industry travelling backwards for almost three years.

Chameleon have renewed all their control consoles, taking delivery of 14 new desks, and plan to slowly sell the old ones once things return to normal.

Olympics production has fuelled extra work for other Eastern seaboard vendors. **Mick Privitera's Australian Concert Productions** have systems in Sydney catering to live music concerts within the Athletics Village. Melbourne's **System Sound** hung eight tonnes of Meyer in the Sydney Superdome for Mahler's Symphony Number 8 - better known as Symphony of a Thousand. This was but one of many Olympic's Arts Festival attractions.

Downstream from the main events, subhires have fuelled extra inventory for firms not directly involved. **Lots Of Watts** in Sydney have added new EAW KF-750 PA boxes, powered with Crown amplifiers. This is an identical specification to that run by **Norwest Productions**, who hold the contract for the Olympics Opening and Closing Ceremony audio.

Ceremonies Lighting vendor **Bytecraft** have wisely hired in a large production system from Procon in Germany, avoiding overcapitalisation. Bytecraft already have a large production inventory, which is fully utilised as you read this.

Who is doing what?



Richard Lush with Steve Logan (above), Merlin rack with Merlin processing at top, and MFX 3plus system below



Richard Lush (continued)

down stairs and an elevator ride away.

Steve Logan from Fairlight was seconded to the project and worked as Merlin operator. He arrived with the Merlin and the MFX 3 plus in the back of his car. The device was wheeled in, plugged into the desk outputs, and proceedings commenced.

"I had eight 36Gb drives" Steve commented. "They were split between the two systems, so I had four for each. "I got 180 minutes recording time - 24 tracks at 24 bits - on each drive."

Immediately after each session, the Mammoth drive was fired up, and a backup tape was manufactured. These went straight back to 301's tape room, a converted bank vault.

Several times during the project the action shifted to 301, where smaller orchestral pieces were recorded. "If the orchestra was 70 pieces or under, we recorded at 301" says Richard. "Mainly, we did theme type pieces

there".

The biggest day featured an 11 minute segment, with a 500 voice choir, and a 110 piece orchestra, plus the organ in the Concert Hall, plus the conductor. Richard allowed the whole day to record this, but was surprised to find it was all recorded by lunchtime. Such is the unpredictable nature of recording!

It was all edited by 5.30 in the afternoon.

"It's a matter of just getting the best take - very few songs work right through, and then there's the edits and patchups". This is where the Merlin was found to be brilliant. "There was a hell of a lot of editing to be done".

"There are three magic buttons" enthuses Richard.

"One, there is the Play Again button. Which just plays the previous segment again!"

"Then there is Record Again, which lets you just keep hitting it until the guy gets it right".

"Finally, the Jump in Seconds button lets you jump back one or two or five seconds, whatever you program."

"I can't imagine what we would have done without the Merlin. It's a blessing, a saviour".

Having worked with the SSO before, Richard understood they have a limited call, which works out to two and a half hours, including teabreak. It adds to the pressure.

The microphone list centred on a tree of three Neumann 149 mic's, and totalled up to 32 mic's for the biggest day. They were placed according to Richard's plot.

"It's been a great experience, I've met some great people and worked with some great conductors. I can't tell you who they are, though!"

When you watch the Opening Ceremony on September 15th, the sounds you hear will come straight off the Merlin hard drive, mixed live by Bruce Jackson. Two great Australians at work!

- Julius Grafton



GEAR TO MOVE?

IF YOU'VE GOT GEAR TO MOVE,
CALL STAGE & SCREEN ON (02) 9383-4544

STAGE & SCREEN
TRAVEL & FREIGHT SERVICES PTY LTD

high output

Studio Beam™

IT'S NEW.

IT'S HERE.

IT'S BRIGHT.

REALLY BRIGHT.

IT'S LIGHTWEIGHT.

IT'S COMPACT.

WIDE ZOOM.

EVEN FIELD

YOU ASKED FOR IT.

WE MADE IT.

NOW GET IT.

"The Studio Beams were extremely successful in delivering the desired amount of light on the product, as well as excellent color rendering."

—Chris Medvitz,
Lighting Designer for
Lexus at the Chicago
Auto Show 2000



COLOR MIXING.

Mix & match with our other color mixing fixtures.

BECAUSE QUALITY IS ALWAYS THE BEST INVESTMENT.

High End Systems Singapore Pte. Ltd.

Concon 1, 1 Tannery Road 06-05, Singapore 347719

Tel: 65.742.8266, Fax: 65.743.9322

sales@highend.com

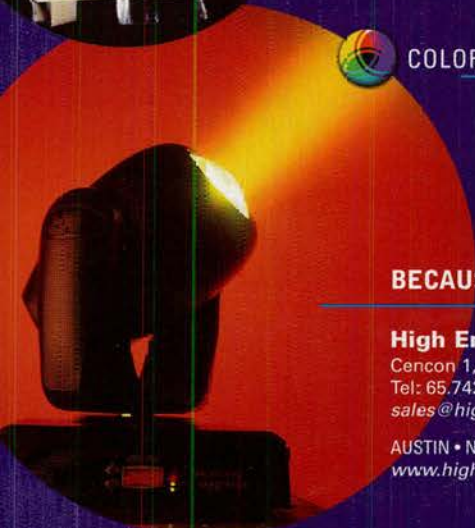
AUSTIN • NEW YORK • LONDON • LOS ANGELES • TORONTO • GERMANY

www.highend.com

High End



SYSTEMS
LIGHTING WORLDWIDE



Who is doing what?



Largest Lightshow on earth about to lift off

14,208 channels of DMX, 970 automated fixtures and 658 conventional lights. If that isn't enough for you, try 14 Whole Hog consoles. But there's more. Lots more. John Grimshaw reports from seat 98,000 at the Olympic Stadium, as the preparations continue amongst more secrecy than the CIA could think up! Connections is there.....

Have you ever seen a lighting design that was so complex and vast that upon first viewing, the overall plan was meaningless because the symbols are too small?

Lighting the Olympic opening and closing ceremonies is an exercise in scale not seen before in this country. The sheer numbers involved indicate the scale of the task at hand as Bytecraft installs the world's most complex event.

John Rayment has created the lighting design for both ceremonies. Contracted for the event back in December 1998, Rayment has spent a great deal of time researching the right equipment to use and planning just how to use it. He saw the two most important parts of his brief were to provide enough light for the billions of television viewers, and to deliver a spectacle that reaches the heights the occasion demands.

As most of us who work in lighting are aware, lighting for television is a vastly different prospect to lighting for live performance. Rayment is confident that he will be able to achieve a theatrical ambience while providing enough light for spectacular television coverage.

Certainly the design has potential!

It is very unlikely that you will see

anytime soon a similar scale of lighting design. Little things like using 48 x 7k Space Cannons for theatrical effects will not be quickly repeated.

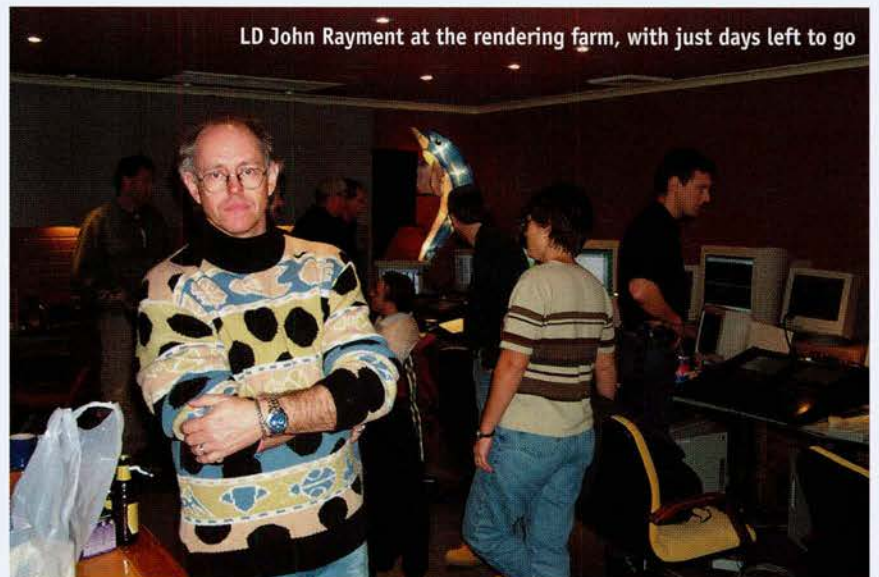
Rayment does not appear daunted by scale of the event. In fact, he sees it as a unique opportunity for the Australian entertainment industry to firmly place its stamp on the world. With billions of people watching the television broadcast, Rayment says,

"By midnight Sydney time on September 15, the whole planet will know if you have done a good job."

Working directly with Rayment is Rohan Thornton, who was separately contracted to design the audience lighting and provides lighting coordination between SOCOG and the broadcast cousin, SOBO.

Paul Rigby (Technical Manager – Lighting) has the task of bringing the design into reality. One of his first problems was power - the stadium had no power distribution capable of supplying the ceremonies. So, power supplies were specially installed to provide more than 3 million watts and Rigby was able to specify exactly where it would be located.

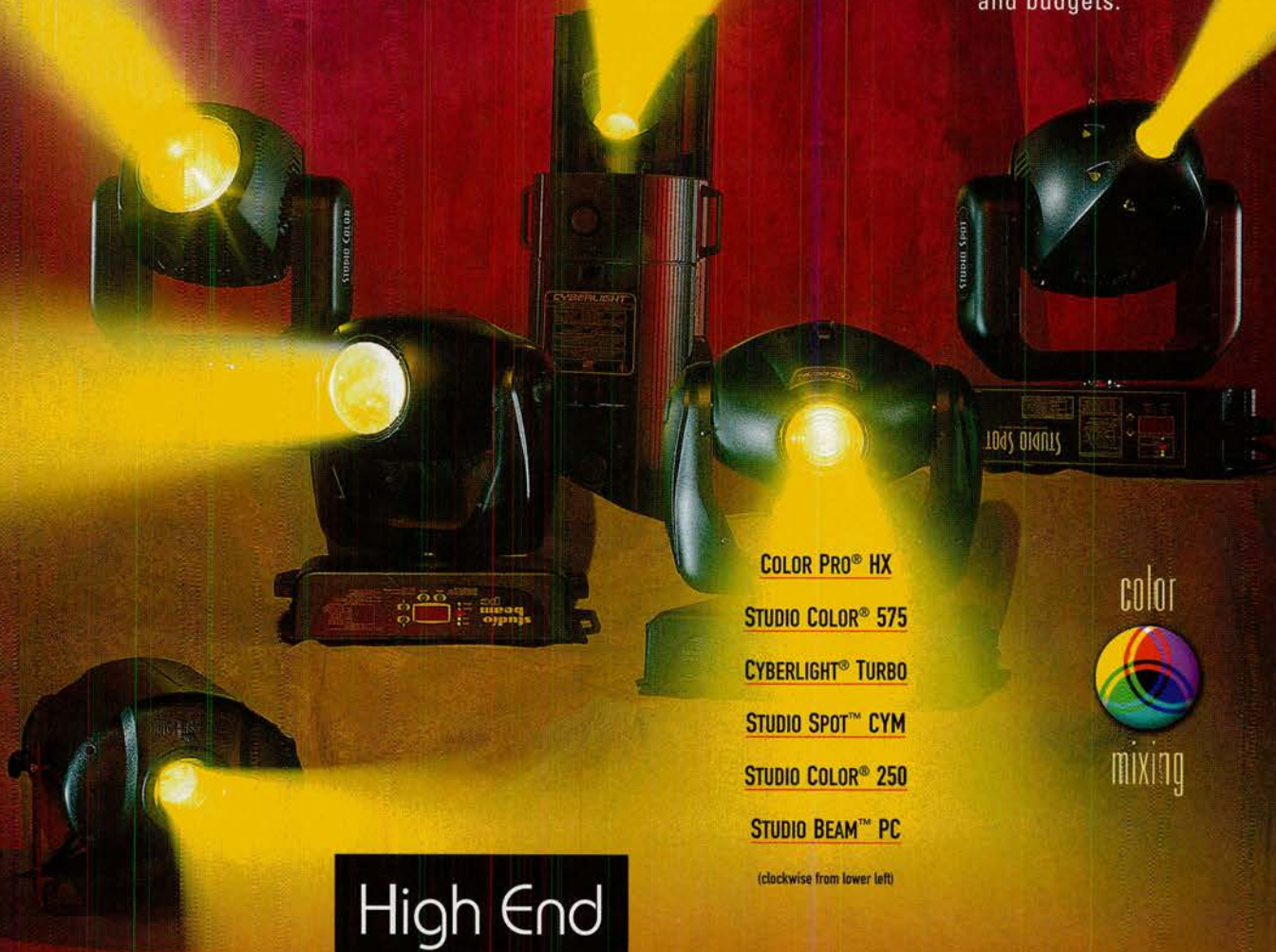
>Continued over page



mix & match

With High End Systems' full spectrum of color mixing tools.

We manufacture a complete range of color mixing fixtures for all applications and budgets.



COLOR PRO® HX

STUDIO COLOR® 575

CYBERLIGHT® TURBO

STUDIO SPOT™ CYM

STUDIO COLOR® 250

STUDIO BEAM™ PC

(clockwise from lower left)



High End



SYSTEMS
LIGHTING · WORLDWIDE

BECAUSE QUALITY IS ALWAYS THE BEST INVESTMENT.

High End Systems Singapore Pte. Ltd.

Centon 1, 1 Tannery Road 06-05, Singapore 347719

Tel: 65.742.8266. Fax: 65.743.9322

sales@highend.com

ADSTIN • NEW YORK • LONDON • LOS ANGELES • TORONTO • GERMANY

www.highend.com

Who is doing what?



Largest Lightshow on Earth

Paul divided the rig into zones, and OCA then installed a dedicated power supply for each area. One excellent byproduct of this installation is that future shows at the stadium will have an abundance of power available.

While we cannot reveal specifics about the ceremony itself, the equipment list gives a very good indication of what to expect.

Try this:

- 300 High End Systems Cyberlight Turbos,
- 136 High End Studio Beam PCs,
- 132 High End Studio Colors
- 48 7k Space Cannons.

This forms the bulk of the effects lighting. Coupled with 100 4k HMI Pars (60 with Licht Technik scroller/dowers) and you have a potential for a staggering light show.

The show has been designed using the software WYSIWYG, giving the designer the ability to computer model the design. By the time you read this, a rendering farm of computers will have modelled in 3D most aspects of the opening ceremony.

In addition, by connecting one of the 7 show control Wholehogs to WYSIWYG, the software can emulate on the monitor what the show will look like. As a result, much of the show will be pre-plotted before the installation is complete.

DMX is distributed to each "area" power supply using Strand's Shownet system on Fibre and Cat 5 Ethernet. At each of these locations, the Shownet data is then converted into standard DMX.

Controlling the lights are 7 Wholehog IIs for the show lighting and a Strand 550I to control the audience lighting. They also have a full backup of another 7 Hogs and Strand 550i, with all consoles connected via MIDI, so the cueing works in synch.

With many hundreds of lights required for the event, the resources of lighting contractor Bytecraft were quickly exhausted, causing them to turn to Procon of Germany to supply much of the equipment and cables. When Paul Rigby and Nikitas Koumos went to Procon's head office in Germany some months ago to finalise the arrange-

ments for the equipment hire, he was staggered at the size of their operation.

Despite the fact that he was there to organise the hire of hundreds of lights, pallets of leads, and tonnes of other gear, he could not help but get the feeling that Procon handled this scale of event regularly (though it is doubtful that there is a spare Cyberlight Turbo in Europe at the moment).

The planning for the load-in has been under way for several months. Rohan Trundle (Lighting Production Manager) sat down to work out the patch sheets required for the show. Planning for 14,208 channels of DMX, 970 automated fixtures and 658 conventional lights must have been laborious to say the least. Many weeks and several trees later, he produced a very big and complicated document that the load-in technicians subsequently used to rig and patch the lights. One of the complications of this system is that there are 18 sets of paperwork to be updated every time there is a change to the design or the patch – and on any given day, these sets could be very widely dispersed.

Crew chief, Nikitas Koumos manages the crew of more than 100 technicians required to hang, prep and run the show. During the load in, four teams of ten technicians work in four different areas at the same time. The four weeks of load-in are interrupted by the odd football Grand Final, and Olympic athletics tryouts. While this can slow the load-in process down, the biggest problem faced by the crew is the size of the venue. It takes a long time to walk and get that forgotten widget.

By the time 1 September rolls around, the rig should be fully installed and ready for the fourteen days of rehearsals prior to the opening.

The closing ceremony is a different animal entirely, as there is a very short turnaround from the final track event on Saturday until the gates open on Sunday for the Closing Ceremony. As reported in last month's Connections, the lighting team has eleven hours to complete the work so that rehearsals can happen. Luckily, the lights on the trusses will stay installed throughout the games, and only the fixtures in the arena itself need to be

>Continued over page

DURING THE MONTH OF SEPTEMBER 2000, GET A MASSIVE 30% OFF ALL TDM DIGIDESIGN GEAR!

That includes the amazing PRO-TOOLS CORE SYSTEMS and 882/20 & 888/24 INTERFACES, PRO-TOOLS PLUG IN SOFTWARE AND MORE - ONLY AT...

digidesign[®]

NOW, YOU CAN GET INTO THE EXCITING PRO-TOOLS TDM SYSTEM AND SAVE AN INCREDIBLE 30%!!! BUT ONLY FOR THE MONTH OF SEPTEMBER, AND ONLY AT KOSMIC SOUND.

Here's what you could get into...

Hardware:

- MIX PLUS CORE SYSTEM •
- MIX CORE SYSTEM • 888/24 INTERFACE •
- 882/20 INTERFACE • PRO CONTROL DIGIDRIVE •
- EXPANSION CHASIS •

Software:

- ACCESS VIRUS • LEXIVERB • FOCUSRITE D2/D3 • BRUNO/RESO •
- AURAL EXCITER • BIG BOTTOM •

Contact **NICK HASSALL** or **NICK MUELLER** at KOSMIC for more details.

CONDITIONS: Applies only to TDM related products. Does not include Digidesign 001 or ToolBox products, or Upgrades of any nature. Only valid from September 1st 2000 to September 30th 2000. Not all products in stock - allow delivery time (details on delivery times can be obtained from your Kosmic Sound sales consultant). Minimum 50% deposit required on order, balance payable on collection of goods. No lay by or account sales. Cash, cheque (with suitable ID) or credit card only.

30 DAYS @ 30% OFF

Kosmic
kosmicsound.com

7/44 Hutton St, Osborne Park, WA 6017
T: (08) 9242 3844 - F: (08) 9444 1144
E: sales@kosmic.com.au - W: www.kosmicsound.com

Who is doing what?



Largest Lightshow on Earth

struck and re-installed for the closing.

During the ceremonies, there will be a lot of crew running the show. It will require 8 board operators and 26 spot operators (supplemented by four swings) all coordinated by Trudy Dalglish. That is more spot ops than even U2 tends to use! However, it is easy to tell this is not rock and roll – the crew sheets all had names on them two months prior to the show.

Some mind-bending facts:

- 22 Forty-foot containers were needed to get the lighting gear to the stadium.
- The 111,169 meters of cable required weigh an estimated 34 tonnes.
- Each of these two ceremonies use 14,208 channels of DMX
- The estimated “man-hours” for lighting the event is 52,260hrs – the equivalent of employing more than 28 technicians full time for a year.
- Of the 1,628 fixtures rigged, there are 300 Cyberlight Turbos
- More than 3.2 million watts of lighting has been used (does this make “brown outs” possible through-

out NSW at the push of a button?)

- The 541 meters of truss have more or less exhausted Bytcraft’s truss supply

■ The development of the Cyberlight Turbo came as a direct result of John Rayment going to High End Systems in Austin, and talking to their engineers.

“I have never seen so many business cards with Ph.Ds!” he says of his time in Austin. Essentially, he put it to these designers that he needed a theatrical type light with a great deal of punch. Where the Cyberlights are located in the design, there is a 46m straight drop to the ground. The distance increases to around 76m when the beam is focused on the centre of the field.

However, it was unreasonable to ask a manufacturer to build a special device for the Olympics. Rayment wanted to find out if an existing device could be modified to increase its output to the kind of levels he would need.

The result was the Cyberlight Turbo.

With a modified reflector and optics, and a different lamp, High End were able to achieve more than twice the output of the original fixture.

As a result, High End has experienced increased interest in the Cyberlight throughout the world’s lighting markets.

Sound crew prepared

By Julius Grafton

It’s certainly not a simple gig. Connections detailed some months ago the EAW system and preparations that audio contractor Norwest Productions are putting into the Olympics Ceremonies.

Ex-patriate Tony Szabo is but one cog in the machine, he works in London and Canada, but has come home to assist legendary soundman Bruce Jackson.

“My title is production manager, but that’s not me. I’m helping prep gear, doing QC over and over, all the gear in the Norwest shop.”

Jackson told Connections things were going well. The acoustical curve ball is the two end zones. EAW KF 750’s are allocated for these zones, and experiments are continuing. Coverage is everything.

Szabo was enthusiastic about the Crown US P2 cards which are installed in each of Norwest’s new amplifiers.

“It allows granularity! It means we can control individual components inside a speaker box! You just PC (using Crown software on a laptop) into an amp that affects one or two components, and can do some really fancy effects to steer a beam if you want. Things that you never think of! It’s like old technology the RF guys used for over the horizon radar technology. We ran it up in the shop - the 750’s are pretty wild.”

The audio for broadcast is another story. Legendary TV producer Peter Faiman has induced Colin Stevenson out of retirement to supervise the mix, which will come from several engineers.

Connections will be there during the show, and will bring you a full report in next month’s issue.

And, there’s MUCH more to the Olympics than the Ceremonies too!



EAW has something new for your audio toolbox. Power.

E-Powered

With our new *E-Powered* line, you can now have the same professional, high quality performance you've come to expect from EAW in a powered loudspeaker.

E-Powered loudspeakers are built for flying and ergonomically designed for flexible usage and portability. The *E-Powered* amplifier module, which is optimized specifically for each product type, includes such unique features as circuit breakers, locking power connectors and automatic voltage selection. *E-Powered* products EP1, EP2 and EP3 are powerful additions to the EAW family and one more option for you when it comes to expanding your audio toolbox.

For more information about the new *E-Powered* Series, be sure to check out **Powered Tools** at www.eaw.com/epowered. In addition to full product descriptions and technical data for the *E-Powered* Series, you will also find QuickTime clips, customer testimonials and relevant download information. Or, call 508-234-6158 and request the *E-Powered* Tool Kit.

EAW
EASTERN ACOUSTIC WORKS

The Laws of Physics | The Art of Listening

One Main Street, Whitinsville, MA 01588
800 992 5013 / 508 234 6158
www.eaw.com

AUSTRALIA: Production Audio Services Pty Ltd, 6-8 Elizabeth Street, Richmond, VIC 3121, tel: (03) 9415 1585 fax: (03) 9415 1595 web: www.productionaudio.com.au
EAW is the worldwide technological and market leader in the design and manufacture of high-performance, professional loudspeaker systems.

Who is doing what?

AWA Reborn

AWA Audio Products has been renamed as at July 1st 2000. It will now be known as Audio Products Australia and still distribute all brands previously handled. All contact addresses and number remain unchanged.

Michael Guest has returned to Audio Products Australia as Professional Audio Product Manager after a short time with Australis Music Group.

Based in Queensland, Michael will handle all AGK, DENON PRO and HHB Products. His contact details are Ph / Fax +61 7 5529 8788 Mob 0409 696 439.

Website Updates

- **AV Technology** has announced their new website is now live at www.avtechnology.com.au The new site adds a comprehensive area for end-users of AV Technology products. The new site has been developed in-house by their IT department.
- **QSC's** newly redesigned website www.qscaudio.com is making it easier for customers to access a wealth of company information, from product news to technical documentation, Online

News from Audio Telex Communications P/L:

- The newly released **Australian Monitor KMa750** six channel amplifier has been a big success with over 130 units pre-ordered. It's now shipping.
- **Media Matrix** is now installed in the following Olympic projects. Stadium Australia (2 systems with CobraNet), Homebush Bay 'Site Wide' Paging System, Homebush Bay Olympic Transport Interchange, Olympic Tennis Centre, Dunc Gray Olympic Velodrome and the Sydney International Shooting Centre.

SOUND ADVANCE DOES A VIRGIN

At the new multi-users airlines terminal at Melbourne Airport, 40 Sound Advance speakers will do the job of 150 conventional paper cone speakers to greet and depart passengers.

- **NSCA +61 3-94341888**

DSP Media Establishes European Facility

Australian audio manufacturer DSP Media, manufacturer of integrated post-production workstations, has a new European sales facility in London. It is headed up by Mark Hosking, who will be working in close association with former DSP Media distributor Sound Network.

"This move furthers our goal of becoming an industry leader in pro audio and solidifies our commitment to the European marketplace," said DSP Media CEO, Andrew Wild. The new DSP Media Ltd. office is located at

The Media Centre on Great Titchfield Street, within walking distance of Soho, the audio-post hub of the UK. The new facility will include a state-of-the-art demonstration and training studio featuring DSP's flagship product, the Postation II as well as the manufacturer's standalone audio editors.

"In the near future, we will be setting up a New York sales and support team while our customers in the Asian and Oceanic markets will be supported by Sydney and Los Angeles offices," concluded Wild.

The Professional's Choice
CANARE

High Performance Video Cable, Connector & Patchbay Systems
Call for the Illustrated Cable & Connector Sourcebook - Out Now!



Amber Technology Pty. Limited ACN 003 231 187 ABN 86 003 231 187 www.ambertech.com.au
 Sydney Unit B, 5 Skyline Place, Frenchs Forest NSW 2086 Tel: (02) 9452-8600 Fax: (02) 9975-1368
 Melbourne Level 6, 10 Queens Road, Melbourne VIC 3004 Tel: (03) 9867-7111 Fax: (03) 9867-8277
 Brisbane Unit 1, 220 Boundary Street, Spring Hill QLD 4000 Tel: (07) 3831-8444 Fax: (07) 3831-8455
 National Toll Free Customer Service Tel 1800 25 1367 Email: sales@ambertech.com.au



AFFORDABLE, PROFESSIONAL

Digital Mixing, Digital Surround, Digital EQ, Digital Dynamics, Digital Routing... and Automated !

Sony's digital innovations are at the heart of a wide range of professional and consumer audio products in use around the world. The **DMX-R100** Audio Mixing console is an outstanding example of Sony's development process, using the latest digital technology to fully address the challenging and creative needs of modern audio production.

DMX-R100

The **DMX-R100** provides an opportunity for the growing number of studio owner/operators to invest in a fully professional digital mixer that has been specifically designed for the production of high-quality stereo and surround sound projects, inheriting the control philosophy of the world-acclaimed **Sony OXF-R3 Console**—developed through a design partnership of **Sony** digital audio engineering teams working in Japan and the United Kingdom. The result is a compact, 48-channel mixer with a comprehensive feature set that includes 25 (10-bit resolution)

motorised faders, a sophisticated control panel with touch-screen, a fully integrated package of automation, a digital routing matrix and machine control. The **DMX-R100** delivers superb sonic performance via its state-of-the-art processing technology, offering 24-bit quality and the ability to operate at both standard and double sample rates. The **DMX-R100**, with its stunning sonic performance, operability and flexibility, meets the creative needs of producers, artists and engineers in applications ranging from music studios to post production and audio pre-mastering.



What will you be using soon?

JBL's BUSINESS MUSIC CONTROL



JBL Professional has introduced a new range of business music controllers designed for any application requiring foreground or background music and paging.

The JBL Soundzone systems provide features such as AutoWarmth and built-in subwoofer crossovers.

Designed for use with existing JBL Control Contractor speakers, the new models comprise the Z32S with three music sources and two stereo-capable output zones, and the Z21S with two music sources and one output zone.

The main features of Soundzone are:

- JBL's AutoWarmth performs tonal adjustments for properly balanced sound at all volumes.
- The built-in subwoofer crossovers to allow the easy addition of subs.
- JBL's LevelGuard which automatically selects the correct compression for optimum sound quality despite level changes.
- Zones which can be operated in either stereo or mono modes.
- Automatic priority override
- Sophisticated paging functions.

Soundzone makes it easy for the installer with back panel LEDs which provide guides for setting trim gains and AutoWarmth, and all setup controls are protected from tampering. Controls are intuitive and many functions are set up to operate automatically so users need only select the music source and volume for each zone.

Multiple controllers can be linked for additional zones with link connections for sharing sources or main busses, and an assortment of wall plates are available for remote source selection and/or volume adjustment from within a zone location.

• JBL Professional is distributed by Jands Electronics +61 2 9582 0909.

NUMARK PRO SM-3

The design aim for the SM-3 was to achieve the fastest and smoothest cuts with the cleanest sound. This has been achieved using Numark's

Infinity fader featured on their new PRO SM-3 Professional Scratch/Techno Mixer.

The Infinity fader uses a truly optical crossfader which has no audio or electrical parts attached. This means that there are no moving electrical parts to wear out. It is also user assignable, allowing for complete slope variance along with hamster control.

With the PRO SM-3 a fully controllable 3rd channel is included for an addition turntable or to bring in an external mixer or line device. Each channel contains 3-band Rotary KILLS, PFL meters, gain, panning, and process loops.



It also has slope and hamster control on the input faders. A\$1513.81 rrp inc.

• Show Technology +612 9898 1111

GMT INTRODUCES NEW ITALIAN FIXTURES



A new range of Italian lighting fixtures are now being imported by GMT Agencies in Melbourne. Made by a company called LDR (Luci De'la Ribalta), these fixtures come in a wide range of affordable fresnel, PCs and profiles, including the Canto 250msd lamp.

