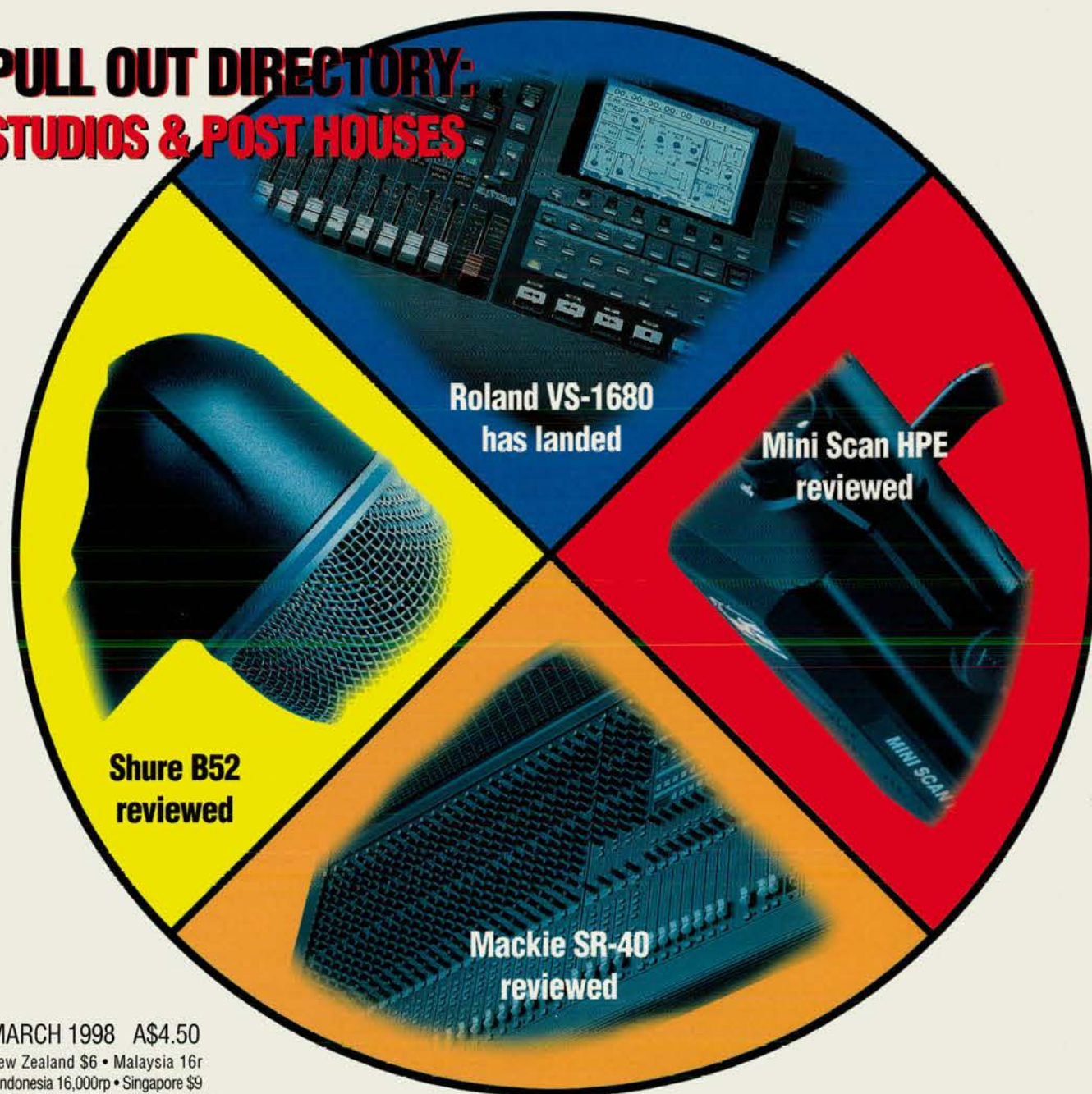


Connections

THE ENTERTAINMENT TECHNOLOGY MAGAZINE

**PULL OUT DIRECTORY:
STUDIOS & POST HOUSES**



Roland VS-1680
has landed

Mini Scan HPE
reviewed

Shure B52
reviewed

Mackie SR-40
reviewed

MARCH 1998 A\$4.50
New Zealand \$6 • Malaysia 16r
• Indonesia 16,000rp • Singapore \$9
• Hong Kong \$35 • Philippines
170pesos • Elsewhere US\$6

ISSN 1320-5595



Print Post approved: PP255003/007511
Published and printed in Australia

THE X-ARRAY FILE:
EVI TAKING ON EAW
STUDIOS TELL: BEST
SOUNDING SONGS

REVIEWS: BETA 52 •
MACH PA • HIGH END
TRACKSPOT • MACKIE
SR-40 • MINISCAN HPE

BUYERS GUIDES:
MOVING LIGHTS,
WIRELESS MICRO-
PHONE SYSTEMS

Focus On The Most Important Musician On Stage.