The Canto 250msd is a double condenser optics followspot, suitable for small to medium sized venues. Capable of running with either the Phillips 250MSD or the Osram 250HSD, the fixture has its ballast built into the rear of the unit. The position of the ballast allows for the rear mounted yoke to be well balanced with the front of the unit – an important issue for a followspot. Locking mechanisms and handles all allow for easy operation. Optional accessories include a 5 colour charger and fluid head mount.

• GMT Agencies +61 3 9819 1777

Bytesize APC – The Latest in Dimming

According to Bytecraft, their latest dimmer - the Bytesize APC (Advanced Phase Control) - dramatically increases dimmer efficiency and cuts typical power dissipation in half when compared with conventional Phase Control dimmers. The dimmer uses the same user interface and Digital Signal Processor as in the Bytesize VST. Being relatively small and light, this robust dimmer could be used in a multitude of situations.

It also minimises the amount of heat it generates, which would directly result in higher reliability and longer life.

Bytecraft say that there are lower energy running costs, "Energy savings; around 1.5kW saving per typical 8 x 12 channel rack."

• Bytecraft +61 3 9585 2555





MiniMAC

Where would you put yours?

... and Lighthouses

- Bars
- Restaurants
- Theme Parks
- Hotels
- Sports Arenas
- Discotheques
- Pubs
- Museums
- Arcades
- Dance Halls
- Cafes
- Funfairs
- Shopping Malls
- Ferries
- Car Dealerships
- Retail Outlets
- Fashion Shows
- Live Concerts
- Corporate Foyers
- Cruise Ships
- Theatres
- Health & Fitness Clubs
- Bingo Halls
- Churches
- Exhibitions
- Conferences
- Architecture
- Casinos


Martin

Distributed in Australia by: Show Technology Australia Pty Ltd
13-15 Bridge Street • PO Box 480 • RYDALMERE NSW 2116
Phone 61 2 9898 1111 • Fax 61 2 9898 1222
E-mail: Martin@showtech.com.au
Website: <http://www.showtech.com.au>



What will you be using soon?



JBL RELEASES A NEW GENERATION EON

JBL Professional has launched the second generation of its EON series of portable sound reinforcement systems.

First in the new range is the flagship JBL EON15G2, a full range professional speaker system incorporating an amplifier and three-input mixer.

Recommended for bands, clubs, single and duo acts, schools, churches, A-V houses and hotels, it provides over 1000 watts of power than its predecessor with extended low frequency performance to 39Hz and tougher construction.

With more than twice the power of the original EON 15P, the 15G2 delivers 1000 watts of power to JBL's exclusive 15-inch Neodymium Differentia Drive transducer which combines superior audio performance with reduced weight, and 100 watts to the 1.75-inch titanium diaphragm compressor driver with Ferro-fluid cooling.

JBL's Thermomaster technology is another innovation, preventing thermal problems and eliminating the need for cooling fans and external heatsinks, even at high volumes.

Additional features include both mic and line level inputs, a new loop-through/mix output which allows users to daisy-chain EONs or send signals direct to the main PA, two-band EQ, a rugged and light-weight multi-angled enclosure, and an integral 35mm pole mount.

The range is proudly distributed by Jands Electronics.

• For more information, please contact Jands on +61 2 9532 0909.

Martin to launch new MAC 2000 Profile

Martin Professional's new MAC 2000 series of automated moving head fixtures will be launched at PLASA in early September.

The first in the series, the MAC 2000 Profile, is the most advanced lighting fixture ever produced by Martin Professional.

The MAC 2000 Profile houses two dual rotational and indexible gobo wheels.

Each wheel houses 5 replaceable pattern effect slots. A third combined color/gobo wheel houses 7 slot positions plus open (4 colors, 3 gobos standard).

As with the two gobo wheels, all slots are easily replaceable allowing lighting professionals to incorporate their own original patterns or colors.

An additional effect wheel with two extra rotating and indexible effect positions houses a variable frost capable of smooth gobo fade in/out possibilities. The effect positions are equipped with a 3-facet prism and beam shaper.

A 10-lens optical system produces an extremely bright and sharp beam with high definition contrast and consistent beam field characteristics, say Martin.

The multi-coated lenses eliminate reflection and spill light while maximizing the full potential of the powerful double-ended HMI 1200 short arc discharge lamp by Osram.

A newly designed CMY color-mixing system, based on a subtractive color mixing technique, mixes colors virtually instantly. The system employs six, coated dichroic flags providing a full spectrum of rich colors. Mechanically short distances make for extremely fast color bumps.

A color temperature correction (CTC) system adds a whole new capability that makes the MAC 2000 extremely useful in TV and theater applications. MAC 2000 CTC flexibility makes it possible to gradually and smoothly increase or decrease color tempera-

ture between 6000K and 2900K. When dimming, color shade remains constant over the entire beam projection.

Variable and smooth dimming, as well as extremely fast strobe effects are possible via a combined dimmer/shutter.

The dimmer is linear from 0 to 100%. The iris is very smooth with a range from 2 to 15 degrees.

The MAC 2000 incorporates a fast and precisely moving focus and zoom system. The system is belt-driven using the same belts as used in the reliable MAC 500.

For easy adjustment of beam size as well as beam angle, the motorized zoom expands the beam from 10 to 28 degrees with an optional

Beam Expander Lens producing a wide 15 to 40 degree angle.

The reinforced molded plastic shell is ultra-tough and easily opens via convenient fasteners. Two access lids provide for trouble-free access to internal components. Built-in modules are designed for easy de-assembly, repair and assembly.

Dust filters protect internal components, and lenses, from dirt and dust. Soft, easy-grip, rubber handles are not only strong but also comfortable.

A user-friendly 4-digit LED display for easy fixture programming is standard while customized user settings allow the user to cater the display to their liking.

The MAC 2000 is industry standard DMX-512 controllable and is equipped with both 3-pin and 5-pin XLR IN/OUT sockets. Software can be easily uploaded via a serial link using the Martin MP2 Uploader.

MAC 2000 pan movement is 540 degrees with a tilt range of 267 degrees. The MAC 2000 is also virtually silent.

• Distribution by Show Technology, +61 2 9898-1666.



The Lightweight Choice for Heavyweight Performance



The ART Series Speaker System, designed by RCF's Electro-Acoustic Laboratory, uses Advanced Resource Technology to guarantee you a new level in professional sound, portability and flexibility. The ART Series is simply the most innovative range of high performance loudspeaker equipment available, offering both active and passive systems for the professional in every audio environment.

Where else can you find 15' performance from 12' woofers?

All ART Series active speaker systems are designed with an exclusive 'TOESP' thermal and over-excursion speaker protection. So you can turn up the heat on your audience while keeping your amps cool, and all advanced active electronic components are packed into a rugged, slim-line polypropylene case weighing in at 20-22Kg - making it lightweight but heavy in power.

ART SERIES



State-of-the-art Design

Internal Power Amps

This is the area where most self-powered systems suffer the greatest area of compromise (where most shortcuts are taken). The RCF designers took no shortcuts to include a no compromise serious power amp stage. Two high-tech, split-rail high-current amplifiers, supported by a high duty cycle power supply means a reliable power that will keep delivering long after most competitor's systems have shut down.

No Gimmicks Required

The system does not need protection through "gimmicky" devices such as sliding filters or load shedding, all of which alter the sound at high power or even worse, shut it off altogether.

Stay Cool When The Going Gets Hot

The amplifier heat sinks utilise air moving through the enclosure to dissipate heat, so it can therefore be slung at any angle without the risk of overheating. Most powered systems have thermal dissipation only on the rear, so will quickly overheat when on their back (foldback application).



Built for Reliability



ART 300A Input Panel

Concert Box Protection

The amplifier contains full system monitoring for speaker over-excursion, input limiting, thermal (*turns down, not off!*), and DC protection.

Independent Input Section

The input pre-amp stage is a separate isolated section with input/output and filter switches. Four preset EQ settings are available as well as mic/line level and volume control.

Accessories

The ART Series Loudspeaker Systems are packed full of great ideas to provide maximum flexibility, opening up a multitude of applications that would have needed twice the gear.

Accessories for the ART Series range from Protective Bags to a range of wall and truss-mount brackets. Other accessories include front metal grilles and a variety of installation hardware. The A1 accessory converts any ART speaker into a stable stage floor monitor. All accessories are thoughtfully designed to enhance the capabilities of the amazing ART Series.



A-7 Front Grille Accessory



UNLIMITED SOUND



What will you be using soon?

PULSE AMPS ARRIVE DOWNUNDER

C AUDIO's new PULSE series amplifiers have been selected as main device for Brittanica Row Productions, the UK's largest audio production firm. Brit Row are using the Pulse series to drive their monitor systems.

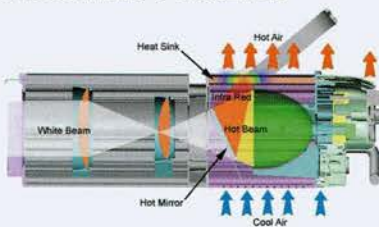
The Pulse range are all housed in 2 rack unit high chassis, with models ranging from 2 x 650w and 2 x 1100w. Brit Row say the choice was due to power-to-weight, as they were looking at switch-mode power supplies. They road tested twelve amp types before settling on the C-Audio models.

The Pulse amps have provision for Connect, a software product which monitors output levels and provides network control.

- Pulse amps are now available through the Turbosound distributor, Corporate Audio Services, call +61 3 9474-1066



SELECON ACCLAIM AXIAL



The Acclaim Axial is the latest addition to Selecon's Acclaim range of 500 – 650w luminaires. The high efficiency of the latest compact filament lamps, axial configuration and custom lens designs have been explored by Selecon's optical design engineers. The aim was to provide a variable Zoom luminaire that delivered excellent performance with a beam that is precise and even.

This new model is very similar to the existing range of Acclaim fixtures. However, this new model includes a simple and effective adjustment of the light distribution from a centre peak to a flat field, two interchangeable beam angle choices and is ideal for pattern projection or accurate area illumination. Rotatable pattern holder makes image alignment on stage simple and the large shutter handles are easy to use with the shutters captive in the luminaire, and held under spring tension.

The heat management system uses hot mirror technology, reducing the heat in the beam to protect pattern life and colour filter life. The colour balance of the light is managed by a selective filter resulting in a 'whiter' light.

The lamp socket and wiring are located separately to the lamp, isolating them from the direct energy of the light source by a substantial heat sink. Air moves through the two zones dissipating the heat and maximising component life.

- Contact Selecon for your nearest supplier +61 2 9664 8237

Even MORE watts at Lots of Watts!

OUR NEW FOH SYSTEM:

- EAW KF750 3 way speakers
- EAW SB1000 subs
- Powered by Crown 'Macro-Tech' amps
- Controlled by dbx 'DriveRack'

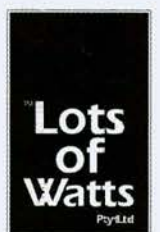


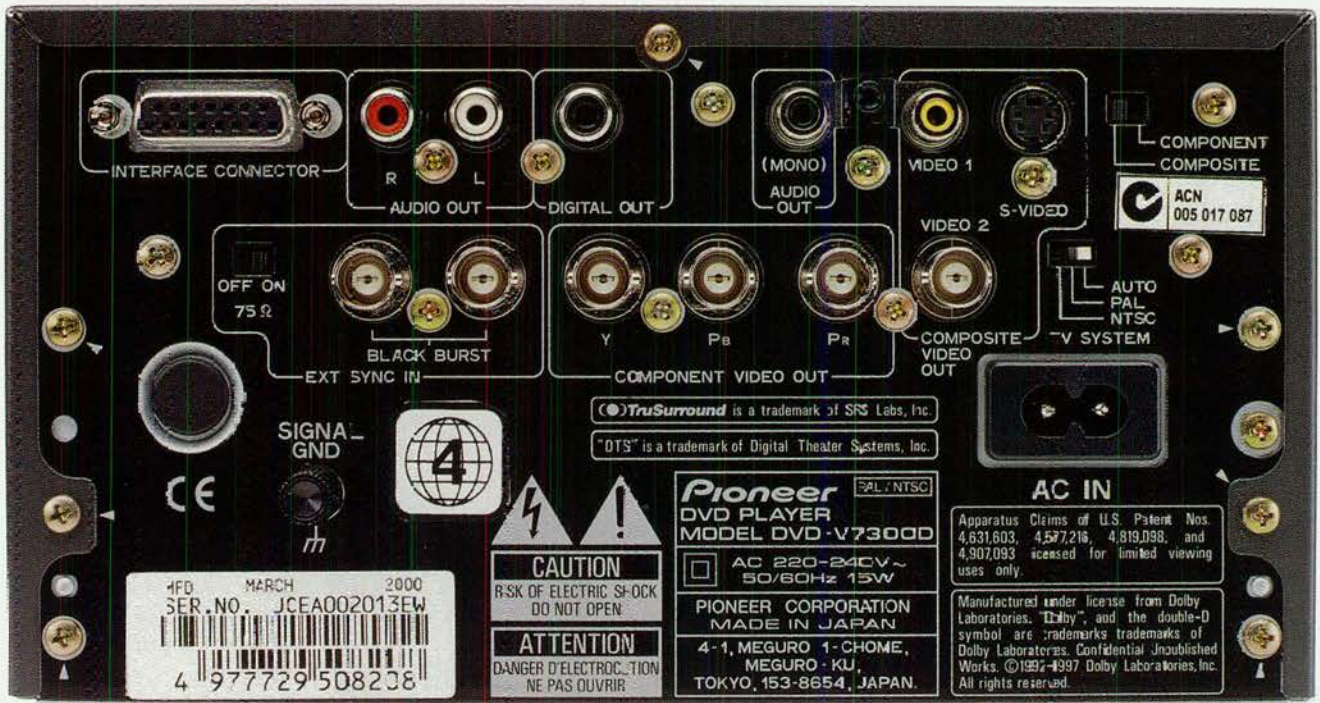
KF750 shown without grille

AVAILABLE FOR HIRE NOW

2 Bridge Street, Rydalmere NSW 2116
Phone +61 2 9638-0302, fax 9638-0331
sales@lotsofwatts.com.au
hire@lotsofwatts.com.au
www.lotsofwatts.com.au

The company everyone else uses





DVD MULTIMEDIA is EASY with the right CONNECTIONS

Pioneer is a world leader in the development, creation and application of DVD technology in all its forms



The first ever DVD-R Writer

especially Multimedia. Only Pioneer offers you the ability to write DVD-Video and DVD-ROM on



Hi-Res 50" 4:3 plasma display

the world's first ever DVD-R Writer, combining up to 4.7GB of data, vision and audio on a single disc in around an hour. Only Pioneer offers you a 720 disc modular DVD-ROM jukebox with multiple drive options including CD-R and

DVD-R for a maximum 3.3TB of data. And only Pioneer offers you hi-resolution plasma display panels in either 4:3 or 16:9 aspect ratios and a purpose built professional DVD-Video player featuring heavy duty drive mechanism, RS232C control, mouse and keyboard interface as well as a video blackboard. For further information connect with Pioneer and



720 Disc DVD-ROM jukebox



Industry DVD-Video player

see just how easy DVD Multimedia can be. Freecall 1300 364 765 or explore Pioneer Multimedia now at www.pioneeraus.com.au.



What will you be using soon?

Nexo expands distribution

By Julius Grafton

French loudspeaker system manufacturer Nexo have had a meteoric rise in fortunes over the past year, and are now fully represented in the Australian market. In a world overpopulated with black boxes, Nexo have carved a healthy niche, using some new and old tricks - with a liberal dash of Gaelic engineering logic thrown in.

Looking at a speaker system it's often hard to quantify how much research has gone into the design, but the demo Connections attended last month proved two things.

First, the feature list and build integrity of the PS-8 system we saw and heard is up there with the best. Second, the audio performance is well worth appraising. While subjective, any listening test will reveal most

connector plate the rear - evidence of some intimate appraisal by a previous tester. The screw hole was in full song, passing an extraordinary amount of air!

The PS8 is in the ultra compact category, boasting an 8 inch woofer and an interesting asymmetrical dispersion horn. This produces narrow high frequency coverage at the top, and wider below. The high frequency coverage varies from short to long throw along the vertical axis. It becomes extra useful in the PS8 when the little box is turned on its side to become a stage monitor wedge.

PS8 has a pseudo trapezoidal shape with an extra wedge angle on one side - put another way, it has five sides. As a

wedge, the asymmetric horn becomes devilishly handy, because the coverage is wider above the axis when the performer is close, and gets tighter as they move away (below the axis). The horn can be rotated.

Nexo supply the PS8 as a passive box, meaning it has in internal crossover network, but it is optimised for use with a systems electronics box called the PS TD controller. This has amplifier sense inputs which better allow high SPL usage. If not connected, the controller operates in 'safe' mode.

There is also a complementary subwoofer, the LS4C0 - and Nexo also offer a PS-10 and PS-15 family of boxes. The PS-15 has an additional bass box which lets you extend low frequency response from the flown PS-15 box, if you have a situation where a floor subwoofer isn't desired.

All boxes are finished in an un-market painted style, and have flying points and stand adaptors. Nexo also offer an dedicated amplifier with inbuilt controller, specific to a particular PS family. Prices start at A\$1995 for the PS8.

• Represented by Group Technologies (Australasia), call +61 3 9872-5000.



Unique horn topology, allows wider dispersion below the centre axis, and tighter (longer throw) above. May be rotated.

speaker systems sound 'different', according to how they are voiced. The PS-8 sounded just fine, although my ears are not 'golden' by any stretch.

I was better able to quantify the gain. SPL was high, at a quoted 125dB peak (at 1 metre). Indeed, the left box of the pair had a little whistle noise mixed in with the music, and a close look revealed a missing screw from the

The 'sphere' you're in is outdated

soundtube®

- ✓ Superior sound
- ✓ Costs less
- ✓ Greater Coverage
- ✓ Faster Installs



It's time to get out of the sphere you're into and step up to the award winning 'Soundtube' speaker systems (they even cost less than outdated omnidirectional concepts!)

Perfect for schools, halls, swimming pools, shopping centres, bars, pubs or anywhere quality audio is required. •available in 8 ohm & 100 volt •flush mount option •compact design & sleek styling •built in mounting hardware •variety of colours or with custom graphics for promotional use
Soundtube also produces FP sound focusing speakers for use with kiosks, listening stations & exhibits.

SOUNDTUBE CUSTOMERS INCLUDE: Crown Casino, Chadstone shopping centre, Chirnside Shopping Centre, Myer/Grace Bros Homemaker Centre, Zion College, Bonlac Foods, Cadbury Schweppes Ltd, Video Games Heaven and many more satisfied clients.

Australian Distributor: NSCA
Ph: (03) 9434 1888 Fax: (03) 9434 1866
www.ozemail.com.au/~hcaudio

soundtube®



fabulous curves unforgettable sound

93% efficient—draws two-thirds the AC-mains current of conventional amplifiers

low thermal output—greater reliability and longer component-life

installation friendly: reduced power and signal cabling requirements

never quits: delivering continuous RMS power without shut-down

consistent frequency response into any load: reactive or capacitive

superior low-frequency performance—large secondary-side storage capacitors

inputs: XLR, 1/4" TRS, and Phoenix outputs: five-way binding post and Speakon

mobile DJ's

night clubs

audio / visual rental

music retail

pro audio

regional touring

installed sound

a new benchmark in switching amplification



linear-toroid
power supply—33lbs.



resonant-switching
power supply—24lbs.

**CREST
AUDIO**
power is still serious business

Exclusively Distributed in Australia by Production Audio Services Pty Ltd
6-8 Elizabeth Street, Richmond VIC 3121 • Phone: (03) 9415 1585, Fax: (03) 9415 1595
Website: www.productionaudio.com.au • Crest Audio Website: www.crestaudio.com

By Julius Grafton

Jay's Live Sound

• Jay Ewen is 21, but has three years experience running her own live sound and lighting production business in Sydney. So what were the hurdles - aside from people willing her to fail?

This is a good story, because subject Jay Ewen is 21 and owns a live production company, named Jay's Live Sound. There should be more people like her.

Jay wanted to leave school in Year 10, but her mum cut a deal. If she finished, then she could do whatever she liked. Struggling through the last two years, she enrolled in a Bachelor of Arts program at Uni, which she deferred for a year.

A short course at Sydney Uni on Live Sound caught her eye, as a bass player she had a general idea but lacked the specifics. And, she had no clear idea whether she had a live sound future. A week later, life had changed.

Course convener Dean Robertson offered Jay some 'on the job' training as he owned a small PA. She went to some gigs and fast appreciated the lifestyle. "It seemed like fun, and it was cool to work with bands" she told me. Dean encouraged her to buy a small vocal PA, and threw some work her way. But then fate intervened.

"Dean wanted to move to Melbourne, and he sold me his PA. I could pay him for it over a year. I was 18".

Thrown into the deep end, Jay had initial comfort in working with the same band Dean had trained her with. But the moment of truth fast arrived, and she rolled up to a gig with a bunch of strangers.

"I had people telling me I couldn't do my job,

but after they were surprised and said it sounded good". Things clearly went well, because she has upgraded her system several times since, and now boasts a very healthy spec.

"I'm over the moon with

my 01V's" she enthused, referring to the two Yamaha digital desks she slaves together for front of house. The system now has a pair of Australian Monitor QMX composite boxes, atop a double 18" Cerwin Vega mini-earthquake sub. These are driven with Yorkville 3200 amplifiers, delivering healthy level with more than enough low end grunt.

Jay's whole system just squeezes into a Toyota Hi-Ace van, and includes a 16 can lightshow. Her monitor rig features new EV T22 1m wedges, which everyone loves, she asserts. She has a drumfill, a DAS double 15 and horn box, and drives the four sends of foldback with QSC PLX 3002 amps.

Three years on, Jay is working four nights a week around Sydney for a variety of bands. She takes bookings on a first in, best dressed basis, and wisely has resisted working exclusively for any one group.

The business is relatively straightforward. Jay rolls up three hours before a gig, and loads everything in by herself. If there are stairs, she hires a helper. The band help her stack the QMX boxes atop the subs, otherwise she sets up herself. After the gig it's a one hour loadout. Drive home, and sleep.

Do people treat her different because she's a young woman? Yep.

"Some people wanted me to fail. It was a bit overwhelming at the start, people telling me I couldn't do it. It's not a woman's job. But I choose to ignore that".

"At first it was really frightening. I didn't know if I could do it. The worst part is dealing with drunks at gigs, some of the horrible things they say, being grabbed on the arse, things like that. The thing is, it's still really fun, the good outweighs the bad."

"You need to be strong physically, and strong willed".

Jay doesn't say it, but clearly she is a positive, can-do kind of person. And she's had some terrific support from her mother, Judi, who can obviously take some credit for the kind of person Jay is.

For the future, Jay can see herself staying in the music industry, maybe moving into studio work or building up the live sound business.

• Jay's Live Sound: call 0411 130-158



FOR A SOUND DEAL!

PAstuff.com

25 YEARS EXPERIENCE IN PRO PA

Learn to Mix with the best

recognised practical audio education

*individual studio time
the best studio equipment
industry guest lectures
active graduate placement*

limited enrolments

*the only international audio school
the largest and first audio school*

small theory classes

full university degree BA

industry recognised qualification

established 1976

30 colleges all over the planet

active student exchange program

Australian government approved in all states.

**ONLY the SAE programs guarantee you
50% credits to the degree**

Certificate - Diploma - Degree

* Australia exclusive educational association with
SOUTHERN CROSS UNIVERSITY - LISMORE

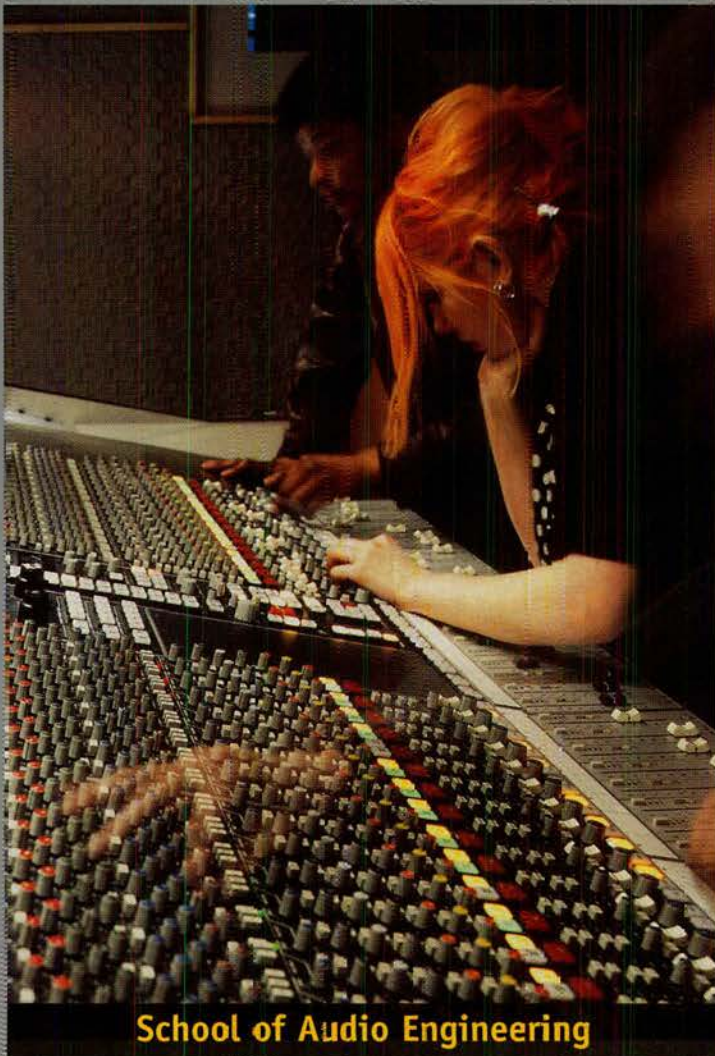
* International exclusive educational association with
MIDDLESEX UNIVERSITY - LONDON

* In cooperation in sound engineering with

WALT DISNEY Entertainment[®]

Stanborg
Training Center

www.sae.edu



School of Audio Engineering

SAE
COLLEGE

For more information and a free colour catalogue call any of these centres of educational excellence:

SYDNEY	55-57 WENTWORTH AVENUE, SURRY HILLS, NSW 2010, AUSTRALIA
MELBOURNE	2ND FLOOR, 14-16 FITZROY STREET, ST KILDA, VIC 3182, AUSTRALIA
PERTH	3-5 BENNETT STREET, EAST PERTH, WA 6004, AUSTRALIA
ADELAIDE	LEVEL 2, 282 GOUGER STREET, PO BOX 10411 GOUGER ST., ADELAIDE, SA 5000
BRISBANE	22 MAYNEVIEW STREET, MILTON, BRISBANE, QLD 4064, AUSTRALIA
HOBART	4C GEORGE STREET, NORTH HOBART, TAS 7000, AUSTRALIA
AUCKLAND	1E HEATHER STREET, FARNELL, AUCKLAND, NEW ZEALAND

PHONE: 02-9211 3711
PHONE: 03-9534 4403
PHONE: 08-9325 4533
PHONE: 08-8410 6599
PHONE: 07-3367 0143
PHONE: 03 6231 5446
PHONE: +649-373 4712

What's in store for the future of portable projectors: 3 scenarios

By Gary Kayye

Whatever you may have heard about one display technology being better than the other, one thing is for sure – they are all selling well. There's equal support in the LCD and DLP camps and it appears the winner is the customer as projection quality has improved beyond what any of us in the market could have expected 10 years ago and they're getting easier and easier to use.

I've said this before, and I'll say it again – we're on the verge of an industry explosion (in growth, that is).

Now that we have three portable projection categories (portable, ultra-portable and micro-portable) firmly established in the minds of the customer and distribution channels, I thought it would be interesting to hypothesise what the future holds for portable projectors. So, after talking to industry experts, manufacturers and customers, I've come up with three possible scenarios.

Scenario 1: The portable projector will eventually succumb to the same fate as the portable printer and many other PC peripheral devices we used to carry around the world as we travelled.

To be honest with you, this thought hadn't even crossed my mind until Jim Hall of Epson brought this scenario up at a panel discussion I participated in at INFOCOMM 2000 this past June in Anaheim. He wasn't making a case for this, nor was he necessarily of the opinion that this, in fact, might happen. He was simply bringing it up as a possibility. Why might this happen?

Well, take a look at the similarities between the product categories. In the late 1980's the portable printer emerged as the ultimate travelling companion to the laptop. Printing presentations and documents was a hassle then as the laser printer was still relatively expensive and there weren't many around (at least around when and where we needed them).

In fact, to print a document it was truly an ordeal. If you had a Windows compatible machine, the possibility of printing on 30% of the printers that were out there was not realistic as they were Apple compatible. Then, if you could find a printer, connecting it up to the average laptop could take

as long as it does today to actually connect to the Internet with your mobile phone – it just wasn't easy.

So, when the portable bubble-jet style printers came along from companies like Epson and Canon, they were hailed as the traveller's companion. People bought them and packed them into their laptop cases everywhere they went. Small ribbon-type cables were included with the printer so space wasn't an issue inside the laptop bag. And, thus, anyone could print anywhere (as long as you could find paper).

Well, a few years later, the price of laser printers dipped below

An ordinary amplifier? We think not...



COOLER - With massive heat-sinks, (and a super efficient power supply) Pulse amplifiers run much cooler than ordinary amplifiers. Running cooler means delivering more power for longer.

LIGHTER - Pulse's switched mode power supply reduces amplifier weight by as much as 70% compared with ordinary amplifiers, as well as helping them run cooler. The power supply is very stiff, so pulse amps also sound better, especially when driven hard at low frequencies.

STRONGER - Pulse amplifiers are built with a steel chassis, with rigidity added by the heat-sinks. Together with low component weight, these make them inherently stronger than ordinary amplifiers.

With optional plug-in crossover cards, and remote control via C Audio's Connect system, Pulse can be used in almost any application without compromise.

PULSE
2 x 1100

Pulse 2 x 1100:
2 x 1100 watts into 4 Ω.
1 x 2200 watts (bridged)

PULSE
2 x 650

Pulse 2 x 650:
2 x 650 watts into 4 Ω.
1 x 1300 watts (bridged)

PULSE
4 x 300

Pulse 4 x 300:
4 x 300 watts into 4 Ω.
2x 300w & 1 x 600watts &
2 x 600 watts (bridged)

Contact Corporate Audio Services now for a full information brochure and to find out why Pulse is no ordinary Amplifier.

Corporate Audio Services 188 Plenty Road Preston VIC 3072

Telephone: 03 9474 1066 Facsimile: 03 9474 1070

e-mail: mail@corporateaudio.com.au

caudio

A Harman International Company

CAS
Corporate Audio Services



BIRKART FAIRS & EVENTS

Member of Birkart Globistics plc

60 offices worldwide



- Total World Tour Planning
- Airfreight & Air Charters
- Sound and Lighting Logistics
- 48' Concert Touring Vans
- Major Event Logistics
- Carnet Specialists
- Offices Worldwide



Let us perform for you!



BIRKART FAIRS & EVENTS PTY. LTD.

MELBOURNE:

28 Clarendon St. Southbank 3006 Vic. Australia
Ph: 03 9696 3607 Fax: 03 9696 5927
Email: phocking@iaccess.com.au

SYDNEY:

Level 2, Suite 4, Centrum Place 6-8 Crewe Place,
Rosebery 2018 NSW Australia
Ph: 02 9313 8694 Fax: 02 9313 8695
Email: chris@birkart.com.au

Check out our website
at www.birkartfairs.com

*Proud to be associated with
our travel partners*



Display Technology

\$500 (US) and the emergence of good-quality ink-jet printers changed that market peripheral forever. Everyone was able to afford a good quality printer for his or her office and home. Companies bought them like hotcakes and placed them on the desktop of their employees that needed privacy from the corporate "network" printer and hotels added them into the business centre and made them available to anyone who wanted to print a document. Simultaneously, Kinko's grew substantially. Soon, there were as many Kinko's and Kinko's-style printing companies as there are coffeehouses today. They were everywhere.

So, if you needed to print something, you could – easily. You'd run down to the business centre in the hotel, drop by a Kinko's on your way to the client or even wait until you get to the client's site and print it using their printer. Now, you can even e-mail documents and presentations to Kinko's and they will print them for you and have them ready for you before you arrive. What's left? Well, add a coffee bar inside a Kinko's or install a few printers inside a coffee bar and you'll have the ultimate business centre!

Well, as the rise in printer availability became clear, people stopped lugging around portable printers in their laptop cases. They just weren't required. In fact, how many people do you know actually carry around a printer? Now you can even print from Windows machines on Apple printers!

So, the hypothesis is: why carry around a projector if you can find one anywhere and everywhere you go?

Well, if the adoption of fixed-install projectors continues, it is possible that projectors will be so prolific that they will be available virtually everywhere. But, that has to happen first. Currently, that market is barely tapped. And, even where they are available (ie. hotels), they are still expensive to rent and use. But, that may change. For instance, there is a movement to include the projector as a package in renting a meeting room in a hotel.

What's wrong with this hypothesis? Well, probably the biggest difference between these two markets is price. The portable printer and even the laser printer of today were and are in the \$300 - \$1000 (US) price range. Portable projectors, on the other hand, are in the \$3000 - \$7000 price range, for the most part.

Will it happen? No one can predict that, but it is possible that it may happen one day.

Scenario 2: The portable projector will become as prolific as the VCR has in both the professional and consumer worlds.

Today, VCRs are everywhere. A few years ago, I read a statistic that



said there were more VCRs in the USA than there were homes. Apparently, this is because many of us have more than one.

But, one thing is for sure, the VCR changed the way we all watch and use TVs. But, it didn't start in the home. Like the projector market, the VCR started as a VTR (video tape recorder) in the professional AV/production markets. It revolutionised production, distribution and display of visual information. Everyone agrees with that.

But, will the projector change viewing habits in the same way the VCR did? That's the question here.

Setting price aside (if you can, as the price of a projector is 10 times the price of the average VCR), it is possible. So, if the price of a projector were closer to the price of a TV, would the average person shell over \$500 - \$1000 to have a TV anywhere and everywhere they want to watch it?

Right now, we are limited to where we watch TV. Most homes have TVs in the family room or the den and each night we gather to watch the latest castaway on Survivor get booted or Eddie McGuire make another Millionaire after suffering through 14 separate "Is that your final answer" monologues. But, what about the Grand Final or any big televised event for that matter?

We gather around friends and many of us stare at 25" sets that pipe in cable-TV quality video (the second lowest form of video on the food chain of video – behind Hotel or Bar TV, of course) and we strain to see everything or jockey for the best seat in the house.

But, what if you could carry your TV around in the palm of your hand, plug it in anywhere and blast a video picture on any wall in the house or even on the entire wall? Seem impossible? Seem unlikely? Well, consider the rapid progression of light output in the average portable or conference room projector. In fact, a few manufacturers showed 1000 ANSI lumens, 3-pound boxes at INFOCOMM. Isn't that close enough?

Well, we still have the price to deal with, but if the projector keeps getting smaller and brighter and if technologies like LCOS (Liquid Crystal on Silicon) actually accomplish the \$999 projector they are claiming will come by the end of next year, it could be closer than we think. If that does happen, that's 90 million homes in the US alone that are potential customers!

So, will it happen? No one can predict that, but it is possible that it may happen one day. There are a host of projector manufacturers hoping it will.



Save Time Visuals

**SALES • RENTAL • HIRE
SERVICE • INSTALLATION**

**Audio Visual
Multimedia &
Presentation Specialists**

1800 888 089

www.savetimevisuals.com.au

Save Time Visuals
63 Wadham Parade
Mount Waverley
VIC 3149
Telephone (03) 9888 2111
Facsimile (03) 9888 2904
Email savetime@wire.net.au



AC400 Unbalanced to balanced audio converter
AC200 Balanced to Unbalanced Converter also available

\$275
Includes GST



ADA500 Unbalanced stereo audio distribution amplifier

\$275
Includes GST



ADA600 6 output balanced stereo audio distribution amplifier

\$275
Includes GST



AS400 4 Input Stereo Switcher with auto switch and RS232 / Relay Remote Control
AS800 8 input unbalanced mono switcher also available

\$275
Includes GST



AS450 4 input balanced stereo switcher with auto switch, RS232 and relay rem cont
AS850 8 input balanced mono switcher also available

\$385
Includes GST



MA111 Broadcast performance, dual microphone pre- amplifier with 24 V phantom power

\$220
Includes GST



HPAMPB6x1 Balanced stereo headphone monitoring switcher

\$440
Includes GST



AGA200 Stereo balanced, adjustable audio gain amplifier

\$440
Includes GST



PFA200 Stereo Audio Program Fail Alarm with 6 relays

\$770
Includes GST



PLM200 -40dB to 0dB Bal VU/PPM stereo program level meter

\$660
Includes GST



RC800 6 port relay controller

\$275
Includes GST



AS450XLRI A Pre wired DB25 to 1RU XLR input panel for the AS450. Also available for the AS850 and ADA600

\$165
Includes GST



VDA1024 10 output video distribution amplifier with video loop through facility

\$495
Includes GST



VADA1022 10 output video and stereo distribution amplifier with loop through facility

\$660
Includes GST



VASS10 10 input video and stereo switcher with adjustable auto scanning facility.

\$935
Includes GST

Choose a Pro Solution!

For all of your "broadcast quality" Audio Visual Needs



SVDA600 6 output SVHS video distribution amplifier

\$440
Includes GST



SVS450 4 input SVHS video switcher with auto switching

\$440
Includes GST



VADA300 3 output video and stereo distribution amplifier

\$275
Includes GST



VDA300 3 output video distribution amplifier

\$236
Includes GST



VDA600 6 output video distribution amplifier with front gain and cable EQ

\$385
Includes GST



VS400 4 input video switcher with auto switching and RS232
VS450 4 input vertical interval video switcher \$385
VS800 8 input video switcher \$300
VS850 8 input vertical interval video switcher \$400

\$275
Includes GST



VAS300 3 input video and stereo switcher with auto switching

\$275
Includes GST

Broadcast Quality

Used by Radio & TV stations all around the world

No Cheap Plastic Boxes

All Pro Solutions are housed in strong metal cases.

No Wall Wart power adaptors

All products come with IEC 3 pin power connectors and 110/240V switchable power supplies.

Rack mount all products

All products smaller than 1RU may be rack mounted using the RF300 - see catalogue

Competitive Prices

Australian designed, manufactured and supported

Fast turn around

Usually 24 hours delivery to all capital cities



AV Communications Pty Ltd
PO Box 2092 MALAGA WA 6944
Ph: 08 9249 6688 Fax: 08 9249 6858
Email sales@avcom.com.au

Download the Catalogue from
www.avcom.com.au



Scenario 3: The portable, conference room and fixed installation markets continue to operate as three separate channels and applications for the customer.

Is anyone really dissatisfied with the way the market is progressing right now? OK, there may be a few out there, but the fact is, this market is booming. We are enjoying growth faster than many segments of the PC industry have enjoyed in years. Some people say 20%, some even predict 60% growth next year, but no one is predicting a slide at all.

We all recognize the average corporation has barely discovered this market. Yet, thousands of companies today are either installing or budgeting to install projection technology to help them communicate in their conference rooms and training rooms in the future.

So, why is a change needed? Maybe we will stay the course and see it through with the market segments we have now serving the customer. In the US, we have the portable market, the largest segment of the projector market, sustaining growth of 20 - 30% a year. We also have the conference room segment of the market that's holding steady with growth projected to be in the 10-20%.

We have the fixed-install segment of the market where we are installing projectors in the ceilings of America's boardrooms, conference rooms, training rooms and even churches (the fastest growing segment of the year 2000) at a growth rate projected to be above 50% next year. And, we have a new segment emerging - the home theatre. Historically served by the CRT, in the home theatre market a few manufacturers are leading the way with Faroudja-enhanced processing the 16:9 (HDTV-style) imaging with LCD projectors. No one will predict that growth, but everyone expects it to be in

the 15-30% range next year.

So, why fix something that isn't broken? Well, there's a good chance it won't be. Each channel is represented by a host of sales, service and installation experts and everyone is enjoying the fruits of this growth. No one is predicting the demise of any one channel in the very near future and the system works.

PCs are sold over the Internet, through 1-800 sales companies, through distributors, through dealers and even through network integration and consulting companies and they all are profitable (most of the time). In fact, the same PC through the Internet and through a network integration company may yield a price difference of up to \$500, but the system works. That extra \$500 is insurance for the buyer that he will have service available when he needs it and it usually includes installation and set-up - something virtually all of us can do ourselves, but none of us want to do as loading software is stressful.

So, will it stay the way it is today? Well, it is doubtful it will stay exactly the way it is today, but it may not change much at all.

So, there you have them - the three scenarios. Each one is valid and possible but with vastly different outcomes and benefits. But, what's interesting is that there are even more possibilities. For example, some software companies and web developers would like you to believe that the future of presentations, as a whole, doesn't even involve the projector but centres around the Internet and our ability to communicate via web-based presentations (ie. NetShow and ConferTech). Well, this one is harder for me to believe (right now at least) as the human touch is, and always will be strong and a bond that's hard to break. But, I see kids everyday that interact better with computers and computerised gadgets better than with other kids. And, they're bright kids. Maybe their generation, dominated with a proliferation of microprocessor-based gizmos, will actually embrace these products as the solution to avoiding business travel and being in two places at one time. Who knows, but I hope I'm around to see how it all shakes out.

Gary Kaye is Principal of Kaye Consulting a firm that specialises in providing marketing consulting, telephony integration and training development to the professional audiovisual industry. He spent 12 years at Extron and AMX as VP of Sales and Marketing before founding his own firm. He can be reached at www.kaye.com or via e-mail at gakaye@kaye.com. He is also the volunteer chairman of the PETC. He also founded KNews.

PANASONIC INTRODUCES TRIO OF PORTABLE PROJECTORS

Panasonic has launched three new ultra-portable multimedia projectors - all featuring one-touch automatic setup with digital keystone correction, extra short-throw lens and index window facility. The PT-L711, PT-L701 and PT-L501 have been designed to make operation as simple as



possible, while offering a range of functions for a professional look. The projectors also feature a new rounded silver design, weigh 3.8kg, and have a footprint the size of an A4 page.

The 'Index Window' feature makes use of memory within the projector to capture and store a page from a presentation, or even a still frame from a connected video source. Panasonic's short-throw lens system shortens the distance required to display an image of a particular size by 25%.

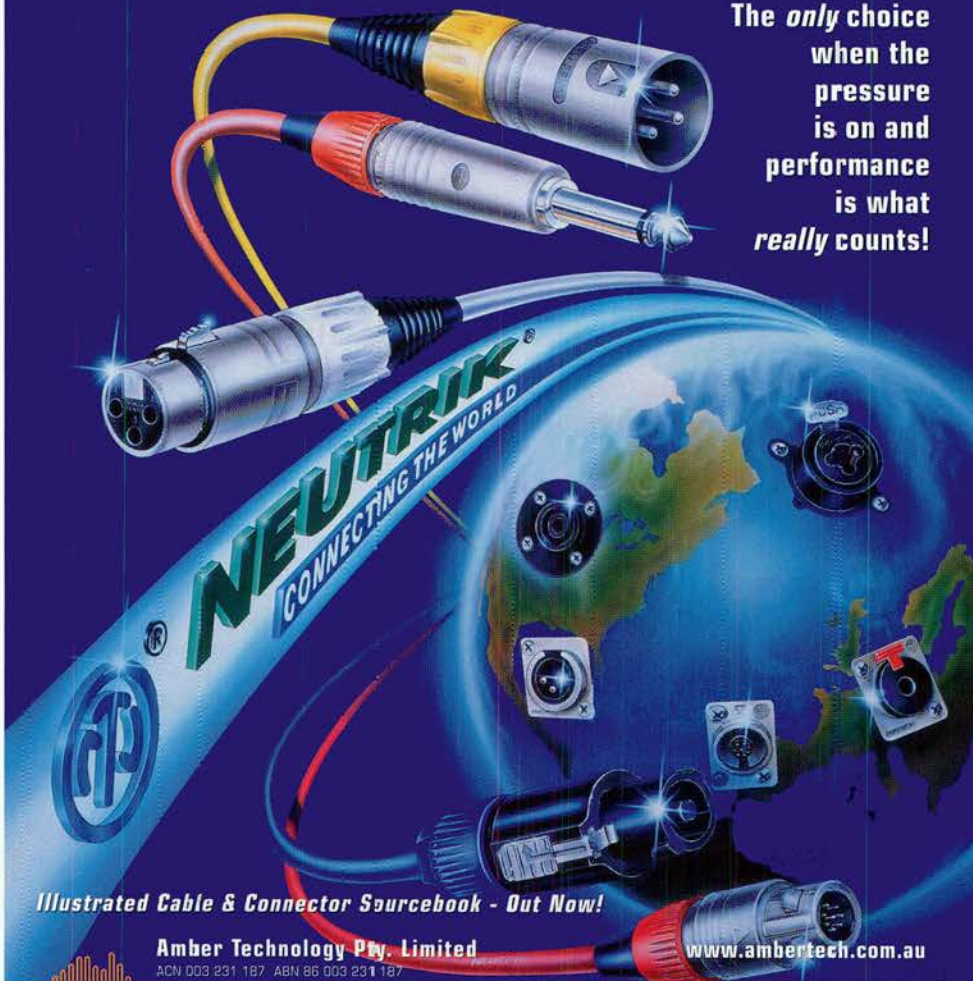
The projectors are available from specialist computer and audio-visual dealers. For more information contact Panasonic Customer Care on 132 600.

Model	Price A\$	Resolution	ANSI
PT-L711	\$12495rrp	XGA	1400
PT-L701	\$10995rrp	XGA	1000
PT-L501	\$8495rrp	SVGA	1100

Often Copied - Never Equalled!

Neutrik Professional Connector Systems, Patchbays and Test Equipment

The only choice when the pressure is on and performance is what really counts!



Illustrated Cable & Connector Sourcebook - Out Now!

Amber Technology Pty. Limited

ACN 003 231 187 ABN 86 003 231 187

www.ambertech.com.au



Sydney Unit B, 5 Skyline Place, Frenchs Forest NSW 2086 Tel: (02) 9452-8600 Fax: (02) 9975-1368
 Melbourne Level 6, 10 Queens Road, Melbourne VIC 3004 Tel: (03) 9867-7111 Fax: (03) 9867-8277
 Brisbane Unit 1, 220 Boundary Street, Spring Hill QLD 4000 Tel: (07) 3831-8444 Fax: (07) 3831-8455
 National Toll Free Customer Service Tel 1800 25 1367 Email: sales@ambertech.com.au

HITACHI UNVEILS THE CP-S220W



Hitachi Australia Ltd have announced a new addition to its LCD multimedia projector suite, the 2.4 kg CP-S220W. This projector offers an image brightness of 800 ANSI lumens and has a small, A4 size footprint. Priced at \$6995, it will be available in August via Hitachi's network of resellers.

The SVGA resolution device has a short projection throw, being able to project a 60-inch diagonal image at 1.5 metres from the screen.

Other features include Digital Keystone Correction, low background noise, remote control, and optional 16:9 aspect ratio.

The CP-S220W weighs 2.4 kg and is only 60 mm tall. The unit is equipped with a sliding lens cover, built in speaker, and several input options for compatibility with most computer and video signals.

Hitachi Australia 1800 789 799

Integrating it all!

On Giant Shoulders OASIS

The RKID 2000 Tour Wembley Stadium, London



What began as the Summer Of Discontent turned into a weekend of triumph when Oasis staged a crowd-stunning pair of shows at Wembley Stadium recently. Total Production editor Mark Cunningham reports exclusively from the mix tower for Connections.....

There are stadium shows and there are Oasis stadium shows. As anyone who was at Maine Road or Knebworth in 1996 will testify, a full-scale Oasis production is nothing short of an Event, a veritable gathering of the tribes. And their debut at Wembley Stadium in July was yet another milestone in a tumultuous career which I first observed at close range six years ago, when the troublesome Mancunians played second fiddle to The Verve at a London club.

It was just the start of a journey which, 12 months later, propelled them to Earl's Court,

selling out two nights just as their 'Wonderwall' anthem hit the UK Top Five. Their open-air shows the following summer constituted BritPop's finest hour, but just as it seemed as if they would

conquer the world, the dark cloud of sibling rivalry between Noel and Liam Gallagher threatened to destroy their mighty progress.

In some ways, the Be Here Now tour of 1997/8 set the band back on their feet, but a year later, rhythm guitarist Bonehead and bassist Guigsy departed amidst reports of increased discontent - unrest compounded by mixed reviews of their latest album, Standing On The Shoulder Of Giants.

Earlier this summer, it appeared that the hammer was about to finally fall on Oasis, when Noel announced his retirement from overseas touring, replacing himself with

surrogate guitarist Matt Deighton and leaving Liam to shoulder the responsibilities, which he has done admirably in the wake of another well-documented personal crisis.

However, in Dublin, Bolton, Wembley and Edinburgh, the brothers were reunited for some of the best performances of their lives. A 90-minute set rammed with crowd-pleasers old and new, the July 21 show I witnessed could best be described as a celebration, with the audience singing along so loudly at times that ever, the PA was having trouble keeping up.

As ever, the backstage vibe comes from the top and although my defences were up, the atmosphere appeared very chilled. The rare sight of Liam chummily backing Noel on drums during the soundcheck led me to believe that everything in the tabloids has been utter nonsense. Well, maybe.

SCREEN IDOLS

It's the morning of Oasis's first of two shows at Wembley Stadium. Video Director Dick Carruthers surveys the scene as he rides his mountain bike around the Terraplas, and suddenly takes objection to the TV crew's placement of large furry microphones at the lip of the stage. 'That looks f---king awful,' he whinges. 'They're going for a start!'

One could hardly blame him for being a little picky. For the last five years, as Oasis have grown into the stadium-filling act they are today Carruthers has excelled at bringing that extra dimension to their shows, just as he's done with the Stones, the Manics, Texas and a whole raft of top artists. He can afford to throw his weight around.

'The dog's bollocks, aren't they?' he murmurs, as a blast of trippy wonderment fills the three 15mm pixel pitch Screenco LED screens. I have to agree. The quality of the video production on this latest Oasis tour

>continued



PUBLIC AUCTION

**Lights • Audio • Lasers • DJ • Production • Stage
• Studio • Security • Effects • Nightclub • Band**

Mostly Unreserved • New, Used & Ex-Demo • Up to One Million Dollars of Product
Under Instructions from Leading Importers, Wholesalers & Retailers

TUESDAY 12 SEPTEMBER 11AM

At a Venue in the Sydney Metropolitan Area to be Advised
Inspection Monday 11 September from 8.30am to 8.30pm
& Prior to Sale Tuesday 12 September from 8.30am

AUDIO EQUIPMENT

• **DUAL CD PLAYERS** incl Lge Qty DENON DN2000Fs, DN2700Fs, DN2500Fs, ESP TECHNOLOGY, VESTAX, PIONEER, AMERICAN DJ etc • **TURNTABLES** incl Qty TECHNICS SL1200s • **MIXERS** incl Lge Qty VESTAX, ESP TECHNOLOGY, AMERICAN DJ, ROLAND, PHONIC, PIONEER, NUMARK incl Sampling & Scratch Mixers etc • **EFFECTS** incl Lge Qty ELECTRIX, ZOOM, ROLAND, BEHRINGER, BOSS, RED SOUND, PIONEER, KORG • **AMPLIFIERS** incl Lge Qty ESP TECHNOLOGY, PEAVEY, PHONIC, JEIL, AMERICAN DJ, SR3000s, etc • **KARAOKE** incl Lge Qty Laserdiscs, Denon, JVC, Sanyo & Pioneer Laser Disc Players & Televisions etc • **SPEAKERS** incl Lge Qty ESP TECHNOLOGY, JBL, EV, ETONE, INTER-M, CERWIN VEGA incl Monitors, Subs, Full Range & Mid High Cabinets etc • **MICROPHONES** incl Wireless Systems, EV, AKG, ECEN; SHURE SM58s etc • **PROCESSING EQUIPMENT** incl Qty Equalisers, Crossovers, Limiters etc • **MIXING DESKS & POWERED HEADS** incl AKAI, PHONIC, CARLSBRO etc

LIGHTING EQUIPMENT

• **LASERS** incl Qty Blue-Green Argon Lasers, Qty Green & Red Lasers, Programmable Controllers etc • **INTELLIGENT LIGHTING** incl Lge Qty FAL HMI 1200,575 & HSD 200 Scanners, LIGHT EMOTION, AMERICAN DJ, ABSTRACT, MARTIN Roboscans, CLAY PAKY Mini Scans, 360° Moving Heads etc • **SPECIAL EFFECT LIGHTING** incl Huge Qty Special Effects, Mirror Balls, Oil Wheel Projectors, Chasers, Par 56s & 64s, Strobes, Centrepieces, Beacons etc • **SMOKE, FOAM & SNOW MACHINES, FOLLOW SPOTS, PROFILES, FRESNELS** etc • **LIGHTING CONTROL** incl Qty Touch Panels, Programmable Intelligent Controllers, Dimmers, Switching Devices, **Chasers, Desks & DMX Controllers** etc • **SECURITY PRODUCTS** incl Lge Qty **BURGLAR ALARMS & SURVEILLANCE SYSTEMS, TIME LAPSE VCRs, MONITORS** etc • **DECORATIVE LIGHTING** incl Lge Qty Lava Lamps, Bar Lamps, Plasma Balls, UV Products, Bud, Rope Light etc • **MISCELLANEOUS** incl Qty Cassette Decks, Tuners, Fax Machines, Record Cases & Bags, Lamps, Office Equipment, Lighting & Speaker Stands, Water Columns, Boom Boxes, Hi-Fi Equipment, Computers, Security Devices, Bubble Machines, Flight Cases, Mic Stands, Megaphones, Hardware, Hook Clamps, Winch Ups etc

PLUS HUNDREDS OF ITEMS NOT YET CATALOGUED

A Buyer's Premium of 10% (GST Exclusive) will be added to the Knockdown Price of each Lot sold. 25% deposit required on purchases. Purchases must be paid for by ccsh or bank cheque unless prior arrangements with the Auctioneers.

Some Items may be withdrawn from Sale



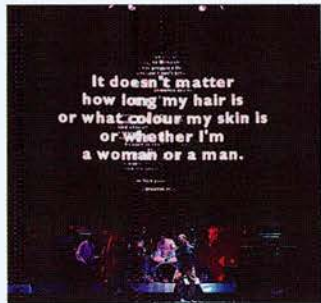
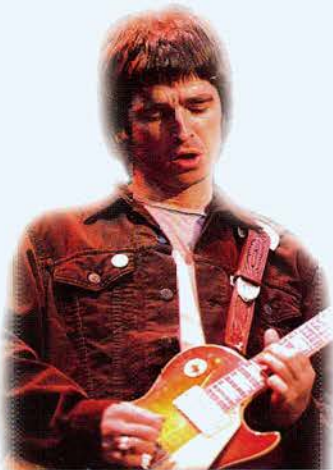
Gray Eisdell Timms Pty Ltd
ASSET MANAGERS, AUCTIONEERS & VALUERS

30 Legge St Lakemba NSW 2195

(02) 9740 6611

Visit our website: www.graysonline.com.au

Integrating it all!



surpassed anything that came before, but then Carruthers is no slouch when it comes to furthering the cause of the video art.

You want technical detail? The concave central screen was rigged 10 modules wide by seven modules high (five columns of two modules wide, or 55.3 square metres), with each section of the screen curved at a 10° angle.

To achieve the curve, four 10° bends in the five double columns of Screenco modules were designed. These were hung on precisely-determined motor points from three beams under the StageCo stage roof trussing system, ensuring the screen motor points would sit at precisely the right locations to enable the curved screen to hang correctly. The two side screens each measured seven modules wide by five modules high (20.74 square metres), and each section of the screen system was run on a separate processor, allowing images to be displayed independently of each other.

Working alongside Screenco in perfect harmony was Chris Mounsor's new company Nocturne Europe, as the supplier of cameras and a seriously sophisticated digital production unit. Screenco's sister company Creative Technology was also involved at Wembley as the outside broadcast facilities provider for the live Sky One TV transmission and subsequent broadcast to 40 countries (and rising), and this was where the scale of Carruthers' responsibilities became apparent.

His right-hand man on the project, Richard Turner, said: 'It's probably the first time a touring video director has simultaneously handled both the screen direction for the live audience and the vision mix for TV broadcast. It makes perfect sense because it's the

same director and cameramen, and they have effectively had a few rehearsals before the big day. Whereas with a specialist TV director who is coming in fresh, they've only got one hit at this and you never really know what the result's going to be like. I think that anyone who has has the pleasure of working with Dick will have a fair idea of the level of quality that will result.'

Dreamchaser Productions, an Irish company with a west London office run by Perry Joseph, took on the project at Carruthers' request. The Video Director then brought in Turner to look after the technical patching and creation of around 30% of the visuals, with co-ordination from Justine Catterall. The production of the remaining sequences was put out to tender, resulting in an astonishing range of styles which gave each song its own personality.

VIDEO SYSTEM

Behind the Wembley stage, Nocturne Europe's extensive control area featured one of the largest vision mixers ever seen in a concert application. Purchased at the time of the company's formation earlier this year, the Grass Valley GVG 4000 represents a major statement of faith in the market.

A fully digital desk, manned by Chris Hilson at Wembley while Carruthers took care of business in the CT OB truck, the GVG 4000 has 48 serial digital inputs and two Mix Effect (ME) busses, and Programme and Preview functions, allowing three separate images to be easily laid on top of each other.

'Our philosophy is to take the best of what is available and turn it into a touring rig,

> please go to page 76



Process this!

NSCA has found another winning range of products that deliver fantastic results at affordable prices. The McLelland range offer a wide variety of graphic equalisers, compressors, crossovers and digital effects processors. We've tested every model and these products really do what the specs claim. Like the EQ-One (picture above)



an equaliser housed in an attractive robust casing and features 15 band stereo, 2/3 octave performance with VU signal metering and long throw faders. Once you find out the price, you really will have something to process next time you you're making a processing decision.

N | S | C | A
National Systems Corporation of Australia Pty Ltd

Ph: (03) 9434 1888 Fax: (03) 9434 1866
Interstate: 1800 441 440 Email: nsca@bigpond.net.au

4 Inputs, 8 Outputs, 1 Rack Space, No Knobs!



dbx 481

DriveRack™

The one box DSP solution! It's what every contractor now looks for in a fixed installation audio application. The new **481 DriveRack™** Complete Equalization and Loudspeaker Management System from dbx Professional Products is the only all-inclusive toolbox required between the mixing console and the power amps. Standard features include: four 31-band graphic or 9-band parametric equalizers, 27 different crossovers, dual real time audio analyzers, dynamics processing, and the ability to all be controlled via the included GUI PC interface, the **481** is the only logical choice for optimizing sound quality in even the most demanding venues.

481 DriveRack® Features

- 4 Inputs, 8 Outputs, with Routing and Summing
- (4) 31-Band Graphic or 9-Band Parametric EQs
- 26 Variable Crossovers
- Dynamics Processing with Compressor/Limiters on Each Output
- Dual Real Time Audio Analyzers
- Notch Filters
- Multi-level Security System
- Time Alignment and Transducer Alignment Digital Delays
- Euroblock Input and Output Connectors
- RS 485 Network Control Bus
- PC GUI Interface



dbx®

PROFESSIONAL PRODUCTS

A Harman International Company

www.dbxpro.com

THE ULTIMATE
AUDIO & VISUAL TRADE



ENTTECH 2002

THE COUNTDOWN



SHOW RETURNS TO DARLING HARBOUR FEBRUARY 4-6, 2002



STARTS NOW!