Take Control of Your Sound — and Say Goodbye to Wedges — with the New Shure Personal Stereo Monitor



Let's face it. The band needs you. And to sound your best, you need the new, full-featured Shure PSM™ 600 Personal Stereo Monitor. •The PSM 600 uses advanced technology and tiny earpieces to do what large, bulky floor wedge monitors can't: Give you total control of the mix you hear on stage. •You can choose a full, rich stereo mix. Or, to create your own personal mix, use Shure's innovative MixMode™ circuitry. MixMode allows you

to raise or lower your mix level at will, relative to the others in the band. •The sound is full, clear and consistent. And the price, in wired or UHF wireless configurations, is thousands less than most competitive systems. •Start taking control of your sound.

SHURE

THE SOUND OF PROFESSIONALS... WORLDWIDE.

Distributed in Australia by JANDS Electronics Pty Ltd 40 Kent Road Mascot NSW 2020
Phone: (02) 9582 0909 Fax: (02) 9582 0999 Internet: <http://www.jands.com.au>

ACN 001 187 837

Write in Reader Service Number: 118

Entech

Entertainment Technology

THE BIGGEST EXHIBITION OF EQUIPMENT

10am - 6pm daily
Wednesday April 22nd,
Thursday April 23rd,
Friday April 24th.

Halls 1 & 2,
Sydney Exhibition Centre,
Darling Harbour.

Call +61 2 9876-3530 for more information,
exhibitor lists, or visit www.conpub.com.au

The fourth ENTECH is the largest - and also the last until 2000. See **thousands** of products from the world's major manufacturers. Compare **new technology**, talk to the experts, assess, learn and appraise. BUY and order. There are many SHOW SPECIALS. **Network** with the trade.



Can you afford to miss ENTECH?

WHAT MAKES ENTECH A **GREAT** TRADE EXHIBITION?

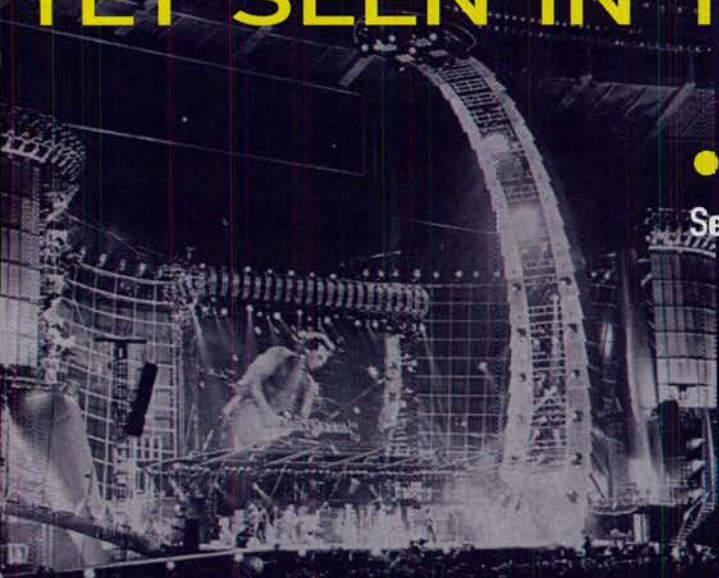
- **Three distinct zones:** Pro Audio, Lighting, and Mixed Exhibits.
- **A full program:** Seminars, social events, dealer functions. It's busy!
- **Free Entry:** The exhibition is yours to enjoy. Register early or walk up.
- **An exciting industry:** Entertainment Technology is a boom trade!
- **Great Exhibits:** Our exhibitors are full of ideas and commitment!
- **Space:** Room to meet, sit, and talk. It's the Business Class tradeshow.
- **The Friendly Show:** More staff to assist you. We really do try hard!



'98

on show!

YET SEEN IN THE REGION



- **18 Huge Seminars**

See the full program on the next page!

- **Women's Morning Tea:**

Meet other women from in and around the industry. Free! In the MEETING LOUNGE, Fri April 24th 11am

- **Connections Readers**

Meet the writers at an informal tea and coffee session. Free! In the MEETING LOUNGE, Friday 2pm

ENTECH AWARDS DINNER DANCE

- Thursday April 23rd at 7.30pm
 - Metro Theatre, George St Sydney
 - A superb 3 course meal will be served
 - Dr Karl Kruszelnicki will deliver the lecture:
"30 years of Entertainment Technology"
 - A surprise artist will rise from the grave
 - Craig Calhoun will funkify the end of the night
- ~Bookings now open at \$69 per head~

Connections



EnTech



SE
Eac

**ENTECH is produced by
Connections Magazine**

Show Director: Caroline Grafton

Call +61 2 9876-3530

Freecall 1-800-635-514

Fax +61 2 9876-5715

Email: mail@conpub.com.au

PO Box 439, Epping NSW 2121

Travel & Hotels: Call Stage
& Screen: +61 2 9237-2905

We fly with the kangaroo

Wednesday April 22nd

Exhibits open at 10.00am, free trade entry

- 10.30am: **Lighting:** 'ARCHITAINMENT' 1
Lighting building facades: turning GREY into colour.
- 10.30am: **Audio:** MICROPHONES
A primer session on techniques, placement, types and technology.
- 1.30pm: **Show Safety:** ELECTRICAL SAFETY
Testing, tagging, conformity. Also a debate, 'towards a Guidance Note'.
- 1.30pm: **Audio Visual:** PROJECTION
Guide to LCD, CRT, DLP and ILA Projectors, how to choose, how to use.
- 4.00pm: **Lighting:** 'ARCHITAINMENT' 2
Theatre principles applied to architectural lighting. Achieve the vision!
- 4.00pm: **Audio:** SPEAKER TECHNOLOGY
Where to now? Differences and commonality in components & designs.

'98



Connections



- For more info on any Seminar: Freecall Julius Grafton on 1-800-635-514 or check www.conpub.com.au

MINAR PROGRAM

Seminar now up to 1.5 hours in duration. *New easy timetable!*

2 Seminar Theatres on tradeshow floor
Soundproof Theatres with air conditioning
Breakout rooms nearby for more talking
Tea, coffee at breakout after each seminar

Audio: daily, 10.30am and 4pm.
Lighting: daily, 10.30am and 4pm.
ShowSafety (with ShowSafe): daily, 1.30pm
Audio Visual (with ICIA): daily, 1.30pm

Thursday April 23rd

Exhibits open at 10.00am, free trade entry

10.30am: **Lighting:** FILM TV 1

Current trends in Film lighting. Chaired by Tony Mandle, AFTRS.

10.30am: **Audio:** 24 BITS DEEP- UPDATE

How much better does it sound? What are the issues recording 24 bit audio?

1.30pm: **Show Safety:** RIGGING

Conformity, standards, new technology. Also debate, 'towards a Guidance Note'.

1.30pm: **Audio Visual:** AV HIRE COMPANY

How to make your event succesful. How companies & clients can work together.

4.00pm: **Lighting:** FILM/TV 2

Lighting a TV set- techniques and politics. Chaired by Rohan Thornton.

4.00pm: **Audio:** CONTROL & ROUTING

Where to now? Is Ethernet the backbone? What are your system choices?

• CONFERENCE - Show Safety

(presented by Showsafe) Tues. April 21st, the day prior to ENTECH. Venue: Sydney Opera House.

- Manual Handling and the Entertainment Industry - Regulations/Standards, Engineering Controls, Applying Regulations and Controls to the Industry.
- Accidents/Incidents: Investigating Accidents- Report Structure, Developing Preventative Measures, First Aid Requirements
- Safety Training - Role of Training in Safety Management, An Industry Induction "OK Card" Scheme
- Imposing Noise Standards- Current Regulations, Australian Standards, Industry led Reform.
- More to be added. Conference opens at 9.00am and Closes at 4pm. Includes Lunch, morning & afternoon tea. Cost: \$179. ShowSafe members \$149.

Friday April 24th

Exhibits open at 10.00am, free trade entry

10.30am: **Lighting:** CONCERT/STAGING 1

Style & Visibility in lighting design. Chaired by Nigel Levings.

10.30am: **Audio:** DIGITAL MIXERS

Technology update: what's new, what works- and what you want!