Best stand positions at the best prices are on sale from October 1st. *Prices will rise soon!*

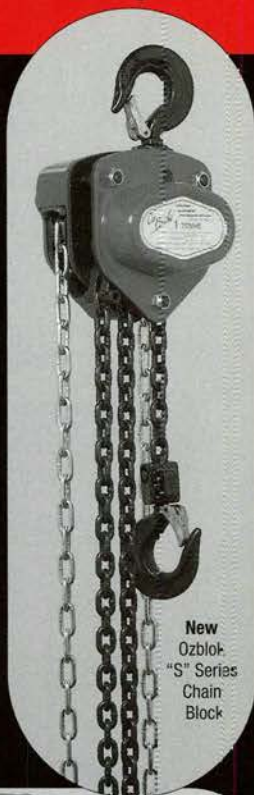
Exhibitor's prospectus available from September 15th

Contact Caroline Fitzmaurice, Show Director, on
+61 2 9876-3530 or email: caroline@conpub.com.au

Your 'One Stop' Rigging Shop.

At Hoisting Equipment Specialists, we have the most comprehensive range of rigging, lifting and materials handling equipment in Australia. As suppliers to the Entertainment Industry for more than 15 years, H.E.S. has the staff with the knowledge of your requirements. We understand you have deadlines and you will have peace of mind knowing your order will arrive on time, everytime. We guarantee it!

"Hoisting Equipment Specialists" the name to remember for quality, service and advice, at the right price!



New Ozblok "S" Series Chain Block



Black Round Sling



- Ozblok range of products, including the new generation "S" Series chain blocks, girder clamps and trolleys.
- C.M. Lodestar GIS, Kite and Hitachi chain motors.
- Galvanised and stainless steel wire rope and fittings.
- Standard wire and Superflex steels and bridles made to your requirements.
- Manual and electric winches.
- Extensive range of rigging hardware including ratchet shackles, rigging screws, eyebolts etc.
- Black polyester round slings.
- C.M. Stac chain.
- Height safety equipment and fall arrest systems.
- Industrial and recreational harnesses, carabiners dynamic and static climbing ropes.
- Tri-lite pocket laser levels.
- Canvas chain bags.
- Bonwick caving ladders.
- Endless webbing ratchet straps and load restraint systems.
- Sisal and manilla rope.



HOISTING EQUIPMENT SPECIALISTS PTY. LTD.

12/63 Norman Street
Peakhurst NSW 2210
Phone: (02) 9584 1177
Fax: (02) 9584 1201
Email: HOISTEQUIP@bigpond.com

39 Raglan Street
Preston VIC 3072
Phone: (03) 9480 5577
Fax: (03) 9480 0855
Email: hesvic@ocean.com.au



POWER CURVES



The beauty of a Celestion KR Series Loudspeaker is much more than skin deep. Elegantly styled cabinets combine with purpose - designed Celestion driver systems to deliver a package of quality sound and stunning looks that will enhance the atmosphere of any bar or restaurant.

And a range of custom hardware, plus OmniMount™ compatibility, ensures that installation is swift and simple.

So if you need speakers that look great and sound even better, talk to Celestion today about the KR Series.



CELESTION

GREATER UNION
ENTERTAINMENT
TECHNOLOGY

Distributed by GLET SVL Distribution
87 Mars Road, Lane Cove 2066
Ph: (02) 9413 6029 Fax: (02) 9413 9801
Email: mardelle_colins@guet.com.au

X-ISLE NITECLUB REFIT

The latest re-fit of Woy Woy Leagues Clubs' Nightclub X-Isle was recently carried out by **Entertainment Installations**, based on the Central Coast. The system is designed as a multi-task room with both the audio and lighting systems required to operate for dance music (Fridays) as well as retro music and live bands (Saturdays). Primarily only opened as X-Isle at the weekend, the room also serves for special functions and day attractions such as bingo.

Neale Mace, Director of Entertainment Installations, has installed lighting and audio into the club, in various forms, for over fifteen years.

"After having done the place so many times it can be difficult to come up with a new concept," he said. "I decided to do a totally different truss design, not just over the dance floor but also incorporating the stage."

The truss is formed of eight arms powder coated in red, blue, green and yellow. These colours are then complimented by coloured Par36 beams inside as truss warmers - this is a great effect and the venue uses the illuminated truss often as mood lighting for functions.

This venue features one of the first Australian club installations of the new Martin MiniMAC moving yoke fixtures. The MiniMAC's are placed over the dance floor area but because of their moving yokes, they can also service the stage area.

Martin Roboscan 812's are on the back wall behind the stage, where the truss all meets. They have a dual purpose, as a nightclub light and a moving backlight for the band. In the centre of the Roboscan 812's is the ADJ Future Derby effects light.

Eight Geni Colour Blasters are used to shine on to the two mirrorball clusters, which gives a nice change to the standard mirrorball effect.

The lighting is all controlled by the DJ. A Geni 4 channel chaser controls the Par 56's, an Anytronics SP12 switch panel controls the bulk of the rest of the sound-activated lighting and a Martin Light Jockey PC control system controls the MiniMAC's, Roboscan 812's and the lighting inside of the truss.

It is also Entertainment Installations job to do the production for any live music at the venue.

"It was important to install a system capable of handling (live music audio) as the management didn't want the bands loading gear in," said Neale. "We installed an LA Audio SPX2 to enable us to share the system. The multicore, foldback amplifiers and foldback EQ's live in the venue the whole time and all the rest of the gear for the bands is kept in a store room.

"The venue has a noise problem in regard to complaints from neighbours so it was important to have continuity of sound."

The venue is set up for four sends of foldback with all the amps and processing gear installed to run the FOH from the foldback.

The installation had less than a week, with the old gear taken out on the Sunday and the new up and running for Friday night. •



LIGHTING

- 8 x coloured truss arms
- 4 x Martin MiniMAC Profile
- 4 x Martin Roboscan 812
- 4 x Martin Lynx
- 4 x Geni Blaze
- 1 x ADJ Raggi 2
- 4 x Geni disco strobes
- 4 x 4' UV
- 8 x Par56
- 16 x Par36 (truss warmers)
- 1 x ADJ Future Derby
- 13 x Geni Shimmer (wall lighting)
- 4 x ADJ Spot Gobo
- 2 x Mirror ball clusters
- 8 x Geni Colour Blaster (mbl spots)
- 1 x Martin Pro1000 smoke machine
- 1 x Martin Light Jockey PC control
- 1 x Martin 2532 Direct Access Panel
- 1 x Anytronics SP12 switch panel
- 4 x Anytronics Switch packs
- 1 x Geni 4 channel chaser

- 8 x Par56 (stage lighting)
- 1 x Jands 4 pack lighting controller
- 1 x 30m 24/4 multicore + stage box

AUDIO

- 2 x Martin Audio W3 (15", 3 way) spkrs
- 2 x EV Eliminators Subs
- 2 x QSC PLX2402 amps (subs, mids)
- 3 x QSC PLX1602 amps (highs, 4 x sends foldback)
- 1 x Dbx 234 stereo 3 way X-over
- 1 x Citronic EQ (disco)
- 1 x LA Audio SPX2 stereo selector
- 1 x Rane ME60 (foldback)
- 1 x Phonic PEQ3400 (foldback)
- 4 x JBL Control 1
- 1 x Jeil amplifier (Control 1's)
- 1 x Shure UT hand held wireless
- 1 x TX8201 mic/line mixer
- 1 x Numark DM1200 mixer
- 1 x JBL EON10P DJ monitor
- 1 x Denon 2000F Mk3 dual CD

The Coolest Digital Automatic Microphone Mixer Around

The AP800 and AP400 give you all these options in one box.

That's right. ONE box.

Oh, by the way, there's an echo canceller on EVERY microphone.

Digital Automatic Microphone Mixer. The increased intelligibility of Audio Perfect technology automatically activates and deactivates microphone channels.

PA Adaptive Mode. Exclusive to Gentner, our PA adaptive mode prevents the loudspeakers from gating microphones on.

First Mic Priority. Maintains maximum audio intelligibility and gain by allowing only the microphones closest to the audio source to gate on.

Adaptive Ambiance. Automatically adjusts the gating threshold based on the ambient noise level.

Programmable Matrix. All parameters are customisable. Any input or combination of inputs can be routed to any output.

Two Echo Cancellation Reference Points. On an AP800, this feature allows one unit to be split across two zones or two rooms.

Six Multiple Presets. Instart configuration changes can be performed via the LCD display, by serial commands to the RS232 port, or contact closure.

Fully expandable. Each Audio Perfect system supports a network of up to 24 phone lines, 32 line inputs, and 64 microphones. By combining multiple systems, the possibilities are limitless.

Easy Setup. Use the front panel or Gentner's free AP Tools software. No need to open the cover or remove it from the rack.

Gentner

Perfect Communication through Technology, Service and Education.

Master Australasian Distributor: Production Audio Services Pty Ltd Ph

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

colste@productionaudio.com.au : www.productionaudio.com.au

dB TECHNOLOGIES

OPERA

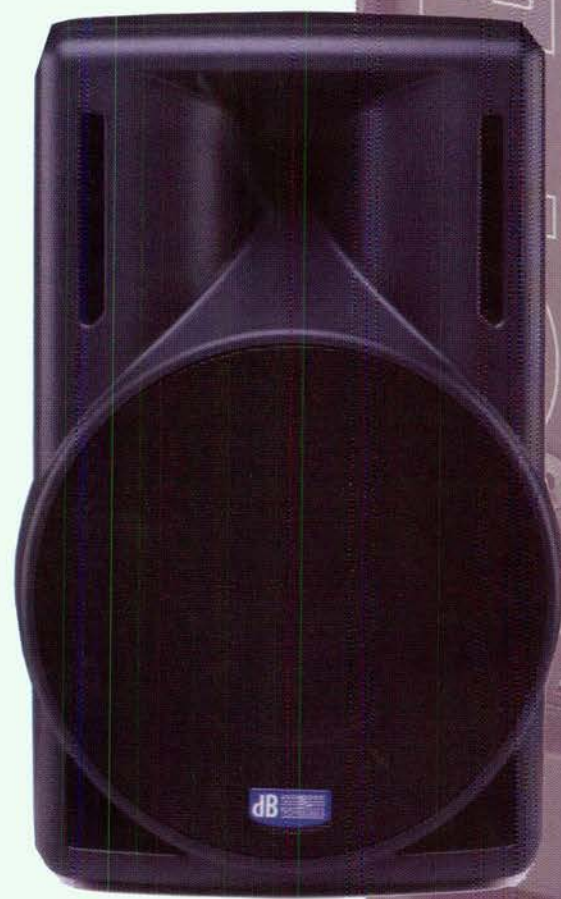
dB Technology's *Best value for money*
self powered speaker cabinets *just got better!*

Better performance,
excellent value,
heaps of power
with a lot of class.

Opera212, 200W RMS, rrp \$1,350

Opera215, 200W RMS, rrp \$1,550

Opera415, 400W RMS, rrp \$1,995



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

Who is doing what?

New jobs & positions

Chris Speedy has made the move from Coffs Harbour & joined Haycom Staging QLD as Senior Account Manager & Sales. Chris can be contacted on +61 7 33922644 or speedy@haycomstaging.com.au

Rutledge Engineering have announced the appointment of **Steven Batzogiannis**, into the sales team. He comes from a background in Sound Production and Electronics. +61 3 9488 1500

Vale

It is with regret that we note the passing of Valarie Dunbar-Gerin, wife of Walter Gerin (MD of Anything Audio). She lost her battle with Leukemia, and died peacefully in Concord Hospital (Sydney). She will be missed by many.

ENTECH MOVES

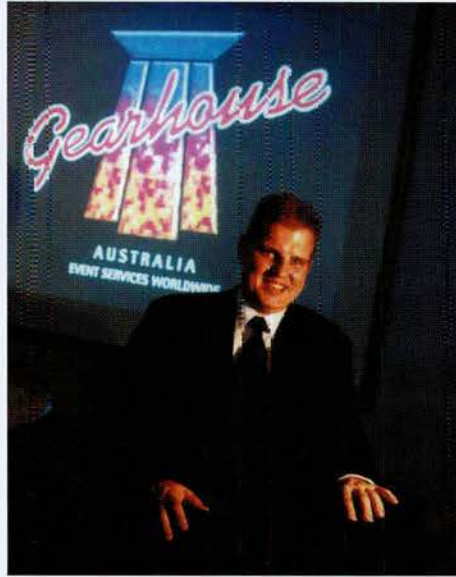
The 2002 ENTECH - the next one - has been announced. It will move back to Darling Harbour, and be staged February 4th to 6th. This places it well clear of NAMM (mid January) and Musikmesse (mid March). The new dates bring all deadlines back to before Christmas, avoiding last minute shipping crisis' over the holidays. Early space sales open on October 1st. Contact Caroline Fitzmaurice, +61 2 9876-3530.

Baby

To Gemma and Tim Grafton (RentalPoint Software) a baby girl, **Melodie Grafton**. Born last month in Ontario, Canada. Baby (their first) and parents all happy and well. A new niece to Connections' publisher, Julius.



GEARHOUSE AUSTRALIA APPOINTS NEW MD



Gearhouse Group, have announced the appointment of **John Bond** as Managing Director of its Australian operation.

This newly created role gives Gearhouse the stability it requires for developing and strengthening it's position in the event industry. John, who joined the company in 1998, will manage all resources, equipment and staff.

Gearhouse operate in Sydney, Melbourne, Brisbane, Gold Coast, Adelaide and Perth. Services include Audio, Video, Theming, Lighting and Broadcast Equipment hire, plus specialist Technical personnel to organise, manage and co-ordinate Conferences, Exhibitions, Video Conferences, Corporate Dinners, Product Launches & Fashion Parades, along with Large Video Screen Technologies for Indoor & Outdoor Events including Concerts.

EV CLASSIC GETS A MAKEOVER



The **Mongoose EVO3** is a new and improved version of the Australian made and designed Electro-Voice Speaker System. Originally manufactured in 1939 as the EV215HP, the Mongoose became a standard 2 x 15 + horn cabinet with many production and hire companies.

The new Mongoose EVO3 has had an internal and external makeover as well as an addition of accessories including an optional wire board for ease of transportation and protection and HST-5 hanging system kits.

The Mongoose EVO3 is a compact, trapezoidal two-way high-efficiency constant directivity stage system. The system combines high quality components in a durable Thiele-Small aligned enclosure. According to EVI Audio (the distributor of EV in Australia) the results are a clear and articulate high-quality sound.

The system has a nominal impedance of 4 ohms and includes a passive crossover network that is optimised for a smooth and accurate response. Bi-amplified operation is also possible by way of a high power-handling switch.

The high-frequency driver in the EVO3 is

EV's new DH6 large-format compression driver. This driver incorporates elements of RMD™ (Ring Mode Decoupling) techniques, including a titanium diaphragm with increased internal mechanical damping - providing clear upper vocal performance. The phase plug placed close to the diaphragm improves acoustic damping and boosts output in the 10-to 20-kHz range. The DH6 is mounted on a 60 x 40 deg rotatable constant-directivity horn. This combination results in substantially improved vocal clarity and presence with a smooth response throughout the vocal range up to 18,000 Hz.

The low frequency driver is the EVX-155 high power transducer providing excellent power capacity, linearity, excursion and incorporates many RMD™ techniques. Advanced HeatWick™ design "wicks" away heat from the voice coil, and the long 4-inch voice coil has nearly twice the surface area of any other woofer, the aim being to virtually eliminate power compression.

The Mongoose EVO3 is intended for any professional touring or installation application that requires accurate and high-level sound reinforcement. The design of this system is suitable for applications requiring full bandwidth down to 50 Hz.

Retail Price: \$4,829

Distributed by
EVI Audio (Aust) Pty Ltd.
A division of Telex
Communications Inc.
+61 2 9648 3455



Gobo Update

Gobo Price Comparison

Steel Gobo Libraries	Price (ea)
DHA/Rosco	24.20
Lee	22.00
Lighting By Design	26.00
The Gobo Factory	26.40
The Great American Market (GAM)	24.75
Mastercut Gobos	20.90

Companies	Phone	Website
DHA (from Rosco)	+61 2 9906 6262	www.dhalighting.co.uk
GAM (from Concert Lighting Systems)	+61 3 9682 6111	www.gamonline.com
The Gobo Factory	+61 3 5439 3770	www.gobo.com.au
Lee (from Mediavision)	+61 2 9816 4055	www.leafilters.com
Lighting By Design	+61 7 5537 7002	www.lbd.com.au
Mastercut (from Clear Light Shows)	+61 3 9553 1688	www.mastercut.com.au
Rosco	+61 2 9906 6262	www.rosco.com

Custom Steel Gobo	First	copies	Turnaround
Lighting By Design	160.00	45.00	2hrs to 2days
The Gobo Factory	137.50	38.50	48 hours
DHA/Rosco	291.50	24.20	7-10 days
Lee	P.O.A		10-14 days
Mastercut Gobos	143.00	33.00	1-2 days

ALL PRICES BASED ON "B" SIZED GOBOS

Custom gobo - B/W Glass	First	copies	Resolution	Turnaround
Lighting By Design	210.00	130.00	425lpi/3600dpi	2hrs to 2days
The Gobo Factory	229.90	143.00	450lpi/5280dpi	72 hours
DHA/Rosco	380.00	380.00	2400dpi	10-14 days
Mastercut Gobos	231.00	99.00	2400dpi	1-2 days

Custom gobo - Colour Glass	First	copies	Resolution	Turnaround
Lighting By Design	735.00	555.00	425lpi/3600dpi	up to 4 days
The Gobo Factory	440.00	286.00	450lpi/5280dpi	7-10 days
DHA/Rosco	595.00	(two colour)		14 cays
DHA/Rosco	850.00	(full colour)		14 cays

This table has been reproduced from the August issue - with a couple of additions. Mastercut and GAM gobos have now been included in the tables.

PERFORMANCE LIGHTING



The latest addition to Selecon's leading Acclaim range of 500/650w luminaires

Acclaim Axial Profile 18°-34° and 24°-44°

Continuing Selecon's tradition of developing luminaires that deliver leading performance, superior operational features, and are simple and safe to use. The superior efficiency of the latest compact filament lamps, axial configuration and custom lens designs have been fully exploited by Selecon's optical design engineers. The result is a variable zoom luminaire that delivers leading performance with a beam that is precise, even and simply adjusted from a peak to flat distribution. All the features of the proven Selecon Acclaim Zoomspot and more!



Contact your Selecon dealer for an Acclaim Axial to trial in your theatre:

- NSW** HERKES PRO LIGHTING
PH 02-9319 3133, FAX 02-9319 0204
 - VIC** CLEARLIGHT SHOWS PTY
PH 03-9553 1688, FAX 03-9553 4401
 - SA** OSMOND ELECTRONICS
PH 08-8410 1111, FAX 08-8410 3322
 - QLD** THE PRODUCTION SHOP
PH 07-3216 1340, FAX 07-3216 1376
 - ACT** SOUND ADVICE
PH 02-6280 8777, FAX 02-6280 8177
 - WA** PRO DESIGN LIGHTING
PH 08-9409 8964, FAX 08-9309 2541
 - TAS** K.W.MCCULLOCH
PH 03-6343 1034, FAX 03-6343 1847
- SELECON AUSTRALIA**
PH/FAX 02-9664 8237
E-MAIL: seleconaus@ozemail.com.au

www.seleconlight.com

SELECON



One flu over the cuckoo's nest

(Or One Nesting Cuckoo, Not Over The Flu)

Disclaimer: Dear readers, am suffering from a multiple case of the 'flu, self pity and chronic shit-on-the-liver while writing this, so contents may be more vitriolic than normal. Unable to run this through my normal 'good-taste' filter, so enter at your own risk.

The Goddess is Dancing

Have you ever seen that sticker on the back of a car? Just what on earth does it mean? What goddess? Not the goddess of good driving, that's for sure. Cause I tell you what, the only dancing that appears to be happening is the car meandering all over the road while I'm desperately trying to get past so 'the goddess' won't pirouette into the side of the dream machine. Hey, why drive in only one lane when there's another one right next door? Why not just wander between the two of them at random?

I forced myself to go to work on Monday. I was over the infectious side of things, antibiotics having scoured their way through my system like a chemical rifle pull-though, but I was still feeling a little fragile as I drove down to work.

In Victoria they've finally dragged us kicking and screaming into line with the other states, road rule wise, and now you're not allowed to hog the right hand lane on multi lane highways when the speed limit is 80k or more. Sadly this news doesn't seem to have filtered through to anyone other than me, since the only way you'll get anyone out of that lane is by driving up behind them with a front end loader and flipping them out of it! Anyway, I don't really care as long as they're driving at 80k. It's the passing lane of an 80k road, so it seems reasonable to me that if you don't want to drive at 80k, then YOU KEEP OUT OF THAT BLOODY LANE!

But no, it's full of housewives ferrying kids, guys picking their noses, and other pond life, merrily chatting to each other on their phones. Old grogans in early model Datsun Bluebirds (Australia's only true competition to Italy's AlfaSud in the rust provoking stakes), chugging down the road on 3 cylinders while Ma and Pa Doolally peer through the steering wheel, thinking themselves so lucky that they managed to get into that lane, because they've got to turn right in another 20 kilometres!

Either that or the lane is blocked by a greengrocer's truck, usually an asthmatic old 2 tonner, slowly pickling its 7 tonnes of 'fresh' vegetables in a cloud of blue diesel smoke as it lurches down the highway.

I made it through the day and left early for an appointment with the doctor, to check on my progress towards health, and lo and behold, there's a vehicle belching out a cloud of exhaust smoke travelling up ahead of me in the fast lane, doing, oh at least 40k. No, it wasn't a greenie

driven kombi with a 'Save the Planet' sticker. It was an early model Corolla, driven by a student, with a sticker on the back bumper saying 'Reduce Road Rage!' Hmm; it's hard to think of anything more calculated to increase road rage, which was exactly its effect. Not wanting to disappoint him, I leant on the horn while giving him the finger as I passed on the inside (legal on a laned highway. Only my poor state of lung health preventing me from yelling out some helpful advice on sex and travel as well!

And while we're at it, let's not let suburban 4 wheel drivers off the hook, either. Not the mini funabouts like the Honda HRV or Suzuki Vitara, but the mammoth Land Cruiser Grandes, Pajeros (truly translates as Spanish for wanker!) Nissan Patrols and their ilk.

I've got nothing against people driving big cars - I drive one, after all - but in a big car it's especially important to know where they begin and end. Such knowledge is, of course, a closed book to the suburbanites who drive these up-market trucks.

Who drives them? On the weekends it appears to be smug upwardly mobile fathers in polyester leisure suits taking their kids to hockety, pool, or Hungry Macs. During the week, though, it's the turn of the dwarf blonde wife, four foot six and 40 kilos, who has difficulty seeing over the dashboard, let alone over the wheel, and to whom the concept of checking the rear view mirror is as alien as being seen without makeup.

"Oh, I'm sorry, I couldn't see you behind me" wailed one as she inexorably reversed the rear of her Sherman Tank Cruiser through the bonnet of my mini, some years ago. "I thought my tow bar was caught on something."

It was caught on something, lady, it was. It was caught on my car!

Sinking fast now. Time for bed. Must sleep. We'll save Volvos and Camiras for next time!

There's the occasional motoring story at dunkworld.com, too. Email me your pet driving hates to: dunk@dunkworld.com



PRODUCTION SERVICES

"Laboratory Series Technology"

LS1



CLUBS TO STADIA THE TOTAL SOUND SOLUTION!

HIGH IMPACT, HIGH DEFINITION, SOUND REINFORCEMENT!

"Laboratory Series Technology redefining the science of acoustic technology!"

Steward Partnership Ltd

D/B/A Production Services

Unit 3, Sullivan Business Park,

West Dock St, Hull, HU3 4HH,

United Kingdom

Tel: +44 (0)1482 587510;

Fax: +44(0)1482 586872

rocky@proservs.freeserve.co.uk

Mastercut

A U S T R A L I A

Custom made stainless steel and glass gobos
Fast efficient service
Competitive prices

Mastercut

PO Box 205, 6 Wheeler Cr
Currumbin QLD 4223
Ph : 07 5598 1200
Fax : 07 5534 1891
Email : sales@mastercut.com.au
Web : www.mastercut.com.au

Catalogue gobos
distributed by :



Clearlight Shows Pty Ltd
Ph : 03 9553 1688

interlink@cia.com.au : 1800 638 777



INTERLINK SYSTEM SOLUTIONS

1201, 12" & Horn
Speaker

\$849 / pair

- + 200 w RMS, 400 w programme
- + Stacking corners
- + Dual Speakon connections
- + Integral stand mount
- + Durable black carpet finish
- + Recessed handle

Stands not included, \$149 / pair
Prices exclude tax and are
valid until 30 July 2000

**OFFER
EXTENDED TO
30.10.2000**

1201



6150

6CH POWER AMPLIFIER
XII SERIES



YAMAHA

POWER

ON/OFF

CLIP
SIGNAL
CH
A B C D E F

POWER
PROTECTION

- XLR & Euro-block inputs
- Binding post outputs
- Amps bridgeable in pairs
- Precision rear attenuators
- Individual high pass filters (switchable)
- Variable speed fans
- Individual amp status indicators
- 18 Kilograms



YAMAHA

PO Box 268, South Melbourne Vic 3205
Toll Free 1800 835 413 Fax: 03 9696 4579

Web Sites: www.yamaha.co.uk
www.yamaha.com/proaudio www.audio-technica.com

A.C.N. 004 259 527 Prices subject to change

XM6150 ÷ 3U = 6 x 150W RMS @ 4Ω + HPF



Dawn, dusk, night, rain - LD is challenged on Sweet Road

"I've always been a bit of a Rosco girl - especially Rosco blues and ambers, I've always liked Rosco 21, 20, 23 and used them a lot, but now the Lee equivalents are pretty close and you almost get double the size for the same money.

I always try to layer colours. What I'll do is choose a range so I know I want the oranges rather than pinks, then I'll select something that's paler for the front, move through to a mid tone for cross-light or sidelight, through to something really dark or rich for top-light or backlight. So I'll always build it up to create a sense of perspective or depth with the colour".

Sweet Road recently premiered at the Merlyn Theatre at the Malthouse as part of the Playbox 2000 season. Set predominantly in the Australian outback,

Sweet Road follows six characters as they travel dirt-roads and highways each in search of fulfilment.

The production design by Katherine Sproul is minimalist yet highly inventive.

The space is defined by a large projection screen angled down to the floor at the back of the stage, and by lines scratched into the stage floor to give a sense of forced perspective. Each scene is established by slides projected onto the screen showing aerial landscape photographs and images of highways.

Set pieces are moved on and off by cast members to establish locations and include an illuminated phone box and drinks fridge. But the scene-stealers are the stripped-back car bodies used by the characters. Complete with steering wheels, pedals and bucket seats, the cars are where most of the action of the play takes place as the characters set out on their journeys.

Sweet Road is lighting designer Rachel Buck's tenth production with Playbox.

"I love working with Playbox," Rachel said, "because it's like a devised process where you get to shape what's happening, and it grows

and changes around you. And because these texts haven't been done before there's no expectation of how they're meant to look. The experimental nature of it is really exciting, and so is getting to work with such wonderful Australian writers."

Rachel chose rich and vivid colours for her design. She explained that she uses colour and pattern as a metaphor, and drew on the natural elements for colour inspiration.

"The first inspiration was the setting which is outback Australia, so I started thinking about those really intense sky blues and dusty desert sand colours. And because the play moves through a period of roughly three days there are several kinds of dawns, sunsets and night scenes."

In fact Debra Oswald's script is quite a challenge for a lighting designer - nights, days, dawns, dusks, rain, blinding heat, and a salt lake - requiring a versatile rig and an effects component.

"I think I was a bit braver on this one with colour choices so I tried out some new things. I tried a lot of the colour correction range - I'm quite into Lee 237 at the moment. It's a fantastic colour, it's a beautiful kind of orangey-rose but it's not too strong. It's a bit like a blend of a pink with a 134 but not that strong. So I used 237 everywhere, and a new one I haven't used before is 017 Surprise Peach which is quite dusty. A lot of that

BYTECRAFT

DYNAMIC DIMMER DUO

Bytesize APC

(Advanced Phase Control)

Unsurpassed energy efficiency gives; longer life, higher reliability, lower running costs and lower acoustic noise

Bytesize VST

(Variable Sinewave Technology)

Revolutionary sinusoidal waveform technology essentially eliminates lamp filament sing and electrical noise

NEW: The revolutionary dimming duo from Bytecraft

EMAIL: info@bytecraft.com.au WEBSITE: <http://www.bytecraft.com.au>
VIC - 23-31 Fonceca Street Mordialloc 3195 Tel: 03 9587 2555 Fax: 03 9580 7690
NSW - 5/31 Bridge Road Stanmore 2048 Tel: 02 9550 3955 Fax: 02 9519 3977



colour correction range has an unusual quality to it, almost dusty so that was great. And 219 (Fluorescent Green) was terrific for cross-lighting the night scenes. The rest of it was strong yellows (020), I just stuck with the Lee range this time. There was a lot of opportunity on the projection screen to lay colour over Katherine's slides and to mix."

Rachel explained there were problems with the projection from the beginning. When the required intensities couldn't be achieved with an Ekta-pro projector, compromises had to be made. Katherine wanted the images to be able to dissolve but in order to get the brightness, they had to step up to a non-dimmable arc-source projector which unfortunately added fan noise as well as the "click-clack" of slide changes to each scene. Also, a mix-up by the screen suppliers meant that the images had to be front-projected after the screen was mistakenly painted rather than dyed.

"An angled screen was always going to be difficult - if it's vertical you've got some chance but when it's angled towards the floor it's tough. So I used a lot of boom light, cross light and top light, and kept FOH as steeply angled as I could and probably more highly coloured than usual just to cut down on the amount of white light to reflect back up on the screen."