1.30pm: **Show Safety:** OUTDOOR EVENTS

Creating temporary facilities. The Pitfalls. Debate towards creating a checklist.

1.30pm: **Audio Visual:** WORKING WITH YOUR

AV DESIGNER : Do the RIGHT design. Also, working successfully with architects and engineers.

4.00pm: **Lighting:** CONCERT/STAGING 2

Meet the LD's. Popular Seminar returns. Let them encourage/disillusion you!

4.00pm: **Audio:** ACOUSTICS- NOW or LATER?

Debate: getting new spaces right! Includes some design trends and tips.

REGISTRATION COSTS

- **Trade Show:** Exhibits are free to trade.
- **Seminars:** Buy any one Seminar at \$35, any two at \$60, any three at \$75, then \$15 each.
- **Awards Dinner:** \$69

THE ENTECH GOLD LAMINATE

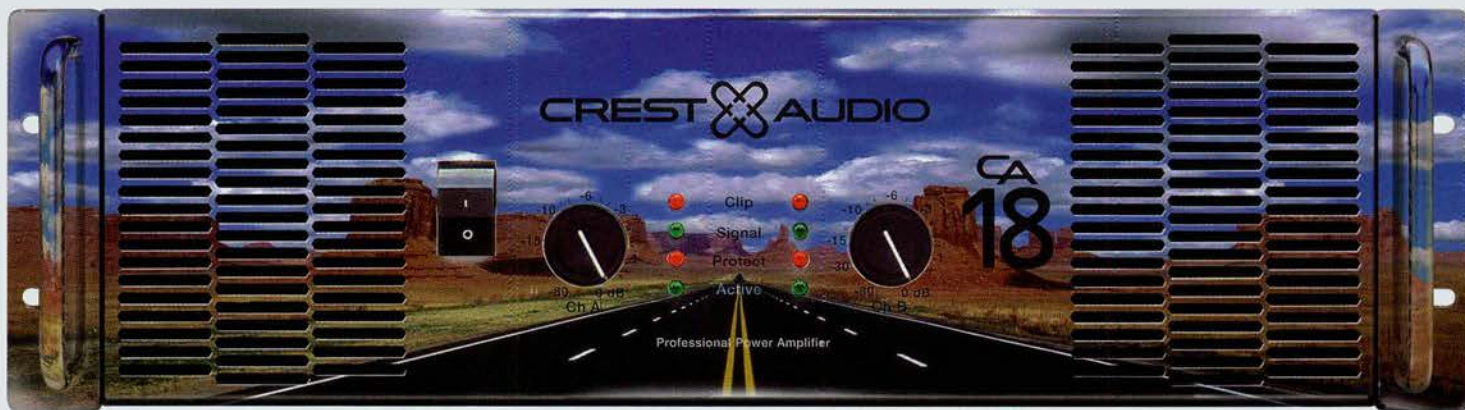
- Attend any Seminar.
- Two additional Seminar passes for colleagues.
- Attend exhibitor cocktail party Wed 22nd.
- ENTECH Awards Dinner, Thursday 23rd.
- Access all areas: enter trade show during setup. (Not incl. Safety conference)

THE GOLD LAMINATE: \$349

EARLYBIRD RATE \$319 (BEFORE MARCH 15th)

REGISTER BY PHONE: CALL 1-800-635-514 OR ONLINE AT WWW.CONPUB.COM.AU

road tested



Introducing the CA18 power amplifier from Crest Audio

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

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

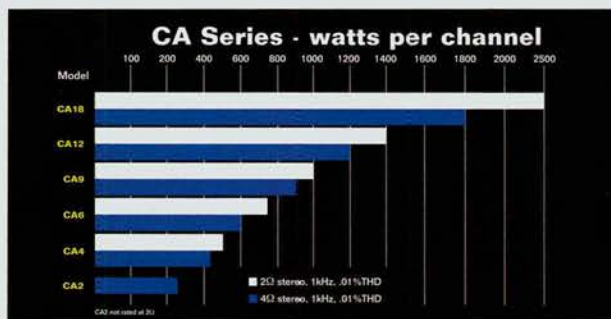
CA's keep their cool with the industry's most effective thermal management system, and provide fail-safe operation with Crest's unique TourClass® protection circuits. Every amplifier is subjected to the most rigorous quality control and testing procedures.

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

Call for your copy of the complete CA story.