Rachel used a substantial boom rig - four booms a side with a minimum of four fixtures on each - to add another dimension to the design and to pull the actors off the background screen.

The effects component of Rachel's design included weather effects, traffic lights,

trucklights and car headlights, and simple effects to create a sense of movement. One of the most effective was a simple 'white line' chase to represent travelling on a road.

Twelve 16 - 30° profiles were tightly focussed over the actors and behind them onto the projection screen, and recorded at different intensities giving the impression of movement. The result was as if the car headlights were causing the white road lines to be reflected onto the windscreen, and then to disappear out of view behind them.

"The really tricky ones were the rain effects. Expense cut us back - I originally had five effects wheels and units for it and we had to cut back to two. So we had two Selecon Pacific 1k blue-pinch 23 - 50's with one 1 R.P.M. and one 2 R.P.M. flame effects wheels and gobos - 'Rain 1' and 'Shower'. 'Shower' just went straight onto the screen and because it was only 1 R.P.M. it hardly moved while 'Rain 1' was focused harder and moved twice as fast so it washed across. So the effect looked like rain washing across a windscreen.

"I did a fantastic test session with Clearlight Shows which was really helpful. They came out and demonstrated the different effects because I knew rain would be difficult from the start."



Dominique Sweerey and Victoria Eagger

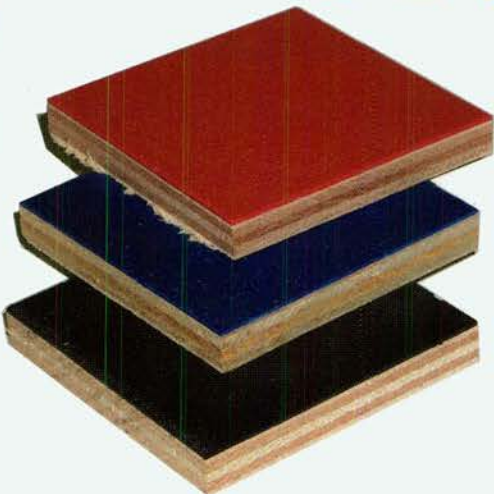
By Mandy Jones

To achieve the effect of a dry salt lake, Rachel used a Rosco gobo of a cracked lake, cut in perspective.

"The salt lake was tricky because it was quite a dark brown floor and we had to get this white salt crystal effect so the idea of the gobo was to give the cracked pattern and then to just keep light off the floor so the pattern could be read, and then it was just whited out with narrow par cans."

NEW!

Coloured ABS



From PENN- pre-laminated ABS plywood - 9mm +1mm laminate, quality 5 ply. Red, Blue Black in stock, 8 more colours coming!

- Surprisingly competitively priced
- Passed quality tests for delamination and strength.



Also new: FGAMI Open & closed cell models, varying thickness and densities.

penn
fabrication

+61 3 9335-6455

www.penn-fabrication.com.au

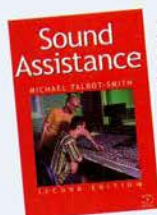
I've got 800+ books in stock NOW! -Julius Grafton

THESE ARE IN STOCK NOW!

• PRICES NOW INCLUDE AUSTRALIAN GST

A PRACTICAL GUIDE TO STAGE LIGHTING Stephen Shelley	\$80
AUDIO WORKSTATION HANDBOOK Francis Rumsey	\$82
A-Z OF LIGHTING TERMS Brian Fit	\$60
BASICS OF VIDEO LIGHTING Des Lyver/Graham Swainson	\$38
BASIC STAGE LIGHTING Mark Carpenter	\$18
CONCERT LIGHTING James Moody	\$77
CONCERT TOUR PRODUCTION MGMT John Vasey	\$42
CONTROL SYSTEMS FOR LIVE ENTERTAINMENT	
John Huntington	\$120
CREATING SPECIAL EFFECTS FOR TV AND VIDEO	
Bernard Wilkie	\$40
EFFECTIVE AUDIO VISUAL Robert Simpson	\$88
EFFECTS FOR THE THEATRE Edited by Graham Walne	\$53
ESTA ETHERNET GUIDE	\$38
HUMS & BUZZES EXPLAINED Laurie Nethercote	\$9
LIGHTING AND SOUND Neil Fraser	\$31
LIGHTING STENCIL SET from KILOWATT CO	\$99
LIGHTING TECHNOLOGY H'BOOK Brian Fit/Joe Thornley	\$124
LIGHTING THE STAGE Francis Reid	\$44
LIVE SOUND MIXING Duncan Fry	\$41
MAKING MUSIC WITH YOUR COMPUTER	
David (Rudy) Trubitt	\$20
MAKING THE ULTIMATE DEMO Michael Molenda	\$27
MIDI SYSTEMS & CONTROL Francis Rumsey	\$60
MIX TEST CD DELUXE EDITION	\$77
MOBILE DJ HANDBOOK Stacy Zemon	\$49
MODULAR DIGITAL MULTITRACKS George Petersen	\$27
MUSIC & TECHNOLOGY H.P. Newquist	\$31
MUSIC PRODUCERS MIX Magazine	\$20
PRACTICAL STUDIO TECHNIQUES (with CD) Tom Misner	\$44
PROJECTION FOR THE PERFORMING ARTS Graham Walne	\$88
RECOMMENDED PRACTICE FOR DMX 512 Adam Bennette	\$20
SET LIGHTING TECHNICIAN'S HANDBOOK Harry C. Box	\$82
SOUND & MUSIC FOR THEATRE Kaye & LeBrecht	\$48
SOUND FOR PICTURE MIX Magazine	\$20
STAGE DESIGN & PROPERTIES Michael Holt	\$31
STAGE LIGHTING CONTROLS BY Ulf Sandstrom	\$97
STAGE LIGHTING HANDBOOK Francis Reid	\$42
STAGE MANAGEMENT & THEATRE ADMINISTRATION	
Pauline Menear/Terry Hawkins	\$31
STAGES FOR TOMORROW Francis Reid	\$41
STUDIO BASICS Richard Mansfield	\$37
TECH TERMS George Petersen/Steve Oppenheimer	\$20
THE BEST OF DUNCAN FRY	\$13
YAMAHA SOUND REINFORCEMENT HANDBOOK	
Gary Davis/Ralph Jones	\$75

For more info on the above titles, visit www.conpub.com.au or call Sarah on 1-800-635-514 or +61 2 9876-3530 or fax +61 2 9876-5715 and we will send OR FAX you the webpage with full description!

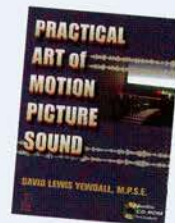


SOUND ASSISTANCE,
2nd edition \$56

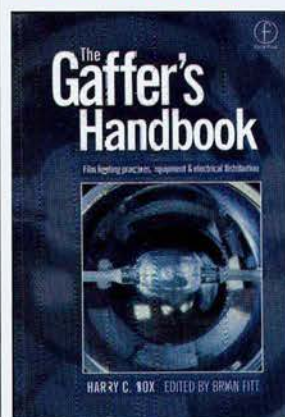
By Michael Talbot Smith. Offers an easy-to-understand account of sound operations in radio and television studios. New edition covers microphone sensitivities, loudspeaker listening tests, stereo transmission in radio, stereo PPM interpretations, MiniDisc, and more. 250 pgs, 1999.

PRACTICAL ART OF MOTION PICTURE SOUND (with CD),
2nd edition \$84

By David Lewis Yewdall, MPSE. This book features such topics as: Pre-production planning, production tips, temp dubs and test screenings, custom recording sound effects, dialog editing, non-linear editing, music in film and television. The audio CD contains sound-effects and demonstration material. 265 pgs, 1999.



SPECIAL!



THE GAFFERS HANDBOOK BY
HARRY C. BOX, usually \$99 this month only: **\$59!**

Film lighting practices, equipment & electrical distribution. 432 pgs, comprehensive, detailed and practical.

CALL Freecall 1800-635-514 to place your order or visit www.conpub.com.au

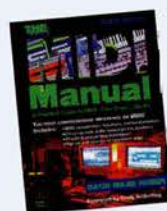


PROJECT STUDIOS, a more professional approach \$84

By Philip Newell. With a boom in so called 'bedroom studio' operations, lack of experience can lead to bad recording practices and an inability in getting the best performances from musicians. This book provide tips and advice on getting first class, professional results from project studio equipment. 274 pgs, 2000.

ON-LOCATION RECORDING TECHNIQUES
\$64

By Bruce Bartlett, with Jenny Bartlett. Focuses exclusively on the special techniques used for recording outside the confines of a studio. Offers a clear explanation of stereo miking theory, along with specific techniques, procedures and hardware. Also covers mixing and editing a live gig tape, building a recording truck, surround-sound miking, binaural and transaural stereo. 278 pgs, 1999.



THE MIDI MANUAL 2nd Edition \$64

By David Miles Huber. The book provides a close-up look at the industry's top products and teaches you how to integrate them with your computer. Illustrations and step-by-step lessons teach you how to set up an efficient MIDI system as well as how to use your PC to expand your musical recording and performance techniques. 255 pgs, 1999.

All prices in Australian dollars. Add freight for each order. Prices may change at any time of course! Current as of August 22, 2000. An activity of Connections Publishing P/L (ACN 058443182), PO Box 439 Epping NSW 2121

Signal Processors

(Part 2, Extract 29)

Compressor/limiters - Using the Output control

Be careful. Don't increase the output gain any more than 2 or 3 dB above 0dB (unity) unless you are positive that your room EQ is perfect.

What happens is simple; when the music is happily bopping away, there's no problem. When it stops, there's nothing to compress, so all that extra gain is just sitting there waiting to feed back. And it usually doesn't wait very long!

If you're just using one compressor over the console main output, well, you can usually catch things in time. Four or more, though, and they will demand constant attention to stop them feeding back. Kick drum and Bass guitar are particular culprits.

Since most people's EQ'ing (mine included!) is not always perfect, you have to 'gain ride' the outputs. At the end of the song, just ease the master faders down a few dB, to compensate for that extra gain you've dialled into the compressors. You can pull the instruments down a bit more, perhaps, as there will usually be a little bit-of inter-song chat from the band to the audience, and if you've pulled the levels down then you won't get any stray drum beats or guitar chords interrupting it.

The instant (or preferably the instant before) the band launches into the next number, push those masters back up where they were.

If your compressor has controls for attack and release, I'd set them on medium to start with! Compressors that don't have attack and release controls have those kind of decisions made internally, automatically, depending on the signal characteristics. Personally I prefer to let the machine make those decisions, because, on a constantly changing signal like Live music, frankly, most of them do it better. More importantly, they do it faster!

Most compressors can function as limiters as well, on ratios of 10: 1 up to infinity: 1. Apart from special applications like the 'too small' system, the most common use is as overall system protection. In its most basic form, this consists of a single limiter placed before the system crossover, or, if the system is passive, before the amplifier.

A more sophisticated form is to put limiters on each output of the crossover. This works well, because each frequency band is limited separately and doesn't interact with any others, making any limiting less noticeable. On the downside, though, you'll need a lot of limiters on; say, a stereo 4 way rig!

A more musical, less expensive idea is to use a multi band compressor over your main mix. This splits the signal into Low and High frequencies, compresses them separately, then recombines them into one and sends it off to the

rest of the system. A unit like this gives you the opportunity to make creative compression changes to either Low or High frequencies, for more perceived bottom end, perhaps, or as a unique sound creator when used as a channel insert.

Let's look at a typical budget rock and roll set up; say a 24 channel console, a couple of 4 channel quad compressors, and a dual band stereo compressor like an ARX Afterburner on the main outputs.

Where are we going to use 8 compressors? A minute ago we were lucky to have just one! Well, I'd insert them on:

- Kick drum
- Snare drum
- Bass guitar
- Lead guitar
- Lead vocal channels for a start.

If there are keyboards, then I'd put one on each keyboard channel.

The problem with keyboards is that the volume levels of different synth patches can vary enormously. Where one just sits happily in your mix, a sudden switch to another can really bend the needles, usually just when you're busy reprogramming a digital delay! Plus, if the keyboard player has his own volume pedal, he can effectively take control of the sound away from you. Not good! So, counteract this with a harder compression ratio, say 8: 1, so that sudden volume changes are taken care of until you have a chance to reduce the level.

You don't have to use compressors just on individual channels. If the console has submix groups, or busses, you can insert the compressors there as well, depending on what you have assigned to them.

We've used maybe seven compressors so far, so maybe I'd use the remaining one on percussion, or any other instrument - sax, trumpet, other guitar. However, if I had a band with a few backing vocalists, I would definitely use it on a vocal submix group.

Harmonies are an important part of the vocal sound. To really pull them together, assign all the vocals to their own group and insert a compressor on it. Set the ratio on about 3 or 4: 1, judiciously increase the level, and it will grab those soaring harmonies together and push them up front. Gate that group as well for maximum clarity.

If you're running a stereo drum submix, you could insert 2 compressors there rather than on individual drum channels, which you may prefer to gate. You've got slightly less control, but compressing the group will pull all the drums together. Just be careful of that output gain.

EXTRACTED FROM
DUNCAN FRY'S BEST
SELLING BOOK,
'LIVE SOUND MIXING'.

©Duncan Fry 1998.
ISBN 0 646 11235 X.
Retail price A\$39.
Available from book stores
and music shops around the
world, or from the
Connections Shop,
call 1-800-635-514.

SLS Can Supply Your Total Lamp Solutions

PHOTO: J. MCGEE/AGE



- Specialist Lamp Distributor - over 3000 different lamp types
- Distribute reputable brands such as GE and Philips
- FIS (Free In Store) delivery Australia wide

For more information Phone: 1300 302 852 Fax: 1300 301 329 email: sls@teg.com.au
Unit 1/37-39 Ricketts Road, Mount Waverley, Victoria 3149

 **SPECIALISED LAMP SUPPLIES** (VIC)

Studiomaster TRILOGY

Professional Front of House,
Recording and
Foldback Console



internal modular

trilogy 140EX

trilogy 166

trilogy 206

trilogy 326

power supply

- 166 - 12 mIC/2 stereo Rackmountable*
- 206 - 16 mIC/2 stereo
- 326 - 24 mIC/4 stereo
- 140EX - 10 mIC/2 stereo Rackmountable expander*

- Balanced mic and line inputs.
- 3 band EQ with Mid Sweep ● 6 Aux sends.
- Listen (PFL & SIP) ● 4 Stereo Aux returns.
- 48V Phantom power ● 4 Subgroups.
- Balanced XLR outputs ● Direct Outputs.
- Inserts and mutes ● High pass filters.
- Internally modular ● EP7 External power supply.
- FREE rackmount kit included.*

Studiomaster - Intelligent Audio Solutions

Distributed by: 87 Mars Road,
Lane Cove 2066
Ph: (02) 9418 6029
Fax: (02) 9418 9801
Email: mardelle_collins@guet.com.au



Midnight Oil reconfirm credentials

Mood and strong colours underscore lighting for theatre run

Lighting Designer Nick Elvins interviewed by Julius Grafton

Midnight Oil are possibly the most 'Australian' band to survive from the last century, and as their recent tour proves, they are resilient and very relevant in 2000. Ostensibly a theatre tour, their latest run incorporated mid sized venues across the Eastern states during the southern winter, normally a lean time for concerts.

There's something pure about 'The Oil's' as they are known. My theory is it comes from the feel, the sinuous tension of the playing, where all the player's minds are of like, with no apparent one Svengali genius - rather it is a true 'group' of old, where the sum is much greater than the parts. And, in a rare reversal, a band where the product matures with age.

I found the tour planted in the Gothic State Theatre where they had sold out four nights in Sydney's largest theatre during August. Soundcheck on a lazy Sunday had drawn band members from some sunny (springlike) daytime pursuits, and the crew were obviously rested after some harrowing days on the road. The road to the State was as long as they get, a dreaded 'overnighter' from the Gold Coast in Queensland, where a gig at Seagulls Club loaded out for a direct drive twelve hours south to Sydney.

"We flew down and got into the Theatre at 12, and I had the rig up at 1.30" states Lighting Designer Nick Elvin. Given the State stage resides about 10 metres below street level, this is a remarkable achievement for Nick and his rigger Lawrie Videky, especially given sleep deprivation.

Nick is 38: "I've never grown up!" He's built stocky, is currently shaven bald, and has that laconic Aussie cynicism that only being on the road for 18 years can provide. He also has an uncanny eye for making much with little, allowing technology to make his gig easier rather than harder.

We ruminates about how it was.

In 1995, Nick was on the road with the Oil's and veteran of several overseas tours. They did some stadium runs, and the lighting spec had reached the giddy heights of 500 cans with all the fruit.

"I did a tour where I had a scroller operator" says Nick, "and that just puts you out of touch". Not to mention the moving lights operator, where that mid - 1980's trend saw three operators trying to make one lightrig work in unison. A trend of its time, it seems.

Along with having a spare Vari-Lite console in case the first one broke.

Today Nick has the most satisfying time, because he has just 26 lights at his disposal. It's like chalk and cheese opposed to the old days, because if used properly, the firepower in these 26 devices could easily equal a rig of several hundred devices just a few years back.

Key to this revolution is the now ubiquitous Mac 500 and Mac 600 duo from Martin. He has 8 of each. Add on 5 x Pollux 5 k Fresnel's (with scrollers, and pole focused), plus 5 x 8 light Mole Fay (again with scrollers) and there you go! How can this work?

It does!

"There's not a lot of Smarties in the sky, it's not boy-band glam", explains Nick.

He's got all you need for a punchy, colourful show, duration two hours. A hundred foot of truss, two dimmer racks (a 5k and a 2k), 2 Hazer's and an Avo Pearl desk. That's why he

Pix: John Stanton



can rig a show and have it focussed in just three hours.

Lighting has become both easier, and better, because of recent technology.

Take the Pearl, 'fr instance. Nick says it's way easy to programme. "It's a good moving light console. I've got the graphics tablet, you just set up, get the pen, say those lamps here,



that colour there in that position - and store. Avo are way better to programme than a Jands Echelon - say - which seem to have been designed by computer boffins!"

The Martin Macs are central to the show, and Nick is super keen. "They are bright - they complement each other (the 500 vs. the 600) and one guy can pick them up".


Going to the convenient nature of the rig,

the Pollux 5k Fresnels are TV fixtures with pole operation of yoke and pivot. Thus everything in this rig can go up without anyone needing to climb into the truss. If it isn't automated, a-la Mac, or on the floor, it can be pole adjusted from sea level. Smart!

Nick also has latitude as to placement of the fixtures, some or more can be floor mounted, depending on the stage and flying


• Due to editorial deadlines we couldn't do more coverage of this tour, although we wanted to. Thanks go to Tim Millikan (FOH eng) and Nick Pitts (Production Manager) for assistance at the 11th hour.

The Next Generation In Rental Management Software



HIRE TRACK
Eclipse

- Multi Currency
- Multi Site
- Multi User



NAVIGATOR SYSTEMS
+44 (0) 7000 628797
info@navigator.co.uk
www.navigator.co.uk

For Win95/98/2000/NT.

Eclipse

Job

Hire

Warehouse

Equipment

Diary

Estimator

Multi-site

Admin

Distributed in Australia by Premier Technology Group, 32 Chester Street, Fortitude Valley QLD 4006.
Contact Craig Ryder Tel: (07) 3257 0443. Email craig@premierlighting.com.au

Dealer Sales: Active Audio, PO Box 1174, Capalaba QLD 4157. Contact Roger Kelly Tel: (07) 3257 7367. Email: mail@activeaudio.com.au

On Tour



facilities. This came in handy when the caravan wound its way into Wagga Wagga one grey day, to find the optimistically named Palladium wasn't a theatre at all, rather a gig with some stairs. Not in the script. But the light rig could be adapted.

This goes to Nicks most redeeming feature. His attitude. "People can make it very hard for themselves" he says, referring to inflexible

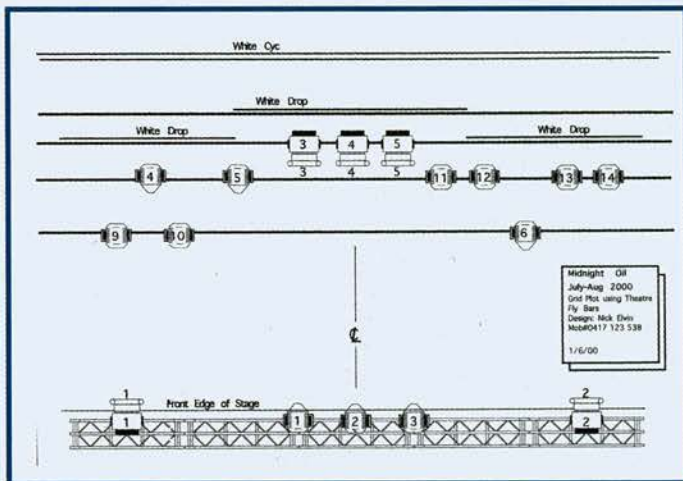
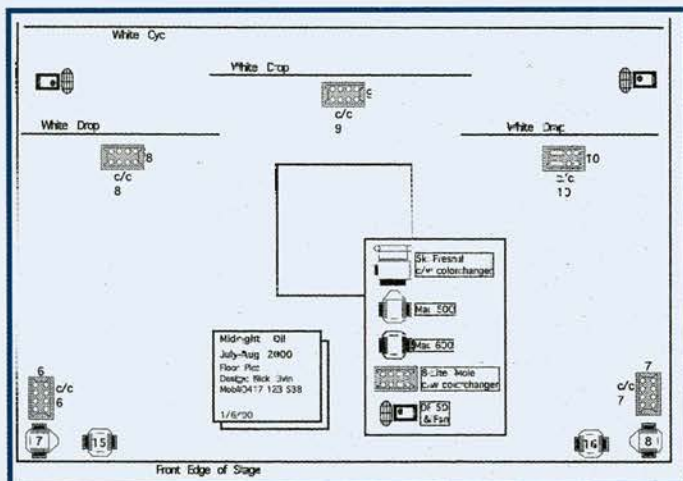
thinking on the job. "It is what it is, you just get on and cope with it". To this end, the Oil's crew on this tour are well meshed and according to Nick, good at constructive compromise. "It's how it should be," he asserts.

The show starts with the five band members at front of stage, for several acoustic numbers. "I use four lights, I don't blow all my lollies. I add in a few, they go semi-acoustic with Rob on the drums, it builds up. It ends up chaotic - on the edge of chaos!"

The band don't like a lot of flash, Nick describes his lighting of them as 'wish-wash, wish-wash, blam-blam-blam'. Solid colours, with dynamics punctuated by Mole-Fays. Colours should be simple too, he says. He favours 181 (Congo Blue). Add in a little red, 'it glows!'. "With some blue-green it is dark and moody. I also like red and amber, red and yellow - the band like the desert colours too".

His rig includes some 'rags', namely a white cyc and a few white legs. It (the rig) came from Phase Shift in Melbourne, where Nick now lives. He is very enthusiastic about the company, and asserts their gear is very well maintained.

So, this is touring with lights in 2000. New technology making it easier, cutting down horrible hours, opening up better concepts. •



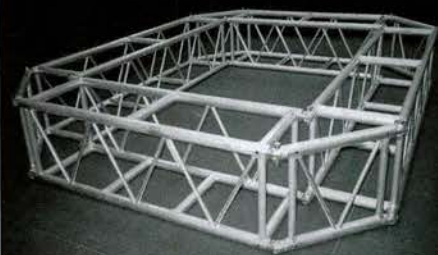
BROWN'S

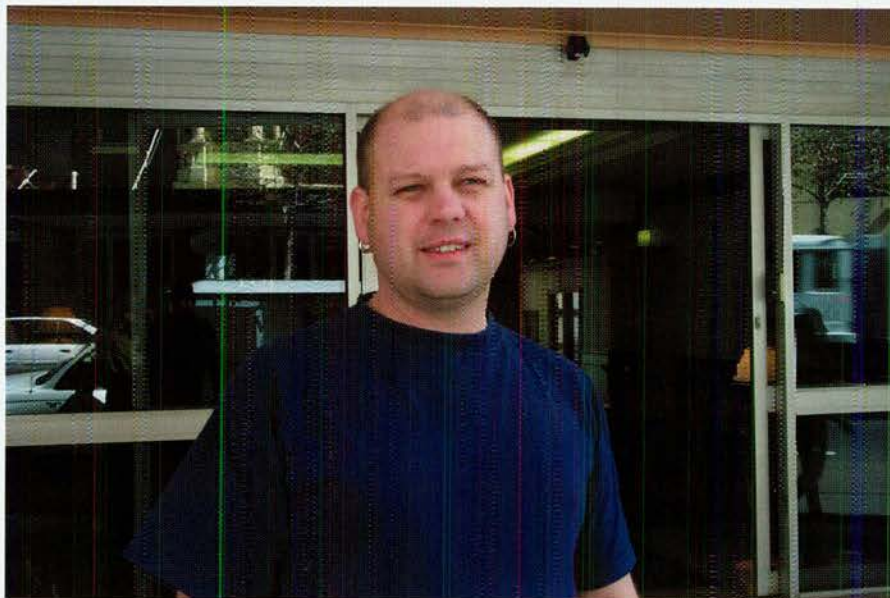
PRECISION WELDING PTY LTD

ALLOY TRI TRUSS • BOX TRUSS • CIRCULAR TRUSS
20 YEARS EXPERIENCE • AUSTRALIAN MADE
ENGINEER APPROVED

Quality assured competitive prices

56 Mologa Road, West Heideberg VIC 3081
Ph (03) 94552899 Fax (03) 94575044
Mobile 0412 401 469





Sound engineer
Tim Millikan

STILL SOUNDING MIGHTY

Midnight Oil's live engineer reveals it isn't an easy gig, despite the band having their sounds together

Midnight Oil is Australia's foremost rock band, surviving well past the other contender for the title, INXS. The Oils, as known, have managed to adapt their sound to the times while not reinventing themselves. It's been rock evolution all the way, and in 2000 they show no signs of wearing out.

Sound engineer Tim Millikan was a rabid fan in his younger days and was happy to take on mixing duties for this latest tour. Connections couldn't talk to him during his Sydney gig, so we caught up over brunch in Kings Cross. Tim whumped into a wholesome looking plate of eggs, mushrooms and tomatoes at 11.15 am.

"I got my ears back six years ago" he explains, after a stint playing bass for various bands. He decided to resume his engineering career because it was a more dependable source of work - "playing in bands is fine and good if you don't want to worry about money, but I got myself a family". Indeed, his first child - a son - was born just before the tour!

So away he went, and day one with the band was a pleasant experience, because as he put it, the sound was together on stage. "The guitars, in particular, were fantastic - just open the fader and add a bit here and there! And Rob's drums didn't need anything done to them. Clem Ryan (drum tech) works with Rob (Hirst, drummer) a lot".

But it's a busy gig.

"Head down, arse up, the whole show through. Lots of cues, lots of parts - lots of listening. It's very busy and very vocally orientated". The band manage to combine a lot of sources, with acoustic numbers during the start of the set, Hammond organ, piano, loops and all manner of sounds to deal with. One segment, with Hammond, piano, acoustic guitars and sequences all together in the same octave makes it a challenge to get some separation.

And the band are "outrageously loud", which is good for feel but tough for the sound person.

BOX BRIEF

The X ARRAY models of PA loudspeaker in this story are configured as follows-

- The **XF box** is a two way long throw box, and boasts 2 x ND12a 12" drivers, and 2 x ND5-16 2" compression drivers.

The high frequency dispersion is 20 x 40 degrees. Crossover points are suggested by EV as being 125hz and 1750hz, meaning the 12" driver starts at 125Hz, and the h/f horn starts at 1750Hz.

>continued over

XM6150 ÷ 3U



= 6 x 150W

AHA

R

OFF



RMS @ 4 Ω



+ HPF



- XLR & Euro-block inputs
- Binding post outputs
- Amps bridgeable in pairs
- Precision rear attenuators
- Individual high pass filters (switchable)
 - Variable speed fans
- Individual amp status indicators
- 18 Kilograms

YAMAHA

PO Box 268, South Melbourne Vic 3205
Toll Free 1800 805 413 Fax: 03 9696 4579

Web Sites: www.yamaha.co.uk
www.yamaha.com/proaudio www.audio-technica.com

A.C.N. 004 259 527 Prices subject to change

Sound of The 'Oils!

BOX BRIEF (continued)

Meanwhile the **XN short throw box** is loaded as a 3 way, with 1 x EVX180b 18" woofer, 1 x ND12a 12" woofer, and 1 x ND5-16 2" compression driver. It has high frequency dispersion of 60 x 40 degrees.

The crossover points see the 18" woofers start working at 80Hz, the 12" at 125Hz, and the H/F at 1760Hz.

XB is a sub woofer, loaded with 2 x EVX 180b 18" drivers.



Approved sound engineer breakfast

PA TIPS

The tour used a new-ish EV X-Array PA from Johnston Audio Services in Melbourne. 20 boxes went out, made up of 8 XF (long throw), 8 XB (bass boxes) and 4 XN (short throw) boxes. (See sidebox for more on these).

The 20 boxes allowed Tim some latitude, depending on the venue. "Some rooms I'd just use some boxes to stack on and not have them connected" he said. "It is always preferable to fly the boxes in the air, to get some air between the PA and the band. It also helps to not get the coupling effect between floor and stage, and to get better level without boning the monitor engineer or the band".

There are also 8 Meyer 650 subs on the road, which sit on the floor.

Tim does something he says is reasonably common, but I hadn't heard of it before. He time aligns the PA back to the backline, "coil to coil". He explains -

"If its delayed to the backline, it cleans up the stage sound, because the members aren't getting cancellation anywhere. Not fighting the PA".

To do this is reasonably easy using the EV DX 38 processors which control the X-Array. The Meyer processor doesn't have a time delay function, so Tim just runs it through one of the DX-38's first. You just do the math: roughly one foot (300mm) per millisecond, so if the backline is 30' behind the PA, dial up 30 milliseconds of delay for the whole PA.