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

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



**CREST
AUDIO**



**EXCLUSIVE AUSTRALIAN DISTRIBUTOR:
PRODUCTION AUDIO SERVICES PTY LTD**

SYDNEY: 323 Pacific Hwy., Crows Nest, NSW 2065 Ph: (02) 9954 5100 Fax: (02) 9954 4927
MELBOURNE: 6-8 Elizabeth St., Richmond, VIC 3121 Ph: (03) 9415 1585 Fax: (03) 9415 1595
Crest Audio Web Site: <http://www.crestaudio.com>

Connections

MARCH 1998. #52. 6th Year!

THE ENTERTAINMENT TECHNOLOGY MAGAZINE

Embedded Systems rule as recorders outgrow the PC

While the market moves totally towards digital recording, two system approaches are now mandatory. Japanese manufacturers are pursuing firmware with embedded operating systems. Roland has just expanded its V-Studio line to include the VS-1680 16 track 24 bit hard disk recorder (pictured).

Elsewhere, the PC or Mac is harnessed with Win or Mac OS providing the operating system, which is the approach taken by DAW manufacturers.

Australian manufacturers dSP and Fairlight have taken strategy from both camps, with a custom interface overlaid on a hidden CPU operating system.

ENTECH next month features more digital recording than ever before, it's a technology whose time has now truly come.

-Christopher Foster

ENTECH boosts pro audio presence, last show 'til 2000

DAW's, PA's line up

By Christopher Foster

SYDNEY: Having something for everybody in entertainment technology is never a precise science, but the 1998 ENTECH trade show next month comes closest.

Since the first time the industry gathered at ENTECH 1994, the show has better defined itself as 'everything, except instruments!'

This time out, the floorspace is divided into zones, allowing exhibitors to choose their neighbours. It avoids surprises like smoke machines if you are selling studio monitors, and if you sell smoke machines then you would prefer not to have a serious vendor of digital audio glaring across the aisle at you each time you let loose.

Pro Audio makes up half the space available, which at 10,000 metres makes this the largest pro audio trade show yet held in Australia - if ENTECH was just about pro audio.

Lighting represents 35%, a ratio constant for the last few shows.

"Some lighting exhibitors grow their stands, others cut back. It has equalised in gross space terms," says show director Caroline Grafton.

Aside from audio, the real growth has been in services, staging, rigging and audio visual, which are sums of the whole entertainment technology industry. There were 115 exhibitors signed by late February, on target for a total of 130.

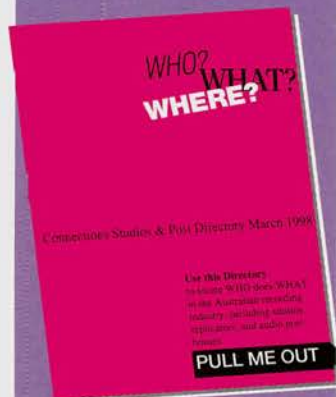
In Pro Audio this ENTECH marks the first time that virtually every major digital audio workstation is represented, making an irresistible opportunity for anyone contemplating new hard disk recording solutions.

dSP - Digital Studio Processing are typical of new exhibitors to ENTECH, which now features almost every major brand of recording hardware, aside from almost every brand of sound reinforcement. Roll on April 22nd!



Pull Out STUDIO & POST DIRECTORY

32 pages



NEW

HOW TO DO IT SERIES FOR PA AND RECORDING

THEATRE NEWS - new roundup

INDEX

LETTERS, ABUSE, SUGGESTIONS	26
SHOWBOAT PREPARES	30
GEARHOUSE CHIEF TALKS	42
BUYERS GUIDE: WIRELESS MIC'S	50
ON TOUR: SAVAGE GARDEN	55
DATE WITH DISASTER	57
LIGHTING: RADIOHEAD	58
LX KNOW HOW: TUNGSTEN HALO	66
BUYER'S GUIDE: LX MOVING LIGHTS	70

REVIEWS INDEX: SEE PAGE 9

Cover: design by Sharon Miceli

Our 5th birthday celebrations close on March 20th! Win....

Business Class airtickets!

Subscriber rewards: Just freecall 1-800-635-514 for information - but HURRY

X-Array takes on EAW, looks to national & regional network

By Julius Grafton

When Electro Voice announced a new PA system—the X Array—last winter, the release was boosted by the news that the Rolling Stones would use the system along with EV amplifiers for their current world tour. Better PR would be impossible.