Amplification came courtesy of QSC, with QSC 3000's on bottom end boxes and on all the components in the XN boxes, and PLX 2400's on the mid/highs in the XF's.

MIX TIME

Guitars are sometimes a challenge to get sounding 'right', especially if there are two and if they are so integral to the sound of a band. Tim uses two mics on each guitar amp: an AKG C3000 condenser on one speaker 'left', and a Shure KSM 32 on 'right'. These aren't phase cancelled, and are panned 10 and 2, meaning the left mic is favoured slightly to the left side of the mix, and the right slightly to the right, eg: the pan pot is set to 2 o'clock.

"The C3000 sounds different to the KSM, which handles the mids of a quad box better.

GMT LIGHTING STOCKS THE BEST RANGE OF LIGHTING



EXCLUSIVE AUSTRALIAN DISTRIBUTOR OF LDR, STAGE, STUDIO, THEATRE LANTERN RANGE

● GENERAL SERVICE LAMPS

● FLUORESCENT TUBES

● LOCATION PHOTOGRAPHY

● THEATRE, STUDIO LAMPS

● PROJECTION LAMPS

● MINIATURE LAMPS

VIC

9819 1777

Fax: 9818 0398

7 THOMAS ST HAWTHORN

GMT

GMT LIGHTING
SINCE
1962

NSW

9683 6488

Fax: 9683 6409

23 WINDSOR RD NORTHMEAD

the quality, the price
and the range...



Konig & Meyer offer the industry's widest variety of stands - all with the innovative design and distinctive German craftsmanship the world has come to rely upon.

Today, the K&M range offers a solution to every microphone placement challenge. And recently released models mean that now there's a stand to fit any budget, all with the same K&M quality.

Call us now for details on the complete range of K&M microphone stands.

trc

The Resource Corporation Pty Ltd
tel: (03) 9877 8233
fax: (03) 9877 8244
www.trc.com.au

I get better separation (using the two mic's). The band have particularly humungous fat guitars!"

There is also a Red Box on each guitar speaker outbox, giving that amp sound before the speaker cone, allowing Tim to blend yet another source together. As he tells it, once a little EQ is added or subtracted, it's the ability to blend sources that makes a better mix.

This philosophy also occurs at that tricky device, the kick drum, where a Beyer M88 and a Shure SM 91 share space. The M88 sits about an inch inside, and is reverse phased to the SM91. "Once you pair the two mic's for gain, it's easier to blend them during a gig than it is to add EQ".

Other drum mic's include two SM 57's (snare top and bottom) and AKG 418's on toms. The AKG CK414's on overheads are Tim's favourite mic ("I'm a bit of an AKG man!") and he has a CK 391 on high hats.

Where the rest of the mic rig is relatively exotic, the vocal microphones are standard Shure SM 58's. "I prefer not to use Beta 58's, they're a bit bright, and if the lead singer moves away they'll pickup the drum sound" he explains.

The bass rig has an active DI and a Beta 57 on a speaker.

Out front, Tim had a Yamaha 4k (PM 4000) which was fine, although he describes himself as a Midas man.

"It's crucial to be on top and get the vocals crystal. What Pete (Garrett, lead singer) says must get across".

GETTING ALONG

"It's crucial to work well with your co-workers. There's ten to twelve people to get on with, relationships are vital. A good (PA) rigger is important, so you can bounce suggestions and if they PA goes up and doesn't work as well as it could, you re-hang it". Tim is on the road with Paul Gould from Johnston Audio as his rigger.

"Ben Shapiro (Monitor engineer) and I try to go out as a pair too. We are sympathetic to each other, and I don't have to get on the talkback to find out where all the 200 (hertz) is coming from. We tune sympathetically to each other." Ben has Brent Gray on the road as Monitor's rigger.

"We do basic things together, like check the

front line mic's and check phase on everything. I'm not fighting against him. He's probably the best monitor engineer I've ever worked with!"

Likewise the band don't want someone coming back after a gig and serving up platitudes. "They'd much prefer me to tell them if something isn't right, or if a harmony is flat".

Tim tapes each gig, and early on spent a lot of time listening to his mixes, discovering little things he either missed or could improve. "It's not the kind of band where you get the balance and just open the faders."

"They've got it together!"

By Julius Grafton

LKS - The Lighting Connector

Designed for Professional Lighting Applications

- Easy to use locking ring
- Grounding pins forward
- Machined contacts
- Suits 1.5 to 2.5 mm² wires
- Removable pins
- Waterproof IP67
- Male & female versions in both cable & panel
- Socapex compatible



Ask us about the new LKH range of head to ballast connectors

LKS Lighting Connectors - distributed in Australia by:

trc The Resource Corporation Pty Ltd
 tel: (03) 9877 8233
 fax: (03) 9877 8244
 www.trc.com.au

AON Risk Services
AUSTRALIA LIMITED
 ACN 000 434 720
 presents

Entertainment Protection Plus

INSURANCE FOR ALL YOUR ENTERTAINMENT RISKS

- Equipment
- Travel
- Non appearance
- Cancellation or abandonment
- Public liability
- Personal accident
- Vehicles
- Workers' Compensation

Email: ken.killen@aon.com.au

**Call Ken Killen or Daniel Kenny
 TOLL FREE 1800 806 584
 for free quotations & advice**

Level 27, AON Tower, 201 Kent Street, SYDNEY, 2000 Tel (02) 9253 7570

Recording a hit!



Doug Brady (left) and Producer, Ross Fraser

Recording 33 1/3

Mandy Jones talks to the team behind John Farnham's number one album

The recording of John Farnham's latest studio album 33 1/3 was far from typical. A collection of 60s and 70s songs taken from American catalogues plus some new material with the same retro flavour, the album required an organic approach from recording techniques to the selection of the studio.

Producer Ross Fraser explained finding an appropriate studio for the project was difficult due to the sale of Gotham studios which had been used for previous Farnham projects, plus the dismantling of Studio 1 at Metropolis, leaving them without a suitable studio. Without resolving the studio problem, discussions began about the type of music and the way it was going to be recorded.

"We decided we were going to record it with the band from day one. On a normal album with John we'd do a serious amount of pre-production - a lot of programming a lot of computers involved, and then probably go in and put the program stuff down and then bring the band in one at a time. But with this one, the type of music we were doing was straightforward and simple so that was the approach that we took."

To accommodate the band a large recording space was needed and the group decided on

an enormous 30 foot high warehouse on the backlot at Channel 9 in Melbourne. The acoustically treated space had been used by Farnham for tour rehearsals and had "a pretty good sound".

Pre-production took place during the first three weeks of band rehearsals where all the arrangements and instrumentation were decided. Bass, drums, keyboards and guitars would be cut as live rhythm tracks, and brass and second keyboards (Hammond and Wurlitzer) would be added as overdubs. Vocals were mainly overdubs although some of Farnham's guide vocals were so good they ended up on the album.

Following the three weeks of rehearsals, Metropolis' mobile studio truck was brought in and studio engineer Doug Brady came on board.

"We brought in two Fairlights because we wanted to record on hard disk and in 24 bit and I knew the Fairlights were reliable," explained Doug. "And we used a Yamaha PM4000 which we use for most of John's live shows because it sounds clean and true. We mainly used that as our front-end, but we also had some outboard gear - Neve compressors, I always have Focusrite pre-amps and EQs which I take everywhere, and some Green Series stereo compressors. We also used these AWA valve compressors from Metropolis that were beautiful, they made the bass and kick-drum sound like it was the 60s."

After the truck was brought in, the first week of recording was getting all the rhythm tracks down - three a day of track after track.

"We had seventeen tracks to do and that whittled down to 13 which ended up on the record," Ross said. "In the second week we did keyboard overdubs with second and third keyboards, and then brass overdubs which was a fairly extensive session because all 13 tracks had some sort of brass from sax solos to full 3-piece brass. Then there was a final session with vocals."

To keep the eye-line of the band, John Farnham recorded his guide vocals inside a perspex hut likened to a Pope-mobile. For the final vocal over-dub session Farnham was

recorded in the open in the warehouse so there was plenty of air around the sound. Doug explained Farnham always uses an AKG C12.

"Before we start recording with John we always check what new mics are around and we listen to them, and without being biased we always come back to the AKG C12, so John obviously likes its tone in his headphones."

To keep the eye-line of the band, John Farnham recorded his guide vocals inside a perspex hut likened to a Pope-mobile.



Monitoring for the band was provided by Metropolis - Ernie Rose developed some new 10 channel headphone mixers with stereo returns and patch bays. Doug said they were ideal for the application as the band were able to look after their own monitor mixes which saved him running between the warehouse and the truck constantly.

Doug mixed the album at Metropolis studios. "We basically took the Fairlights down there plugged them up to the SSL, and to keep it all 24 bit we actually mixed onto a third Fairlight. And they weren't just stereo mixes, we did some extended mixes in 5.1 surround so we can use them later."

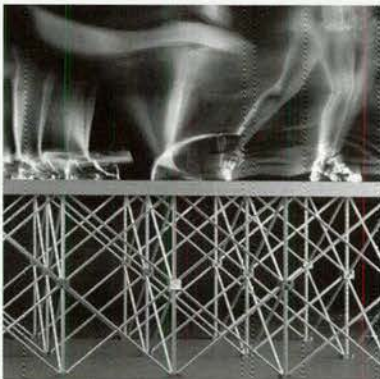
John Farnham has described recording this album as the most enjoyable recording experience of his career - a big pat on the back for Ross and Doug and all involved.

"I'm really happy with the sound of the record," said Ross. "It's the best one we've made in ten years, in material and direction, and the sound of it. And thank God it culminated by debuting at number one which is a nice way to finish a project."



Loveable antiquity. These devices were spotted at Studio 301 last month. In perfect working order, we may add!

Staging CAN'T get any easier than this...



2m² of staging set up in 30 seconds by one person.
Sound good? Then consider also these benefits:

Lightweight - 60cm leg section weighs 5kg
Strong - will support 1000kg per m²

Fast & Easy - legs can be set up with one hand!

Versatile - multiple heights let you build steps, multi-level staging, in fact you are only limited by your imagination!

SC Systems - distributed in Australia by:

trc The Resource Corporation Pty Ltd
tel: (03) 9877 8233
fax: (03) 9877 8244
www.trc.com.au

Small Wonder

The miraculous DPA 4060 Miniature Microphone tops the bill in wireless systems for theatre and television. Not only does the 4060 offer outstanding audio performance under difficult conditions, it is also extremely robust in operation. Unique connection adapters ensure compatibility with a wide variety of VHF and UHF systems. A range of sensitivities encompass the vast majority of applications where high quality audio, near-invisibility and lightness is required. Developed from many years of professional audio experience, the 4060 is just one of the high quality products from the renowned 4000 series - available now from DPA Microphones.



STUDIO
SUPPLIES
PTY LTD.

5 Myrle Street,
Crows Nest,
NSW 2065
Tel: 02 9957-5389
Fax: 02 9922-2043
Email: jonhart@ozemail.com.au
ACN 303184504

Series 4000 Microphones
from DPA

DPA
MICROPHONES
www.dpamicrophones.com



CHARTS

Compiled by Sarah Ford
sarah@conpub.com.au



SINGLE: I Won't let go
ARTIST: Real Blondes
PRODUCER:
Cheryl Webb & Jay Stewart
MIXING: Steve MacMillan @
MacMan Digital CA
STUDIO: Vocals recorded @
Phoenix Audio
MASTERING: Oscar Goanna @
Studio 301
PROGRAMMING: Jay Stewart
REMIXING: Groove Pedlars (James
Ingram & Matt McKenzie) with
Mastering by Neville Clark at Disc
Edits, Adelaide



SINGLE: Teenager of the Year
ARTIST: Lo-Tel
PRODUCER: Keith Cleversley
ENGINEER: Keith Cleversley
STUDIO: Festival Studios. Assisted
by Matt Lovell
MIXING: Jack Joseph Puig @
Ocean Way Recording, CA
MASTERING: Greg Calbi @ Sterling
Sound, NYC

New South Wales

ARTIST	PRODUCER	ENGINEER	SESSION
Music & Mastering			
A#Sharp Jeff Cripps +61 2 9153 9988 24 Track Analogue 32 Track Digital			
Onslaught	Jeff Cripps	Jeff Cripps	CD
The Radium Club	Jeff Cripps	Jeff Cripps	CD
Finn	Jeff Cripps/Jim Finn	Jeff Cripps	CD
The Kami Kids	Jeff Cripps	Jeff Cripps	CD
Damien Gerard Marshall +61 2 9555 1710 2" 24/Pro Tools Music Facility			
Nic Dalton	Nic Dalton	Russell Pilling	Album
Physco Zydeco	Greg	Russell Pilling	Album
Smiley	Randall Leigh	Russell Pilling	Japanese punk band EP
New Christs	Rob younger	Russell pilling	Tracking Album
Festival Studios Suzanne Hill +61 2 9395 8070 24 Track Analogue Neve Pro Tools			
Magic Dirt	Phil Vinall	Mark Thomas	Album
Hard Ons	Mark Thomas	Mark/Evan	Album
Lime	Lime + mark	Mark Thomas	Rhythm Tracks
Rumanastone	Rumanastone	Evan McHugh	Demos to Dat
Floating Point Studios Peter Tzanetos Pro tools Mix Analogue Studio 24 1/0			
Pnau	Nick/Sam Littlemore	Peter Tzanetos/Martin Eckel	Album
Gangstar Productions Dave & Rebecca Dwyer +61 2 9557 7116			
Grover	Dave Dwyer/Grover	Dave Dwyer	Album
Desperates	Michael Roberts/Bruce Venables	Dave Dwyer	Album
Bernie Segedin	Dave Dwyer/Bernie Segedin	Dave Dwyer	Album
Hindong Studio David + Lyn Hinds +61 2 6582 7070 Digital Project Studio			
Balance	David + Lyn Hinds	David + Lyn Hinds	Album Tracks
Dazza & Shazza	David + Lyn Hinds	David + Lyn Hinds	Album Tracks
JMF Recording Studio Fran Esther +61 2 9790 4097 2" Analogue, X850, 24 Track ADAT			
Gervais Koffi	Gervais Koffi	Guy Saminaden (E) Steve Score (P)	Album
Melissa Stevens	Melissa Stevens	Ralph Esther (E)	Album
Mirans Army	Mirans Army	Ralph Esther (E)	Demo
Lana Nick	Lana Nick	Ralph Esther (E)	Demo
Nu-Town Studios Greg Hopping +61 2 9516 3306 Analogue/Digital Production			
Kelly Ophel	Greg Hopping	Greg Hopping	Album Demos
Kanoe	Greg Hopping	Sofie Loizou (PR)	Single
Lisa Wass	Greg Hopping	Sofie Loizou (PR)	Single
Navigator	Greg Hopping/Sonny Agirillo	Sofie Loizou	Album
Paradise Studio Bill Field +61 2 9357 1599 24/48 Track Analogue/Moving Fader Automation			
Paul Mac	Daniel Denholm/Paul Mac	Daniel Denholm (E/PR)	Tracking
Wingspan	Martin White	Martin White (E)	Mixing
The Tennants	David Trump/Band	David Trump (E)	Tracking/Mixing
Even	Tim Whitten	Tim Whitten (E)	Mixing
Q Studios Paul Conroy +61 2 9212 4851 SSL Gt, Studer 827 2"			
Lash	Andrew Klippel	Paul Mc Kercher	Single
Iota	Michel Letho/IOTA	Michel Letho	EP
Fugue	Sorrelle David	Sorrelle David/Phil Munroe	EP
Rockinghorse Vern +61 2 6680 8149 48 Channel Neve V series, Studer, 24 Track, Pro Tools Mix 24			
Fire Sign	Fire Sign	Michael Worthington (E)	Album Mastering
Ten Tenors	Brendan Morley	Brendan Morley/Anthony Lycenko (E)	Album Mixing
RollerBall	Anthony Lycenko/RollerBall	Anthony Lycenko (E)	EP tracking + Mixing
ChenLab	Anthony Lycenko/Christian Pyle	Anthony Lycenko	Album Mixing
Sony Music Studios Peta Chew +61 2 9383 6320 Multi Track Recording, Mastering & Video Editing			
Justine Bradley	Justine Bradley	Ross A'Hern	Mixing Album
Art Phillips	Art Phillips	Adrian Bolland	Tracking for Album
The Necks	Lloyd Swanton/Chris Abrahams	Paul Bryant	Master CD
The Catholics	Lloyd Swanton	Paul Bryant	Master CD
Sound Level John Soane +61 2 9552 3200 24 Track DA-88 + Hard Disk Editing			
Sean Lowrey	Sean Lowrey	Jorden Brebach	Overdubs + Mixdown
The Drugs	The Drugs	Jorden Brebach	B Sides



New South Wales

ARTIST	PRODUCER	ENGINEER	SESSION
Dropweight Daredevil	Dropweight Troy Scerr	Jorden Brebach Jo-den Brebach	Overdubs Tracking
Soundwarp Meredith Brooks +61 2 9905 7144 Mastering			
Adrian Ayre	Adrian Ayre	Meredith Brooks	Singles & Jingles
Duncan Appleby	Duncan Appleby	Meredith Brooks	Album
Sodasm	Michael	Meredith Brooks	EP
Mirth	Luke Stacey	Meredith Brooks	EP
Tiger Recording David Hemming +61 2 9922 4700 Recording Studio			
Marcia Hines	Peter Rix	David Hemming	'Rise'
Top Cat Recording Studio Brad Wann +61 2 6628 0233 Analogue 1" 234 track, Pro Tools Mix 24 P us			
Chilblane	Brad Wann/Lee Dowling	Brad Wann (E)	Album Mixing
Animals are Smarter	Brad Wann	Brad Wann (E)	EP Mixing
Crunch	Brad Wann	Brad Wann (E)	EP Tracking
Joanne Roher	Joanne Roher	Brad Wann (E)	Album Mastering
Trackdown Digital Mike Duffy 64 Track Post & Music			
Allnitters	Allnitters	Damian Candusso (E)	Album Mixes
Mad Dash	Mad Dash/Damian Candusso	Damian Candusso (E)	EP - record + Mix
Velvet Sound Recording Studios			
Skunkhour (PR)	Steve James	Tony wall (E)	Album Tracking
4-Bolt	4-Bolt	Adrian Grigorieff	EP Track & Mix
Revelation	Revelation	Adrian Grigorieff	Album Track & Mix
Storm & Serenity	Lee Sadarkis	Lee Sadarkis	Album Mixing
Wirra Willa Studios Will Rout +61 2 9605 1203 24 track			
Macarthur Sounds	Melvyn Sneeve	Will Rout (E)	Mini Album
Dysfunction	Brett Carnes	Will Rout (E)	Mini Album
Janette May	Janette May	Will Rout (E)/Matt Wakeling (PR)	CD
Single with remixes			
Let the Flames Begin	Paul Blyton	Will Rout (Mast. E)	Album

Queensland

OPM Studios Daniel Seymour +61 7 3374 0066 Digital Multi Track with Logic Audio			
Brown Sound	Brown Sound	Daniel Seymour	Demos
Shi	Tim Norris	Daniel Seymour	Single
7 Zark 7	7 Zark 7	Daniel Seymour	Editing for live shows
Exposed	Daniel Seymour	Daniel Seymour	Demos
Stargate Music Productions Dash Mclvor +61 7 3260 6294			
Brett Goodwin	Dash Mclvor	Dash Mclvor	Album
Kelly Mellers	Dash Mclvor	Dash Mclvor	Album
Rob Black	Dash Mclvor	Dash Mclvor	Tracking
Daniel Dow	Dash Mclvor/Daniel Dow	Dash Mclvor	Tracking
Vandersound Studios Eric Vandersande +61 7 5546 8100 All Valve + Digital 02R, HDR, CDR			
Pale Horde	Eric Vandersande	Troy Afolphs (E)	O/Dub + Edit
Madison Kat	Eric Vandersande	Lae Coulsen (E)	Record + O/Dub
Oz Deli	Andrew Hines	Toby Masterson (E)	O/Dub + Edit
Oscar	Andrew Hines	Grant Walker (E)	O/Dub + Edit

South Australia

Disk Edits Pty Ltd Catherine Linke +61 8 8340 1377 Audio mastering & Post Production CD & Cassette Manufacturing			
D.C.E Records	J Gray	Neville Clark	Mastering/CD manufacture
Super Science	Super Science	Neville Clark	Mastering/CD Manufacture
GT Stringer	Band	Neville Clark	Mastering/CD manufacture
Paul Wookey	T Bradford/P Wookey	Neville Clark	mastering/CD manufacture
Mixmasters Mick Wordley +61 8 8278 8506 24 Track 2"			
Bergeral	Jed palmer	Jed Palmer	Album
Kate Battersby	Ray Smith	Mick Wordley	Album



SINGLE: Desensitized
ARTIST: Invertigo
PRODUCER: Charles Fisher & Ralph Carr
MIXING: Chris Lord-Alge @ Sing Sing, South Yarra
STUDIO: Recorded @ Standard hq, Melbourne
MASTERING: Bob Ludwig at Gateway Mastering, Portland, Maine
REMIXING: The Leigh Brothers @ Standard hq, Melbourne + Mastered by Steve Scanlon



SINGLE: Community Life
ARTIST: Yothu Yindi
PRODUCER: Andrew Farriss
ENGINEER: Andrew Farriss, Mark Thomas, Adam Rose & Rob Taylor
STUDIO: Recorded @ Yirringa Studio, Gunyangara NT, Nalandji Studio, Whale Beach, Festival Studios, Sydney All songs mixed @ Mangrove Recording Studios
ASSISTANT ENGINEERS: Mattbitdubmaster2000lovell, Blair Simmons, Evan McHugh & Dave Tunstall
MASTERING: Don Bartley @ Studio 301, Sydney

Tracking Guide



SINGLE: My Happiness
ARTIST: Powderfinger
PRODUCER: Nick DiDia & Powderfinger
ENGINEER: Nick DiDia Assisted by Matt Voight
STUDIO: Sing Sing Recording Studio
MASTERING: Nick DiDia Assisted by Anton Hagop



SINGLE: Make You Feel
ARTIST: Sunk Loto
PRODUCER: Paul McKercher
STUDIO: Recorded by Paul McKercher @ Q Recording & Studios 301
MIXING: Michael Barbiero @ RPM Studios NY
MASTERING: Greg Calbi @ Sterling Sound NY
REMIXING: The Testeagles, Paul Mac @ The Fibromajestic



SINGLE: Ordinary Girl
ARTIST: Jackson Mendoza
PRODUCTION: Toddy for 19 Management
MIXING: Andy Bradfield for Townhouse Management @ Mangrove Studios, Gosford
STUDIO: Recorded @ Dodgy Sound
PROGRAMMING: Andy Page
MASTERING: Steve Smart, Studio 301
REMIXING: Alex K



South Australia

ARTIST	PRODUCER	ENGINEER	SESSION
Free Style	Jed Palmer	Jed Palmer	EP
Skinbilla	S Field Hewe	S Field Hewe	EP

Victoria

Audrey Studios Craig Pilkington +61 3 9415 8599 Analogue/Digital/Hard Disk			
Killing Heidi	Clinton Krauss	Craig Pilkington	Post & Live Recording
Duketone Productions	Sven Svenson	Craig Pilkington	Vocal Recording
Red Lantern (Anna Burley)	Anna Burley/ Craig Pilkington	Craig Pilkington	Album
Killjoys	Craig Pilkington	Craig Pilkington	Album

BackBeach/Elevation Mark Rachelle +61 3 5988 6948 2 Studios Analogue & Digital			
Madison Avenue	Van/Coates	Mark Rachelle	Mixing Album
Trigger	Arden Godfrey	Mark Rachelle	Single Remix
Madison Avenue	Mobin Master	Mark Rachelle	Re Mixing
Nicole & Amanda Campbell	Mark Rachelle	Mark Rachelle	Album Tracking

Baker Street Recordings Allan Neuendorf ++61 3 9888 8084 32 Track Music/Voice Recording studio			
Paul Colman trio	Andy Sorenson	Andy Sorenson	Album
Mark Westby	Allan Neuendorf	Allan Neuendorf	Album
Kathy Chan	Jared Haschek	Allan Neuendorf	Album

Crystal Mastering Joe Carra +61 3 9326 2318 Mastering suite			
Madison Avenue	Van/Rachelle	Ruberto/Carra	Mastering Album

Dex Mastering Adam Dempsey +61 3 9372 2266 Pro mastering Sonic Solutions & Sadie			
Donald Cant	Robin Williams	Adam Dempsey/Chris Corr (E)	Album
Sir Veto	Michael Shelley	Adam Dempsey (E)	Album
Sabrina Montgomery	Sabrina/Chris Corr	Adam Dempsey (E)	EP
Don McKinnon	Don McKinnon	Adam Dempsey (E)	Single

Edensound Martin Pullan +61 3 9682 9066 Focusrite 'Blue' Mastering Suite at metropolis Melbourne.			
Six Ft Hick	Spencer P Jones	Martin Pullan	Chicken – Album
Wendy Rule & The Parallel Dream		Martin Pullan	Album
Adam Thompson	Adam Thompson	Martin Pullan	Live @ The Palace
Killing Heidi	Paul Kosky	Martin Pullan	Extra Tracks for Single
Donna Fisk and Michael Cristian	D Fisk + M Cristian	Martin Pullan	Joy Ride – Album

Newmarket Studios Ben Hurt +61 3 9329 2877 Analogue 24 Track 2"			
Playground	B.G & band	Bruce Gayther (E)	Single-Rock/Pop
Andrea Keller & Anita Hustas		Ben Hurt (E)	Album-Jazz
Donald Cant	David Cameron	Chris Corr (E)	Album-Musicals/Opera
Sabrina Montgomery	Sabrina + Chris	Chris Corr (E)	Album-Jazz

Studio 52 Paul Higgins +61 3 9417 7707 2 x 48 Track Studios Graphics + Distribution			
Wayland	C Thompson	A Meakes	Winner of "Best Indy band"
Freakapotamus + Sentor	Chris Thompson	Andrew Meakes	Record Company Demos
Larry		Mitck Kenny	Sampler CD Track

True Form Recording Neil Gray +61 3 9391 0907 24 Track Analogue, Digital + Hard Disk Editing			
Tex	Neil + Band	Neil Gray	Demo
Sour Grapes	Neil + band	Neil Gray	Demo
World Wide Words 1	Neil Gray	Neil Gray	Spoken Words Album
Planet Groove	Rob/Band	Rob	Demo

Wombat Rd Recording Studio Barrie Clissold +61 3 5145 4204 24 Track Digital, Mastering + Duplication			
Live @ Briggolong Hotel	Barrie Clissold	Barrie Clissold	Album CD
Kylie Willoks	Barrie Clissold	Barrie Clissold (E + PR)	Demo CD
Voices in harmony	J ward	Barrie Clissold (E)	Demo tape (Live)
Nicole Johnston	Johnston/Clissold	Barrie Clissold (E)	Demo CD

Western Australia

Poons head Rob + Sam +61 8 9339 9479 Audio recording/production & mastering			
Seahorse radio	Rob Grant	Rob Grant (E)	Mastering
Arcadia	Rob Grant	Rob Grant (E)	EP
Adora	Rob Grant	Rob Grant (E)	EP
Leanne Chinnery	Rob Grant/Leanne Chinnery	Rob Grant (E)	Album



Western Australia

ARTIST	PRODUCER	ENGINEER	SESSION
Revolver Sound Studio Vic Manfrin +61 8 9272 7505 Track Automated Analogue and Digital			
Spencer Tracy	Ben Glatzer	Ben Glatzer	Mixing
Nathan Gaunt	Ben Glatzer	Ben Glatzer	Tracking
Greenroom	Greenroom/ Ben Glatzer	Ben Glatzer	Tracking/Mix
Flagship	Flagship/ Ben Glatzer	Ben Glatzer	Tracking
Satellite Recording Studio Darren Halifax +61 8 9470 4003 Pro Tools 64 Tracks x 24 bit			
Little Black Dress	Helen Haley	Darren Halifax	Channel 9 – Postcards WA
George Vegas	George Vegas	Darren Halifax	EP
Jim Fisher	James Hewgill	James Hewgill	Album
Riverview Church	Andrew Bolt	James Hewgill	Television Shcw (Weekly)
No Flowers	No Flowers	Darren Halifax	Album
The Sonic lab Mark Whitehouse +61 8 9375 3902 Sonic Solutions Mastering Suite			
Mercedes College	Estelle Dragun	Mark Whitehouse	Demonstration Disc
Rod Christian/Peter Waterman	Mark Whitehouse	Mark Whitehouse	Musical soundtrack
Ray Walker/John Pistano	Ray Walker	G. Owens/ M. Whitehouse	CD Master
Phil Squirres	Phil Squirres	Mark Whitehouse	CD master

Post for Film/TV

New South Wales

Floating Point Studios Peter Tzanetos +61 2 9318 1550 Pro Tools with Video Sync & 02R			
Sydney Olympic Broadcast	Peter Tzanetos	Peter Tzanetos	Music & Mixing for Video
Montage			
Vacant	Peter Tzanetos	Peter Tzanetos	Film & Post Production -
ADR + Foli			
DJ Nina Brown + DJ Carl	Peter Tzanetos	Peter Tzanetos	DJ Mix Compilation – Hip Hop
Trackdown Digital Mike Duffy +61 2 9550 6890 64 track Post & Music			
Tabaluga 2	Yoram Gross-EMTV	Torei Lista (E)/Scott Ryan (E)	TV Post
Flipper 2	Yoram Gross-EMTV	Damian Candusso (E)	TV Post
Moulkin Rouge	Bazmark Films	Simon Leadley (E)	Music Editing
Old tom	Yoram Gross-EMTV	T Lista (E)/ D Candusso (E)/ S Ryan (E)	TV Post
Wirra Willa Studios Will Rout +61 2 9605 1203			
Ceroc Dance Video	Will Rout (E)	Will Rout (E)	Audio Post for Video
Wizard of Oz	Brian Lau	Will Rout (E)	Audio post for Video
Law Vision training	Law Vision	Will Rout (E)	Audio Post for Video
Sales video for Liebert		Will Rout (E)	Audio Post for Video



BASF YOUR MUSIC IS SAFE WITH US

YOUR BASF TRADE SALE OUTLETS:

NSW:

Audio Visual Designs (02) 9281-2444
 Silver & Ballard (02) 9439-5355
 Independent Tape Services (02) 9436-0666
 MT&A (02) 9310-2799

VICTORIA:

CATS (03) 9529-3177
 Chapple Tape (03) 9580-6620
 DEX Audio (03) 9372-2266
 MT&A (03) 9819-6455

SOUTH AUSTRALIA:

Adelaide Tape Duplicators (08) 8212-7111
 Pro Media (08) 8276-6793

WEST AUSTRALIA:

Ausmag (08) 9314-1953
 Pro Copy (08) 9375-3902

QUEENSLAND:

Musiclab (07) 3252-2188
 Tek (07) 3239-4000



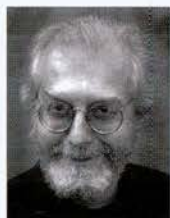
SINGLE: The Real Thing
ARTIST: Midnight Oil
PRODUCER: Midnight Oil
STUDIO: Recorded by Paul McKercher @ Festival Studios. Assisted by Matt Lovell
MIXING: Magoo @ Studios 301 Assisted by Anton Hagop
MASTERING: Tim Young @ Metropolis Mastering UK



SINGLE: Gimme A Break
ARTIST: Resin Dogs
PRODUCER: Robert Reed, Jeff Lovejoy & resin Dogs
ENGINEER: Jeff Lovejoy , assisted by Anthony Lyckeno
STUDIO: Rockinghorse Studio, Byron Bay
MASTERING: Robert Reed @ Sterling Sounds NYC



SINGLE: We Think You're Dishy
ARTIST: B(if)Tek
PRODUCER: Kate Crawford & Nicole Skeltys
ENGINEER: Frank Tetaz @ Moose Mastering, Melbourne
PROGAMMING: Kate Crawford & Nicole Skeltys
MASTERING: Frank Tetaz @ Moose Mastering



CREATING A FUSS *by Graham Walne*

Many years ago I was a stage management student in a London drama school. My fellow SMs and I became fed up with the low opinion of our abilities held by the actors and we resolved to present a production without them. Our 40 minute 'son-et-lumiere' contained stock set items which were flown or revolved to a complex lighting plot with matched music, effects and recorded interviews, coupled in turn with projected images. Without exception the actors were stunned by our creativity and I imagine similar experiences have taken place at drama schools the world over.

More recently I led teams of people in the UK in defining the functions of various backstage occupations to inform national qualifications. All the sessions were fascinating as people argued about different customs and practices but the design sessions were the most controversial of all. It was assumed 'design' involved originating the concept but there was much debate about whether someone could still call themselves a designer if they were arranging items creatively but which had actually been originated by someone else. The difficulty of assessing creativity was not helped by the qualification structure and as a result little emerged.

However, the issue remains. The world over, technicians who might never want to be lighting designers are nevertheless putting lights up for one-night-stands or in-house productions and making judgments about shape, intensity and colour, which is purely subjective. They may not call themselves designers, and they certainly won't be paid as designers, but, in effect, that is what they are. There is a parallel with sound, many technicians are placing loudspeakers and balancing systems with regard to acoustics, aesthetics and electronics, but their hearing makes the end result personal and their own tastes inform the outcome.

As a lighting designer I welcome working with a technician who can bring some of his or her own judgment to the overall process. I won't usually be around for the rig so whilst it is vital my drawing is accurate and it will be discussed, there will still be some rigging which will need to be altered on the day and a sense of what the lamp is supposed to do will help inform a suitable alternative position. Following the plan precisely might be proper employment practice but in the event of a problem an educated and creative guess as to the end result might make for better employability.

A creative person at the top of the Genie will produce better focussing because they can have some ownership of the work rather than be a simple automaton following the instructions coming from below and the quality of the result will be higher.

In addition they can usually see the effect on the floor and on the masking better than the designer and so their judgment is valuable.

A good operator will bring his or her own sense of timing to the cue within parameters I will have set. For example, they will smooth out fades by warming up

lamps in earlier cues.

The best operators I have ever had for opera work have all been musicians, with one in particular being asked by the conductor for a critique on the orchestra, so good was the operator's musicianship!

This article is being written just after working in Perth's Playhouse Theatre where the Technical Manager, Ian Boase, provides considerable and sympathetic support. Like all resident staff he knows what works best in his house and makes useful suggestions, his involvement in the show is total so that visiting companies aren't made to feel that support is limited because they'll have gone at the end of the week. If I want to add a lamp, or refocus one, Ian will usually have done it before I get to do it, and as a designer I can let this happen because I trust his judgment. I might also learn something he has done successfully in this venue which I wouldn't have thought of.

Sound technicians are no less creative. Above all they need good judgment about the amount of information which needs to be in the foreground and which needs to be in the background and then the relationship between the two. Many years ago the BBC actually researched the effect on the fatigue of listeners if the difference between the foreground and background sound levels was reduced.

Not surprisingly they found that a good sized gap produced little fatigue but the closer the two signals became in level, then the harder it was for the listener to identify the content easily. This is something film and TV sound mixers appear to have forgotten. A good sound person needs to understand music and the different styles of its presentation so that the mix matches what is in his or her head. Unlike lighting, which can be the constant output of the computer, sound differs every night as performers, audience patterns and the atmosphere combine in a unique manner. So, sound operators need to use their judgment to produce the best result, they are making choices.

It would be a great step if managements could recognise the creativity of their staff in these respects and that each person brings something unique to the process of producing work, something which would be lost if that person moved on.

Pure technical work in all industries tends to be linear and the process and outcome can be clearly defined, so people providing this service can be interchanged. But the greater portion of work done by the greater portion of backstage staff requires that a judgment of elements such as spatial relationships, visual imagery and timing is carried out. Often the right combination defies analysis, it just feels right.

People who can deliver this combination and appreciate the result are creative whatever their job title, and here some changes would help to reflect the contribution technicians and stage managers can make. I think many technicians are reluctant to admit to being creative because it spoils their macho image, so maybe we need a macho technician designer title, any ideas?

Choosing Your Wedge

by John Grimshaw

Recently, Coda Audio (Sydney) decided to increase their stock of foldback wedges, as the need for them in various situations seemed to be growing beyond the capabilities of their current inventory. They decided to get a few wedges in from various different manufacturers, test them, and choose one to become their stock floor wedge. Connections stumbled on to this little test and asked if we could look over their shoulder while they worked. As a result, Coda asked their chief monitor engineer - Brad Law - to take us through the ins and outs of wedge testing...

The criteria for the test

Before they started, Coda set up some basic requirements that their new wedge had to fulfil. These included in the test were that the wedge needed to be low profile, be loaded with a 12 inch speaker and a horn, and offer high output. It would be beneficial if the wedge could be easily changed into a passive mode (with an internal crossover) for times when high output (biamped) is not required. Having established the criteria, they then contacted some manufactures, and invited them to supply a wedge that most closely fit the requirements. The wedges supplied were:

- EAW SM200iH
- EV XW12
- Tannoy S300
- Meyer UM-1P
- JBL SP212-9

How the wedges were tested

Where possible, each wedge was tested with its recommended EQ controller, and/or the recommended EQ curve was loaded into a Klark Teknik DN9848 (see August Connections). The wedge was then listened to using a variety of sound sources including music sources from CD and a direct spoken voice test using a SM58 microphone. In each case, Brad Law modified the EQ curve from the recommended default curve until he felt he was getting the best sound out of the box.

Testing Each Wedge...

Tannoy S300

Though not strictly a foldback wedge according to Tannoy, the S300 was given the distinction of having "the most pleasing sound out of the box". With no EQ to modify the output, the S300 had a surprisingly high quality sound to it.

It also has some very interesting physical characteristics that set it apart from its competition - a pole mount socket and eyebolt threaded holes. With dual-concentric drivers, the sound field of the S300 was designed to be a wide 90-degree conical spread from its front.

It was clear the wedge was designed with "multi-purpose" in mind. It could be used on



a pole as a small FOH speaker, hung from a ceiling or placed on a stage as a wedge.

This proved to be its biggest drawback in terms of the test, as the 90-degree conical output meant that feedback would be more likely to become a problem than for a wedge that carefully directed its output.

Unfortunately, this wedge could not be tested in active mode without modifying the internals behind an access panel. Although this speaker didn't fare too well in the search for Coda's preferred wedge, Law indicated that they were likely to get a few S300's for other purposes due to the versatility of the speaker.



One very important consideration with regards to choosing foldback wedges is the precise application they are intended for. Wedges that are designed with the punch and power required for rock and roll may not be desirable in controlled, theatrical situations and vice versa.

A wedge that may not have fared well in this test may not have the requirements the Coda were looking for, but may be ideal in other applications. The best advice would be to do exactly what Coda have done, and organise your own test and choose the wedge best suited for your application.

Comparing Speakers



EV XW12

The EV – XW12 was described as having 'a characteristic EV output.' Law described this as having "a very present 5-6 to 8k sound". Law was impressed with its bottom end capabilities, but they had to firmly control the top end to prevent it from "cutting" as much as it did. Using a EV- DX38 controller, they dialled up the EQ curve factory set for this type of wedge, and this tamed the high end considerably. Law continued to play with the EQ until he achieved a very satisfactory sound.

Solidly built, the cabinet is fitted with speakon connectors on both sides of the wedge and has the ability to sit on either side, removing the necessity for a left/right pair of wedges.

EAW SM200iH

The EAW SM200iH wedge was not originally included in the test until various engineers and venues recommended it. The size of the wedge is the first and most obvious thing about this wedge – it is a very low profile, small wedge with a very tidy, square design. Another excellent feature of this wedge is the active/passive switch which allows very a simple changeover for each new setup – an very important consideration for hire companies.

When they powered up the speaker in passive mode, they were very impressed with its smooth and natural high end, and the powerful low end. According to the specifications it has a power handling capacity of 500W in passive mode - and it was considerably louder than any of the other wedges tested.

When the suggested EQ and crossover information was used to drive the wedge in active mode, the quality of the sound remained very impressive - the characteristic of the sound changing only very subtly. This wedge quickly became the pick of the bunch purely on an acoustic level, prior to the considerations of price.

Meyer UM-1P

The Meyer UM-1P wedge had the advantage of being a self powered speaker, and yet the speaker remained relatively light to carry. It

was also the only model tested with the horn placed above the 12" inch driver. This made the profile of the unit higher from a visual point of view.

To Law, it offered the excellent Meyer "hi-fi" quality sound that he expects from the Meyer product, but he felt that could really do with a bit more power output. Law also mentioned that a bit more bottom end would have been ideal.

JBL SP212-9

The JBL speaker was a late addition. Unfortunately, Jands did not have their higher quality Array series wedge available for the test, and as a result this model submitted did not quite have what Coda were after.

When it was first run up in passive mode, to Law's ears the quality of the seemed to lack "definition" in the bottom end, and the internal crossover between the high and low-end drivers did not seem to be ideal.

When the speaker was run in bi-amp mode, Law was able to get considerably better sound out of the wedge by directly controlling the EQ of the sound going to each driver. Like the Tannoy, switching between active and passive modes is achieved by flicking a switch behind an access panel that is screwed in place.

So which wedge was ultimately purchased by Coda? The two clearest contenders in terms of the audio quality demanded by Coda were the EV and the EAW wedges. The EAW one was very tempting because it went beyond Coda's requirements for a wedge, it sounded excellent, and it was very discrete and small. However the price was a little higher then they wanted to spend.

The EV may have needed to be cajoled into sounding right in passive mode, but given the right EQs, both the passive and active capabilities were well within the range of Coda's requirements for wedges.

In the end, Coda thought the EV best suited their budget and audio requirements.

Specifications on the web:-

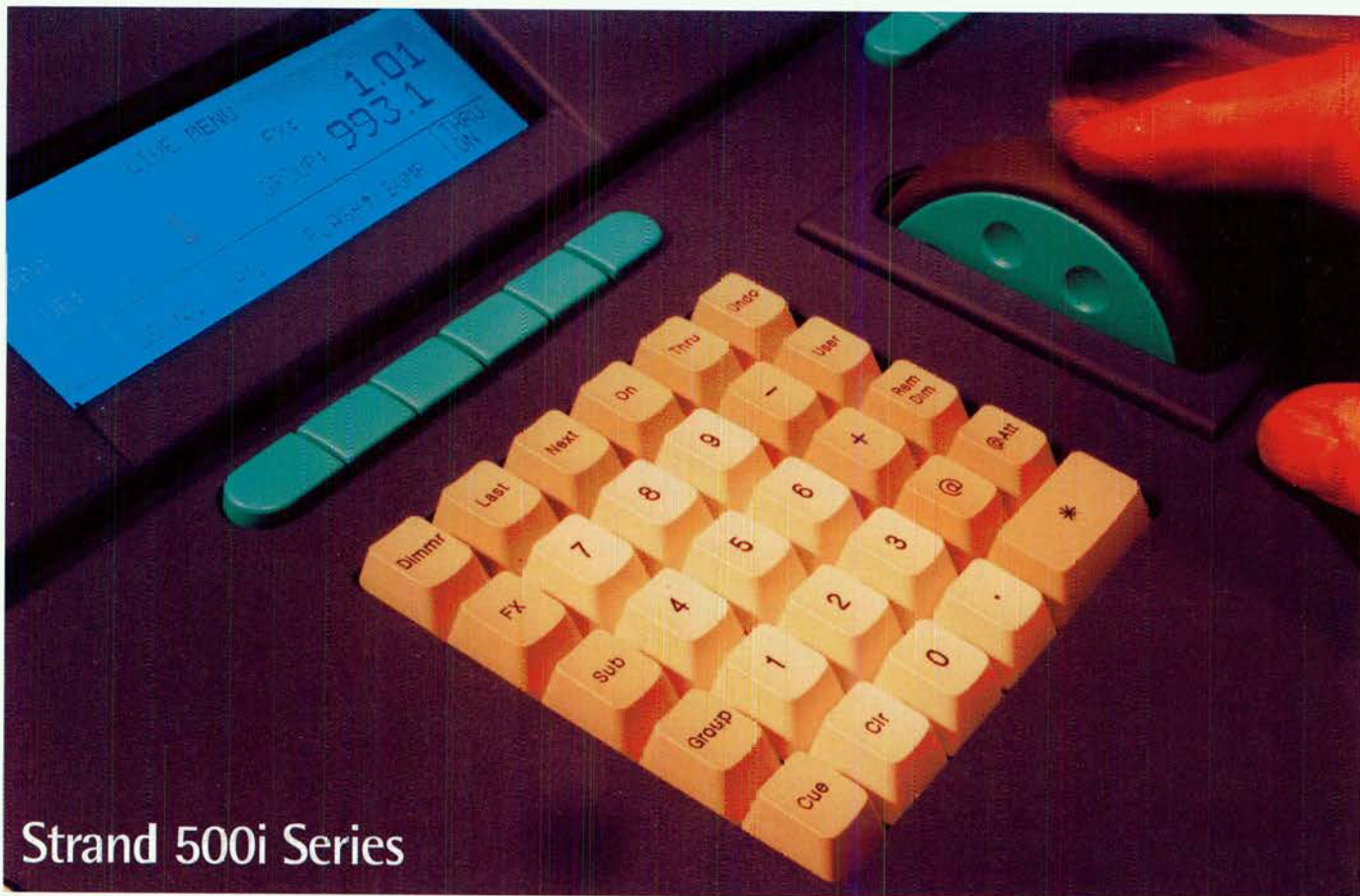
- www.eaw.com/pages/Products/Series/SM/SM200.html
- www.electravoice.com/rtdocs/html/spkrs.htm
- www.jblpro.com/pages/install/soundpwr.htm
- www.meyersound.com/low/ur-1p100.htm
- www.tannoy.com/products.cfm

Here is the Australian recommended retail price for each wedge:

EAW	EV	Tannoy	Meyer	JBL
SM200iH	XW 12	S300	UM-1P	SP212-9
\$5950	\$3319	\$4884	\$5900	\$4475

Driving The Big Desks

by John Grimshaw



Strand 500i Series

The Strand 500i series are the top range desks that Strand currently produces. At the top of the range is the Strand 570i - also known as the 550i Dual Control. This desk has the capability to directly control 3 DMX512 universes out of the box. Using additional Ethernet control nodes, this can be expanded to a whopping 8192 channels.

Designed to drive conventional and moving lights, the desk comes pre-loaded with the attributes of just about any moving light you care mention. If the desk does not contain the attributes of the specific device you are looking for, then it is an easy task to download the appropriate information from Strand, and then load it into the desk.

Other design features include the ability to control up to 200 separate fades at the same time, as well as 2000 cues, 1000 groups and 3000 macros.

Other desks in the series are the 520i, 530i and the 550i - with the 510i version being a rackmountable back up. Each desk

uses the same software, and is essentially a Pentium PC running a special Strand operating system.

All of the desks in this range can run with full tracking backup to a second desk, or to the dedicated 510i. This means that if one desk dies during the show, the second automatically jumps straight in to take control and continue running the show.

However the all-important question is, "How hard is it to learn how to operate?"

Setting up the options

One of the first things a new operator has to understand when they walk up to this desk is that there are many ways this desk can be set up to operate. This set up affects how data is input, screen layouts, how the desk operates and much more. So, the first thing you must do is look at the set up, and see how the desk is configured so you can use it. Two of the most important attributes to check are the *cue modes*, and the *data entry format*.

Learning how to expertly use any of the latest "up market" lighting desks takes many hours of time. Most technicians that learn these desks have a considerable amount of experience on other desks before they start, and still many hours are required.

In this regular feature, and with the help of some of the more talented operators out there, Connections gives you a taste of the big desks.

Direct 1 Digit Data Entry

This option places the action at the end of the command, and usually the enter key is not required. For example, to record cue one, the three key presses would be:

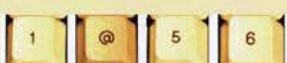


Changing channel levels does not require the enter key, but does require the decimal point key for fractions of 10%. So, the combination of keys for the same examples as above are:



Direct 2 Digit Data Entry

This option uses the same structure as Direct 1 Digit, expect two digits are always required for channel percentages. Using the same two examples again, the commands become:



Tracking or Cross-Fade Cues

The two primary modes this desk can be run in are GeniusPro and Lightpalette modes. Typically, the console records all cues as Cross Fades when in GeniusPro mode and as Tracking Cues when in Lightpalette mode.

What does this mean?

Cross-Fade Cues is the older, conventional mode where by every channel level is recorded for every cue, and so a change to a channel's level across a series of cues required the new level to be recorded into each individual cue.

With *Tracking Cues* (aka Move Fades), if you give a channel a level in a cue, that channel stays at that level until it is told a new level in a subsequent cue. This way if you want to adjust the level of a given channel over a series of cues, you only have to change the level in the cue where it first appears, and then that change is carried through all of the cues until the next level change is recorded for that channel.

Tracking Cues greatly simplify the process of using intelligent lights, but they also add another level of complexity. However, once you understand the additional cue types available in Tracking Cues, this system can become a powerful tool for the lighting operator.

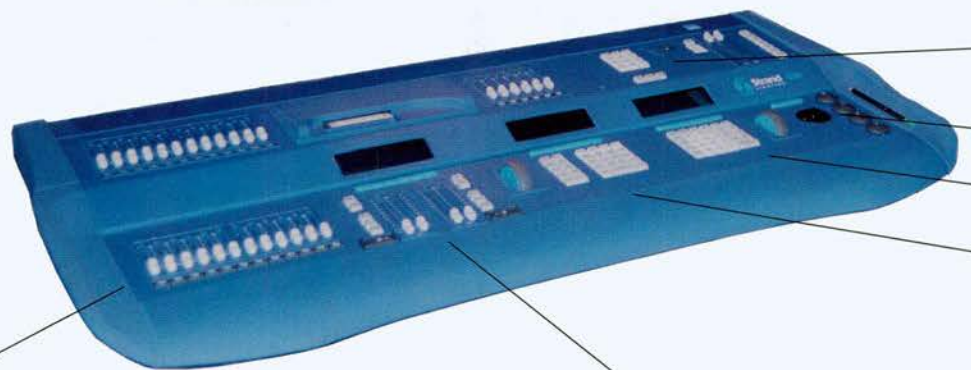
Soft Block Cue (Lightpalette) or *Block Cue* (Genius Pro) records a level for all channels so that changes made to previous cues do not track into this cue. Individual channels can be told to ignore this blocking cue.

Hard Block Cue (Lightpalette) or *Cross Fade Cue* (Genius Pro) are much the same as Soft Block Cues, with one simple exception. If you tell a channel to "ignore" the blocking cue and to track its level through to subsequent cues, the desk re-blocks the channel after the change. In other words, it removes the block, allows the channel's level to track through the cue, and then re-establishes the block at the new level.

Entering Data

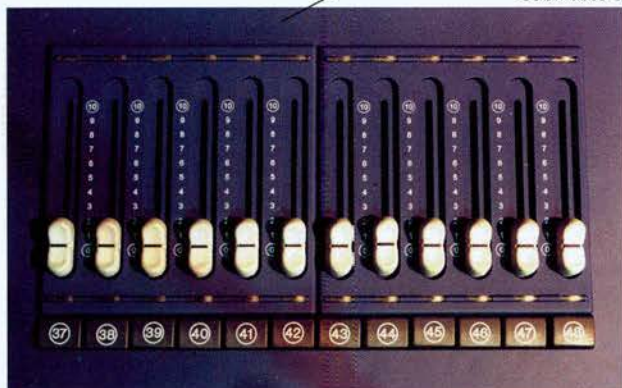
Some technicians are concerned about the number of keystrokes required to tell channels to go to specific levels and then recording the result to a cue. Operators familiar with some of the other Strand desks like the GSX/LBX range and even the old Galaxy desks will understand some or all of the options available to this desk.

The 500 series give you three options for entering data. Each is different, and it is very important to know which option is set before you start working with the desk.



Submasters

Cue Playback



The three data entry options are:

- Command Line
- Direct One Digit
- Direct Two Digit

Having decided how the desk will operate for you, most of the hard work in learning the desk is complete. Now it is simply a case of building each state that you want to record as a cue, recording these as separate cues and then playing the cues back.

To play back a sequence of cues, first you have to load the first cue into one of the two cue playback busses.

It is good to remember that in tracking mode, "Loading" a cue is a process. If you decide to load a cue in the middle of the sequence you have recorded, the desk will have to look back through your cues to see what level each channel should be at.

Once a cue is loaded into the playback buss, the operator has the simple task of pressing the "Go" button.

manual for the desk has been included where you need it most of all - on the desk itself. Using a system of hyper links, an operator can quickly answer those troubling "How the hell do I do this!?" type problems.

There are many, many more functions available on this desk, and the best way to learn these is to get over the manualphobia (the fear of reading a users manual) and spend time with the desk - but be prepared to spend a lot of time.

It is with special thanks to the lighting staff at Sydney Opera House that we are able to bring you this starters guide to the Strand 500 series.

Command Line Data Entry

When using this option, the chief thing to remember is that commands are entered with the action first, then the object and usually ending with the enter (*) key. For example, the three key presses to record cue one are:



Changing channel levels can be done with a single-digit number. For example, putting channel 1 at 50% would require four key presses. Also, exact percentages can also be entered. For example, putting channel 1 at 56% would require five key presses. Here is how both of these examples would look:



Help

Perhaps one of the most important buttons found on this desk is the "Help" button. Due to the fact that the desk is really a PC running a Strand operating system, the

Setup Control



Control Wheels



Effects Control



Main Keypad





OASIS: *Continued from page 40*
Video

getting over the age-old problem of using broadcast video equipment that's usually static. The mixer is what we have come to expect from Grass Valley - fantastic, leading-edge products, backed up with first-class service.'

Beside the GVG 4000 were Magic DaVE digital effects units assigned to each screen area, performing routing, inserting effects and mixing between playback and live camera images. A massive 32 x 32 matrix enabled any image to appear anywhere on the screens. Controlled by Richard Turner via Apple Macs and a Dataton control system, playback came from four 36GB DoReMi digital hard drives.

'It's a dream system, said Turner. 'It's entirely digital from the camera heads, through the matrix, effects, mixer and through to the screen processors, whereupon the signal is turned into analogue to enable the VGA processor to deliver the picture to the LED walls. This means that the signal remains absolutely clear and free of interference until it gets delivered to the screen. There is zero delay through most processing apart from digital effects, and only then does it account for a three frame difference. All the live camera lip-synch will be fine at the FOH tower.

'In analogue form, after taking the signal through several processors, one could end up with up to 10 frames delay which looks horrendous when the view is a live camera image of a lead singer who appears to be half a second out of time with the music. You then have pictures after audio and the human mind can't deal with that! With analogue, you are effectively adding another element of delay every time you feed a signal through another processor, and it soon all adds up. With digital, it simply doesn't happen.'

The 17 cameras included one in an airborne blimp and another on a technocrane. Said Des Fallon: 'Adam Berger at CT is taking feeds

from some of our cameras and going live to air, and we have some cameras that are specifically for the screens under Chris Hilson's control. Normally on a live broadcast, all the touring video cameras get ripped out because the OB company needs those positions, and we would get OB feeds to the screens. On this, because of Dick's dual role, the situation is kind of reversed, which is possibly a world first!

SOUND FROM WANDSWORTH - AND OZ

Continuing its long touring partnership with Oasis as PA supplier was Britannia Row Productions, with Mike Lowe expertly managing his 'account' as usual. The front system at Wembley consisted of 32 Flashlight highs per side, four columns wide, and 32 Flashlight basses per side - four wide on their sides and eight high. Additionally, there were split Floodlight underhangs infilling across the front of the stage.

Summit Steel provided four support towers behind the mix tower which each carried a Turbosound delay cluster (six Flashlights - two wide, three deep), four Icons for audience lighting and a DF50 haze machine.

These were the same towers used by Brit Row at last year's Route Of Kings concerts in Hyde Park, only they have been updated with some cosmetic refinements, such as covers for the bases. Wembley's EV house system was also used to augment the Brit Row PA by delivering a little high end lift to the back end of the stadium.

Backstage in catering on the Friday afternoon, Noel and wife Meg proudly displayed their offspring Anais as I leapt on Australian FOH Engineer Bruce Johnston for an interview. His predecessor Huw Richards (now a regular with SSE Hire) left the Oasis crew rather suddenly whilst in New Zealand at the tail end of the Be Here Now tour. The next day, Johnston received the call that would eventually turn his life upside down.

Johnston has the current ENTECH live sound engineer award, and has previously worked with Richards on a Crowded House tour, as well as mixing fellow Antipodeans Midnight Oil, Hoodoo Gurus and The Divinyls, said: 'Oasis needed someone with Flashlight experience to mix the next night, and my friend David Hughes from ACP in Australia recommended me. The phone rang at 3am and I agreed to do the gig, and also finish off the tour in South America. I kind of got on with the necessities and didn't make any waves. About 18 months later I thought I'd e-mail Oasis's management on the off chance that they needed me for a forthcoming tour, and sure enough they did. I got the gig purely through e-mail - I never spoke to anyone! That's the power of the modem for you!'

Australian FOH Engineer and current ENTECH Live Sound Engineer award holder, **Bruce Johnston** looking sunny and relaxed in London.

"I got the gig purely through e-mail - I never spoke to anyone! That's the power of the modem for you!"



Did it feel that he was stepping into a hot seat? 'No, I was pretty blind to what was going on. I was advised to just go in and do what I normally do, and not change anything because there were only eight shows left. It was hot in terms of the band being very loud, but I wasn't about to walk in and ask them to turn down. When I took over, I did note that Noel appeared to have one of every amplifier ever made, and there were eight channels assigned to his guitar rig. I only ever used two because the mics were all out of phase with each other and it was a mess.'

Johnston, the owner of his own medium scale PA company in Australia (Johnston Audio), has now singled out the 'ballsy' Shure KSM-32 as the mic of choice for the Gallagher guitar rig. As for vocals... 'We have Beta 57As, not for clarity but for volume. Gareth needs to get extreme volume, vocally, and although it wouldn't be my personal choice, this particular mic keeps everyone on stage happy.'

Several members of the crew were counting their blessings that Oasis had learned to deal with reduced SPLs and yet still sound commanding.

Said Johnston: 'They're a lot quieter than ever - I've got them down to about 110dB at the desk, as opposed to 117dB on the last tour.'

Monitor Engineer Gareth Williams chipped in: 'It's probably louder than ever where Liam is, but elsewhere on stage it's pretty tame compared to a few years ago. When Noel has been deputised by Matt Deighton for the overseas shows, the overall volume drops even further and you no longer wince as you walk across the stage!'

Brit Row's Mike Lowe had told me weeks before that Oasis have never sounded better, and Wembley was the proof. This is not only a reflection of Johnston's arrival but also that the musicianship has taken on a new, controlled professionalism since guitarist Gem Archer and bassist Andy Bell joined the fold.

'I guess it's more of a rock band in the traditional sense,' commented Johnston. 'The bass and drums seem more forceful. Alan White in particular is playing drums a lot harder. Noel has entrusted Gem with half of his guitar parts and that's allowed him to relax a bit more and concentrate on solos.'

A long time PM4000 man, Johnston has more recently mixed on a Midas XL4. 'Coming from a pub rock background I am very hands on so the PM4000 suited me because everything was in reach, which isn't normally the case with Midas consoles. Funnily enough, it was through doing outdoor gigs at night that I came to like Midas desks because of the way they light up and help you see what's what! After doing

the current festival run I've used the XL4 so many times and now realise that the sound quality is superior, and that's affected my whole outlook. As everyone's been telling me for years, it's a much warmer sound, and I finally agree with 'em!'

The FOH man has forsaken the trend for cramming the racks with pseudo-vintage valve gear and kept his palette simple, experimenting only with a dbx 1605 and a Focusrite on the vocals.

'Being predominantly a loud rock band,' he said, 'it's inevitably hard to hear subtle things, and frankly it's a waste of time to insert individual reverbs and that kind of stuff into the mix, especially indoors.'

SIMPLIFIED MONITORING

Gareth Williams reported that with the exception of his Midas Heritage 3000 desk (again replacing a PM4000), monitor world was virtually identical to the stage environment for the Be Here Now tour.

There were two flown sidefills angled down at 35° towards the centre vocal mic position, essentially for Liam, and ground stacks each consisting of six bass and four Floodlight predominantly for the rest of the band.

All the floor monitors were Turbosound TFM-350 2 x 15-inch wedges.

'I love the 3000,' Williams said. 'It has a lot more facilities on it than I actually use, but then we've been simplifying the monitoring system with every outing since Knebworth in 1996, which was about as complex as we'd ever get. I hardly had the time to look at the band, never mind enjoy the gig! Now, we're right down to basics for a guitar band which uses loops on just three songs. It's just down to the VCA routing.'

One other notable change has been a switch in amplification, further to Brit Row's recent investment in the C Audio Pulse series. 'I had the Pulse amps out on the festivals but it wasn't until the Bolton Reebok Stadium gig that I finally A/B tested them and I was amazed at extended headroom we're now achieving.'

HOWARD'S END

Effectively the Lighting AND Set Designer on this production, Mikey Howard's association with Noel Gallagher pre-dates Oasis, and goes back to the time when the pair worked on the



Oasis on the road



crew of The Inspiral Carpets. In at the start of this amazing rollercoaster ride, back in 1992, Howard's designs continue to be the result of a self-inflicted brief.

Earlier this year, Howard was enthusiastic about TP covering the stadium tour, and made the point that Wembley should be the focus. We now know why. 'I had in mind the idea to build the set around a big screen, and the curved screen that we now have at the centre was going to carry on right across where the drapes are and over to the sides.'

'Unfortunately, the end result would have been two million pixels big and it was going to cost £3.8 million. So that was that!'

Having lost so much time working on the original design, Howard was forced to conjure the stadium show whilst on the road. He said: 'The band really liked the riser set on the Be Here Now tour, but they wanted to get back to a band-with-backline situation this time. But that's difficult when you have an 80 foot wide stage [provided here by StageCo], so that's when I started looking at ideas for drapes.'

Along with the LED screens, the scrims and all the drape artwork totally account for the set. The main stage drape - a representation of the Standing On The Shoulder Of Giants album cover - and the side scrim panels were all printed by Scanachrome and supplied by Hertfordshire-based Back 2 Front. 'We're dead pleased with what they did,' praised Howard. 'The look is stunning.'

Howard is normally prone to designing something eye-catching in the Oasis stage roof, and this occasion was no different. So, as I gazed quizzically at three oval-shaped, light-carrying objects, I had cause to ask the designer exactly what this was all about. 'Don't worry,' he laughed. 'I remember drawing them and thinking myself, 'What the f**k's that?' So I just went to Geoff Grainger and Robin Wain at LSD, who have been as fantastic as ever, and asked them to do something with these shapes. I didn't really know what they were and how they could be made real, but they came up with a way of making these pods by covering trussing with fabric. The design came from taking one of the band's T-shirts and stretching the image in Photoshop to form the oval shapes, then printing the image over drapes. I didn't want to see any obvious metalwork and even people who use covered pods all the time have said it looks pretty unique.'

Owing to a performance kick-off time of 8.40pm, most of the show was staged in daylight. 'We're really lighting just for the cameras until the last 45 minutes, and that's when we really kick in with the big colours.'

FAVoured WASH

While Light & Sound Design was the main lighting contractor, Howard also insisted on the sub-hiring from Vari-Lite of his beloved VL5. 'The VL5 remains my first choice of moving

wash light and I think it will be for a long time,' he said. 'We have 240 lights on Kille's desk for the audience lighting which is a very responsible job considering the TV broadcast, whereas I have just 110! I'm controlling everything on stage - the PA wings, the Moles and all the big buttons.'

On stage there were 62 Icons, 58 VL5s, 10 Deathstar strobes, six 1kW 4-cell groundrows and four circuits of ACLs. 'That's about it for the generics,' said Howard, who also specified four Cirro Strata haze machines. 'I normally have four bars of six Pars at the front but I've even got rid of them this time, because it really is a moving light show. With so much of the show in daylight, there was little point in putting in any specials, but what we have really does the job. Whatever budget we had for additional lighting or set pieces, we've spent on the drapes, and of course there are these seriously wicked screens. Getting the curved centre screen was a big bonus after the original idea went down the tubes.'

A further six Icons and six VL5 Arcs were rigged on the mix tower. Meanwhile, rigged in the stadium roof for the audience lighting were four Gladiator 3kW follow spots, 60 Icons, 30 VL5 Arcs, 60 High End Studio Color 575s, 30 Par 36 8-Lites, and six 70kW Lightning Strikes.

For control, LSD provided one 72-way and two 48-way Avolites dimmer racks, and three Icon desks filled the space at the front of the upper mix tower: one for Kille Knobel's audience lighting, one for Howard and a back-up. Commented Howard: 'I had an Icon desk out on the small theatre shows, and I had time to programme the extras for the stadium gigs, so by the time we got here my work was virtually finished. Kille's had the most to do and we've helped her as much as possible. Amazingly, it's all been so relaxed... a bit too relaxed, if you ask me! Everyone's worked so well together - I wish it was always like this!'

A few days after the band's Wembley victory, Dick Carruthers called the TP office with his verdict. 'It was just wonderful,' he said. 'We had an excellent crew, which proved that when the going gets tough, the tough get going! Juggling the live show with the TV side was a real challenge, especially as I only had an hour between the gig and the broadcast to delete all the expletives! The band played brilliantly and Sky were very happy with the outcome, so I guess we've all done a great job.'

While the tabloids continue to do their best to permanently split the Gallaghers and put an end to this mighty band, it would be foolish for the brothers to allow it to happen, and they know it. On the other hand, Oasis could implode before this issue is published.

The situation is that volatile. •

DIRECTORY



Contact us Ph: (02) 9966 9111 www.greatoutdoorlighting.com.au



Ten Days On The Island will be staged across Tasmania between March 30 and April 8, 2001. We are seeking people for work between January and April 2001 to work as Production Managers, Production Coordinators, Stage Managers, Lighting Designers, Lighting Operators, Sound Designers, Sound Operators and Mechanists.

Send your CV to Kristin Molhuysen, Administration Manager. GPO Box 646 HOBART TAS 7001.

EBTECH

PROFESSIONAL AUDIO PROBLEM SOLVERS



Swizz Army™

Multi-function Cable Tester displays the exact wiring of any cable or adaptor. Allows testing cables inside walls! Tests XLR, 1/4", RCA, 1/8", TT, MIDI. With Test Tone, Phantom detect. \$299 RRP

Hum Eliminator™

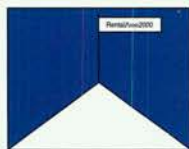
Silence AC Hum forever! No sound degradation.
HE2 (2 Ch.) \$199 RRP HE8 (8 Ch.) \$599 RRP

Line Level Shifter™

Solves -10dBV to +4dBu problems!
LL2 (2 Ch.) \$249 RRP LL8 (8 Ch.) \$699 RRP

NEED MORE INFORMATION? CONTACT...
AUSTRALIAN AUDIO SUPPLIES (02) 4388 4666

MAJOR NEW Version



For A/V, Lighting & Audio Equipment rental & production, staging & business theatre.

- **Australia's No. 1** - Save your valuable time, look at the best software with local service first.

- **Download a demo now!** www.rentp.com

RentalPoint Software
(formerly HirePoint Software)

Contact: Stephen Collard, SF Business Dev. Ph (03) 9761 2727 Mob 0407 541 290

RentalPoint2000 Hire Software

Wanted Yamaha

02R Mixer

in good order.

Keen buyer

+61 2 9957 6244

We are proud to have been chosen as preferred supplier for the floodlighting of the car park at Louis Ramponi's Doonside Panelbeating and Smash Repairs. Can we light you up too?

www.electricsunshine.com.au

Fifth Annual Institute for Professional Development

COURSE ONE: 'Professional Sales Skills for A/V Hire and Staging'

Faculty; Brett Bower ICIA Australian New Zealand Manager.

COURSE TWO: 'The Perfect Image 2 Presentation Systems Set-up and Design'

Faculty; Gary Kayye CTS, Kayye Consulting - Chapel Hill, NC

Melbourne
15 - 19 January



To learn more about this once-a-year IPD program or ICIA, contact **Brett Bower**, ICIA Australia and New Zealand Manager, +61 2 9531 6777, email bbower@iciahq.org, or visit ICIA's website at www.icia.org.

POSITIONS VACANT

Positions Vacant

Casual Audio & Lighting Contractors

(with ABN) required for busy Sydney production company.
PH: +61 2 9311 1197
FAX: +61 2 9661 7110

ELECTROLUMINESCENT (EL) SPECIALISTS

EL LAMPS - FLAT SHEETS THAT ILLUMINATE
EL CABLE - 3.2mm WIRE THAT ILLUMINATES

CALL US FOR A BROCHURE

FLEXI-GLOW
LIGHTING

PH (02) 9684-6796 FAX (02) 9684-6688
WEB <http://www.flexiglow.com.au>

PRO-AUDIO

NEW & USED

www.mixmasters.com.au

Exclusive Australian Distribution
AVALON, UA, JOEMEEK,
DISTRESSOR, RNC

Always buying vintage equipment
08 8278-8506 MIXMASTERS / SHRAPE
Email to be on list mixm@senet.com.au

DIRECTORY

ADVERTISE HERE; CALL
SARAH, 1-800-635-514

DIRECTORY

For sale

AAAfter a certain piece of gear or have some to sell. Call Neil @ Cannon Sound on (02) 9948 4440.

Aftermarket quality replacement diaphragms. From \$60 (incl GST), to suit many popular 1", 1+1/2" and 2" drivers including: Altec, Acoustician, Coral, P.A.S., P.Audio, Zomax and around 20 different JBL models (ie: JBL 2416 [MR Series and EONs], 2440, 2441, 2445H, 2445J, 2446H, JBL LE85, 2470, 2421, 2421B, 2420, 2425H, 2426H, 2426J, 2412 [TR Series] etc) Next day delivery Australia-wide. See Spec Table at www.cannonsound.com.au or call (02) 9948 4440

All new lighting, hooks, clamps, extra H.D, oreway folding design for vertical and horizontal mount applications. Associated customised components made to specification in comprehensive Engineering Workshop (and welding) facilities. Full Lighting Production Service also available. PH: Ben @ Litek Ent. +61 8 8186 0463 or mobile 0401 107 707.

Amplifiers. Jands 920 500w + 500w. Delivered to your door Australia-wide \$600 each (incl GST). Value at around \$0.50 per watt. Cannon Sound (02) 9948 4440.

Bose 1800 P/Amp \$800, H/ H M900/V800 P/Amp \$900, Jands M600 P/Amp \$750, Crown PB2 P/Amp \$1100, Crown MA2400 P/Amp \$2000, Peavey Autograph RTA \$495, EV 2230 27 band G/Eq \$450, LEM GE 10/10

Stolen

These Items were stolen from Union St Penrith (NSW) at 1.30 am, 24/08/00, along with a Nissan Urvan which has 'Bathurst Antiques' in faded lettering on the sides and rear door. Your assistance in this matter is appreciated.

2 x Dual 15 inch and horn Ev loaded speaker cabinets-S/N: Nil, 2 x single 18 inch Cerwin Vega sub speakers-S/N: Nil, 2 x 12 inch and horn E-tone 1601 foldback speakers-S/N: Nil, 2 x 12 inch and dual horn foldback speakers-S/N: Nil, 1 x 15 inch and horn speaker cabinet-S/N: Nil, 1 x OSC MX 1500 amplifier-S/N: Not listed, 1 x Amcron Crown 1200 amplifier-S/N: Not listed, 1 x EV P2000 amplifier-S/N: Not listed, 1 x Carver 2400 amplifier-S/N:949331000, **Effects** unit Yamaha R1 000-S/N:5966, **Compressor** Behringer autocom-S/N:1285805, **ARX AFW** 131 band graphic equaliser-S/

N:5666, 2 x Carvin 31 band graphic equalizers, 1 x Ibanez 31 band graphic equalizer, **Phonic** 16 channel mixing console in roadcase, **CD** player, **SKB** microphone roadcase, 2 X SKB 4 RU roadcase, 1 x 6 RU roadcase, 2 x Black aluminium storage boxes, 2 x amplifier roadcase sleeves, 5 x Shure SM57 microphones, 5 x Shure SM58 microphones, 4 x EV Microphones, 6 x microphone stands & clips, 5 x drumclaw microphone holders, 20 x microphone leads, 10 x speaker leads, 1 x Leem PRO1 6 multicore cable, 1 x 4 way power cable, 20 x powerleads, 1 x Jands 4 pack lighting desk-S/N:110296, 12 x Par 56 lights, IX scanner light bar, 2 x lighting trees, 1 x Ruxxac, folding trolley, 1 x keyboard bug, 4 x DI boxes, 1 x BOW crossover, 1 x Mclelland crossover.

Neil Waite 9629-7181

A COLOUR DISPLAY ADVERT HERE THIS SIZE COSTS A\$360. BLACK AND WHITE COSTS A\$292 (+gst). ARTWORK FREE (pictures & logos cost slightly extra)

Call Sarah, 1-800-635-514 or email sarah@conpub.com.au

A COLOUR DISPLAY ADVERT HERE THIS SIZE COSTS \$96. BLACK AND WHITE COSTS \$78 (+gst).

Call Sarah, 1-800-635-514

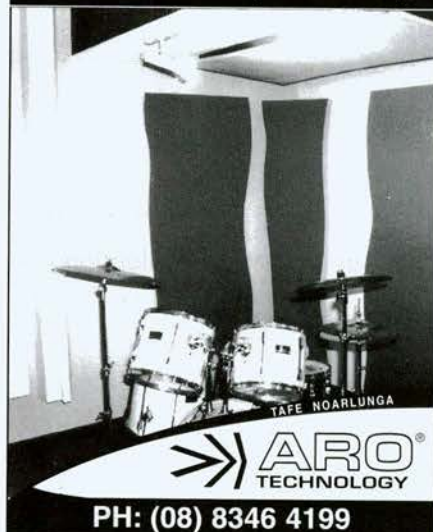
Sydney Digital Productions & OB Services

Offers competitive hire rates for the following equipment
Sony Digital Betacam VTR's (DWW A500P)
Time code Generator's
Sync Pulse Generator's
ADA's & VDA's (SDI)
Delivery/pickup available
Ph: 0402 071 434 Fax: (02) 9619 2061
www.sydneydigitalproductions.com.au

FOR
**CUSTOM CASES
SPEAKER ENCLOSURES**
TUFFA
CASES & CABINETS PTY LTD
Ph (02) 9153 9373 Fax (02) 9153 9329
Unit 5, 15 Lorraine Street Peakhurst 2210

ACOUSTICS

• Manufacturers of high performance modular acoustic panels • Room design • Acoustic analysis



PH: (08) 8346 4199

Drapes and Stages

from **Staging Rentals**

"Your complete staging service"

**Big range Top quality On time
Friendly, professional advice**

Ph: (02) 9519 6300

Fax: (02) 9519 6489

1 Pyrmont Bridge Road
Camperdown NSW 2050
mail@stagingrentals.com.au
www.stagingrentals.com.au



STAGING RENTALS

THE AUDIO DEPT.

Wireless Microphone Specialists.
20 years experience. Large inventory of **Sony UHF** systems, **Shure UHF** and **VHF** systems, and now **Garwood In-Ear** monitors.
Short or long term hire for all applications, sales and full service.
Authorised Sony Wireless Service Centre.

Call for a quote.
(03) 9415 1868.

Technicality


Specialists in
AUDIO VISUAL SERVICE & REPAIR

- Video/Data Projectors
- P.A. Systems
- Video Cameras
- Broadcast Equipment
- Digital Audio & Video
- Studio Equipment
- Home Theatre
- Stage Equipment

Ph: (03) 9737 0007
technicality@service.mel.net

DIRECTORY

The gobo Factory

GLASS  STAINLESS STEEL

Custom-made and Catalogue Range
Customised Message & Theme Sets

Quality, Service and Competitive prices

Ph: 61 3 5439 3770 Fax: 61 3 5439 3601

Email: gobos@netcon.net.au

Website: www.gobo.com.au

For sale

Complete vocal PA system. Datamix PC4510 150 watt 4 channel head with 5 band EQ & reverb plus 2 x Pro Studio PS100 12 and horn boxes. The lot in excellent as new condition for \$600 (incl GST). Cannon Sound (02) 9948 4440.
Drawmer DS201 2 channel gate \$1100 (incl. GST). Cannon Sound (02) 9948 4440.
Electrovoice Mongoose cabinets, each 2 x 150A 15" + DH1A 2" Horn, switchable Active/passive \$4000 pair +61 2 9799 7219
Fostex E16 Multitrack w/ remote \$1500 Tascam M50 Classic broadcast console 12/8 \$900 Phonic 24/2 Desk

(cased) \$500 Yamaha Rev 7 \$650 Roland Seq 331 Equaliser (bal) \$300 call Marshall for details (0416 143 030).
Jands Event Lighting Consoles in Roadcases Event 36 \$3300. Event 48 \$4400 & Event 60 Plus \$5500 (all incl GST). Cannon Sound (02) 9948 4440.
JBL Control 5 Speakers \$170 (incl GST) - 6 available. Cannon Sound (02) 9948 4440.
JBL/Urei Model 7922 Audio Delay, suit live or installed sound, EC, \$350 Peter 0409 586 587.
Lighting clearance! Altman Leko ex hire clearance. Heaps in stock...models include 6x4.5, 6x9, 6x12, 6x16, 6x22. \$115 each (incl GST). Par 64 polished cans empty \$30 (incl GST) each. Huge ex-hire clearance - call for a list. Cannon Sound (02) 9948 4440.
Microphone ex-hire clearance. Includes quantities of: SM57s, EV RE20s, AKG D-12s, Shure 555H (Elvis/Buddy Mic), AKG C-535s, Sennheiser MD-421s & MD-441s, Shure SM 10-A Headset Mics & too many more to mention. Call (02) 9948 4440 or email sales@cannonsound.com.au for the complete list.
Orban 424A Compressor/de-esser \$900 (incl. GST). Cannon Sound (02) 9948 4440 or sales@cannonsound.com.au.
P.Audio Professional Loudspeaker Components. 'Professional Sound for Professional People'. New 10", 12", 15", 18" Speakers. 1 and 2" Hi Frequency Drivers. Flares and Diaphragms. Quality at a very affordable price. With most things in this world you only get what you pay for. With P.Audio you get much more..... see on the Net at www.paudiosystem.com, or

call Cannon Sound (02) 9948 4440 or sales@cannonsound.com.au for a catalogue and price list.
PA/Lighting/Studio equipment. Sell or swap. Wide variety of gear. Ring for details +61 7 5529 9969
ROCKARD Coatings for your PA and roadcases - the true industry standard. Available in 1,2,4 & 18 litres. Black as well as custom colours including various greys, reds and blues etc. We also can match colours from any colour chart or sample. Call Cannon Sound (02) 9948 4440.
Soundcraft mixers. 200 Deluxe with sweep EQ, 20 mono and 4 stereo channels \$2800 (incl GST). 200SR 16 channel. Very clean - no case straight out of installation \$1000 (incl GST). Also available Spirit Live 4 32 channel and Spirit Live 16 channel. Call! Cannon Sound (02) 9948 4440.

Very Good Condition Intelligent lights goto <http://jasonk.freesevers.com> or kjason@optusnet.com.au
Video Suite 3/4 Sony systems. Studio and Location equipment, six machines, non linear audio with sync, studio monitors, amps, 12 volt location, audio and video system including PA horns. POA. Wirra Willa studios PH: 9605 1203 email tribal@zip.com.au
Yamaha MC1602 mixer. 3 Way EQ with sweep on mid & 3 auxiliaries \$700 (incl GST). Cannon Sound (02) 9948 4440 or sales@cannonsound.com.au.
Yamaha NS-10 Studio Monitors. \$450 a pair (incl GST). Cannon Sound (02) 9948 4440.
Yamaha processors SPX900 \$775, SPX1000 \$900, Rev 5 \$900 (all incl GST). Huge ex-hire clearance - call for a list. Cannon Sound (02) 9948 4440.



SOUND & LIGHTING

Hire, Design, Sales Installations, Service

47 Auburn Street, Wollongong

Ph: (02) 4229 6010

GOBO

Greyscale Glass, Colour & Steel

Lighting by Design

First with the glass technology to OZ now standard in Martin 918 and Mac500. Original designs & innovative ideas.

Tel: 0755 377 002 Sales@LBD.com.au
Fax: 0755 292 226 www.LBD.com.au

Graftons Lighting & Sound

Professional Equipment & Service

Hire, Sales, Installs Production & Design

6/390 Bourke St, Waterloo NSW 2017

Tel: (02) 9698 7777 Fax: (02) 9698 9999

Lighting: graftons@idx.com.au
Sound: info@productionsservices.com.au
Sound: www.productionsservices.com.au

ROADCASES

for

PROFESSIONALS

de Sine

ROADCASES

STANDARD RANGE & CUSTOM MANUFACTURE LIMITED LIFETIME WARRANTY APPLIES TO ALL CASES

CALL US FOR A CATALOGUE & PRICE LIST

PH: 07 3899 2971 FAX: 07 3899 0155
Email: desine@powerup.com.au

B.S. Sound PA Hire

3k. PA with separate F/B, LX & crew. Driveway Vocal PA Systems & LX. Mics & components also available.

Contact Mark Barry for free quote
(33) 9531 1403 or 041 999 3966

www.bsound.com.au
mark@bsound.com.au

NEED CREW?

Staging • Lighting • Sound

LIVE CREWING can provide you with experienced crew for your Concert Productions, Press Conferences, Launches, Corporate Seminar, etc.



Office (02) 9752 7770 Fax (02) 9792 6660
Contact Fred Ward Mobile 04 8 212 431

Professional Audio and Lighting
Sales, Service and Production

2 Bridge Street,

Rydalmere NSW 2116

Ph: +61 2 9638-0302

Fax: +61 2 9638-0331

hire@lotsofwatts.com.au

www.lotsofwatts.com.au

Lots of Watts
Pty Ltd

DIRECTORY

A COLOUR DISPLAY ADVERT HERE
THIS SIZE COSTS \$128. BLACK AND
WHITE COSTS \$104 (+gst).

Call Sarah, 1-800-635-514

Connections Advertiser & Brand EASYFINDER!

*Please.... tell
them you saw it
in Connections!*

Company Name	Phone	Website address	Brand	Page Number
Amber Technology	+61 2 9975 1211	www.ambertech.com.au	Canare	20
Amber Technology	+61 2 9975 1211	www.ambertech.com.au	Neutrik	37
AON Risk Services	+61 2 9253 7000	www.aonrisk.com.au	Entertainment Insurances	63
Australian Audio Supplies	+61 2 4388 4666	www.ausaudio.com.au	Mackie	3
AV Communications	+61 8 9249 6688	www.avcom.om.au	AVC Pro Solutions	35
Birkart Concert Cargo	+61 3 9696 2988	www.birkart.com	Transport & Logistics	33
Browns Precision Welding	+61 3 9455 2899	not available at this time	Browns Truss	60
Bytecraft	+61 3 9587 2555	www.bytecraft.com.au	Strand	52
CMI - Central Musical Instruments	+61 3 9315 2244	www.cmi.com.au	Db Opera	47
Connections Shop	1800 635 514	www.conpub.com.au	Merchandise	54,55
Corporate Audio Services	+61 3 9474 1067	www.corporateaudio.com.au	Pulse	32
EAW	+61 3 9415 1585	www.eaw.com	EAW	19
Emtec Magnetics	1800 805 691	www.emtec-magnetics.com	BASF Tracking Guide	Starts 62
ENTECH 2002	1 800 635-514	www.conpub.com.au	ENTECH 2002	42,43
GMT Agencies	+61 3 9818 0398	not available at this time	LDR lanterns, lamps	62
Group Technologies	+61 3 9872 5000	www.gt-aust.com	RCF	23
GUET	+61 2 9420 4888	www.guet.com.au	Celestion	45
GUET	+61 2 9420 4888	www.guet.com.au	Studiomaster	57
H&C Audio	+61 3 9876 2333	www.ozemail.com.au/~hcaudio	Soundtube	28
High End Systems	+65 742 8266	www.highend.com	Studio Beam	13
High End Systems	+65 742 8266	www.highend.com	Mix & Match	15
Hoisting Equipment Specialists	+61 2 9584-1177	not yet available	OzBlock	45
ICIA	+61 2 9531-6777	www.icia.org	Courses	79
Interlink System Solutions	+61 2 9638 0777	www.dbsound.com.au	Interlink	51
Jands	+61 2 9582 0909	www.jands.com.au	Shure	2
Jands	+61 2 9582 0909	www.jands.com.au	DBX	41
Jands	+61 2 9582 0909	www.jands.com.au	JBL	IBC
Kosmic Sound	+61 8 9242 3844	www.kosmic.com.au	PRO TOOLS SPECIALS	17
Lightsounds	+61 2 9960 0300	www.lightsounds.com	AUCTION	39
Lots of Watts	+61 2 9638 0302	www.lotsofwatts.citysearch.com.au	Lots of Watts	26
MasterCut	+61 7 5598-1200	www.mastercut.com.au	Master Cut Gobos	51
Meyer Sound Australia	1800 4 MEYER	www.meyersound.com.au	Meyer	4,5
Navigator Systems	+44 7000 628 797	www.navigator.co.uk	Hiretrack	59
NSCA - National Systems Corp Australia	+61 3 9434 1888	www.chaiyo.com.tw	McLelland EQ	40
PA Stuff	+61 2 9838-4622	www.pastuff.com.au	Website!	30
Penn Fabrication	+61 3 9335 6455	www.penn-fabrication.com.au	Colour ABS	53
Pioneer Electronics	1 300 364-765	www.pioneeraus.com.au	Multimedia products	27
Production Audio Services	+61 3 9415 1585	www.productionaudio.com.au	Crest	29
Production Audio Services	+61 3 9415 1585	www.productionaudio.com.au	Gentner	47
Production Services (UK)	rocky@proservs.freemove.co.uk		Laboratory Series Technology	50
SAE	+61 2 9211 3711	www.sae.edu	College	13
Save Time Visuals	+61 3 9888 2111	www.savetimevisuals.com.au	AV, M' media, Presentation Specialists	32
Selecon	+61 2 9319 3133	www.seleconlight.com	Selecon	49
SGM	1 800 648 111	www.sgm.it	Giotto	7
Show Technology	+61 2 9898 1111	www.showtech.com.au	Clay Paky	Back Cover
Show Technology	+61 2 9898 1111	www.showtech.com.au	Martin	23
Sony	+61 2 9887 6666	www.sony.com.au	Sony	21
Specialised Lamp Supplies	1300 302 852	not available at this time	Specialised Lamps	57
Stage & Screen	+61 2 9383-4544	www.stageandscreen.com.au	Travel & Freight	12
Studio Supplies	+61 2 9957-5389	not yet available	DPA	65
TAG	+61 2 9810 5300	www.tag.com.au	QSC Powerlite 2	8
The Great Outdoor Lighting Co	+61 2 9966 9111	www.greatoutdoorlighting.com.au	Big Lights!	79
TRC - The Resource Corporation	+61 3 9877 8233	www.trc.com.au	K&M	62
TRC - The Resource Corporation	+61 3 9877 8233	www.trc.com.au	SC Systems	63
TRC - The Resource Corporation	+61 3 9877 8233	www.trc.com.au	LKS Connectors	65
Trader	1800 635 514	www.conpub.com.au	Trader	Starts 79
Yamaha	+61 3 9693 5111	www.yamaha.co.jp/product/	Yamaha	51,61

Subscribe to Connections! Save and get your magazine faster! Call 1-800-635-514 or online at
www.conpub.com.au

NEW

If You Buy Any **Powered Loudspeaker** Before You See This...
Consider Yourself Warned.

The
Plot
Is
About
To
Thicken.

EON[®]G2
GENERATION 2



H A Harman International Company

Distributed in Australia by **JANDS** ABN 45 001 187 837

40 Kent Road Mascot NSW 2020 Phone: (02) 9582 0909 Fax: (02) 9582 0999

© Copyright 2000 JBL Professional

The winner is... Stage Line



STAGE LINE
1999 LIVE! AWARDS
New Lighting Fixture
of the Year



STAGE LINE
1999 ETTA AWARDS
Club Lighting Effect

STAGE COLOR 300
1999 ETTA AWARDS
Budget Lighting Effect



STAGE LINE
1999 VOLSON BEDA AWARDS
The New Product of The Year



STAGE LINE
1998 EDDY AWARD
The Art and Technology of
Show Business



STAGE LINE
1998 ETTA AWARDS
Innovative Lighting Product

Distributor:

SHOW TECHNOLOGY AUSTRALIA Pty Ltd
Adm. Office: 13-15 Bridge Street - Rydalmere NSW 2116 - PO Box 430 Rydalmere NSW 1701
Tel. +61 (0) 2 9898 1666 - Fax +61 (0) 2 9898 1222 - E-mail: showtech@shcotech.com.au

Via Pascoli 1 - 24066 Pedrengo (BG) Italy
Tel. +39-035-654311 - Fax +39-035-665976
Internet: www.claypaky.it

CLAY PAKY S.p.A.



PROFESSIONAL SHOW LIGHTING