In Australia that release has now crystallised into sales of a possible 250 boxes, which would in one move make X-Array the most available concert system type down under. This is in an era where EAW's KF-850 increasingly is the cabinet of choice on riders, which usually specify Meyer or Turbosound as well. EAW has been the brand of choice for new system sales over the past 18 months.

But X-Array has suddenly entered the inventory lists, with confirmed sales

to three hire and production firms nationwide, and others pending.

Ian Johnstone from EVI Audio (now known as Telex Communications, see story this issue) told Connections that Production Works in Hobart were first to take delivery of a new system, and that Wild Gravity (Townsville) and AAA Concert Productions (Perth) have signed. He angrily rejected rumours that EVI have underwritten the finance or that the systems were sold at a deep discount.

Johnstone says that EVI has a 'one price' policy for major items (including Midas consoles) with a purchaser paying the same price in Australia as they would in the UK, adjusted for currency, freight and sales tax—due to ownership of the brands they sell.

X-Array sales here could reach 250 boxes, he said.



Birkart Concert Cargo expands

MELBOURNE: The new logo of Birkart Concert Cargo should become a familiar sight around all concert and exhibition venues as they recently announced details of a further expansion of services in Australia.

Birkart now operate a fleet of taut liner, pantoc, container, and flat-top trucks to service its existing customers in the concert and exhibition industry. Included in the fleet are air-ride trucks that have been specially designed for touring sound and lighting gear.

At the same time Birkart has announced that Mr **Seamus O'Connor** has been appointed as Birkart's National Transport Manager, responsible for all transport

within Australia. Seamus O'Connor's trucking expertise is well known within the music industry, having co-ordinated many large tours around Australia.

Birkart Concert Cargo is owned by the large German based Birkart Transport Group a fairs and events specialists forwarder, however the worldwide head office for the concert cargo division is in Melbourne.

The General Manager of Birkart Concert Cargo, Mr. Phil Hocking, advises, "With the introduction of our new trucks along with the hiring of Seamus O'Connor, Birkart will be able to compliment its existing international touring services with trucking within Australia". **+61 3 9696-2988**

AAV Australia sold to South African group

Abacus Technology Holdings Limited, a publicly listed South African company has acquired AAV Australia, Australasia's leading electronic media services group, from John Fairfax Ltd.

According to Abacus Chairman, **Stanley Seeff**, the acquisition

creates a global media services group, comparable to the best in the world, by merging the market leaders in both Australasia and Southern Africa.

Together with the AAV brand name, Abacus has purchased the video duplication, post production

and corporate communication businesses of AAV Australia and AAV New Zealand, adding to an already impressive stable of Abacus interests which includes video duplication, post production, video and audio tape winding and distribution.

Fairfax will retain ownership of Brainw@t@ve, the online services division of AAV, and the land and buildings of AAV.

Mr **Ted Gregory** will continue as Managing Director and all executives and staff will remain with the business.

CONNECTIONS PUBLISHING

Pty Ltd ACN 058243182.

All Mail to:

P.O. Box 439, Epping
NSW 2121 Australia

We moved! Our Office is no longer at Century Plaza

Phone: +61 2 9876-3530

Fax: +61 2 9876-5715

E-Mail: mail@conpub.com.au

Web site: www.conpub.com.au

Advertising: call 1-800 635-514
Caroline Grafton

EDITORIAL:

Editor: Julius Grafton
Email: julius@conpub.com.au

Assistant Editor:
Catriona Forcer
Email: catriona@conpub.com.au

IT Specialist: Christopher Foster
Email: mail@conpub.com.au

Regular Contributors:

PERTH:
Jacqueline Molloy, Andy Ciddor

MELBOURNE:
Mandy Jones, Duncan Fry

SYDNEY

Madeleine Murray, Michael Orland

SINGAPORE: Nazir Keshvani

USA: Buck Freeman

PRODUCTION:

Production Manager:
Sharon Miceli

Layout design:
Sharon Miceli, Cat Forcer,
Julius Grafton

Film: Omicron, Sydney

Printing:
Superfine, Sydney

COAL FACE:

Customer service: Nicole Morris,
Assistant: Oeysha Ramlawie

Money:

Jenny Royal, Louise Sharahan
Publisher: Julius Grafton.

(Unrelated to 'Graftons Sound & Lighting')

**NEWSAGENTS
DISTRIBUTION: NDD**

DEADLINES:

Monthly except January, deadline
15th of the month prior.

◆ FRESH REORGANISATION & NEW NAME FOR EVI

Merger or Takeover?

Telex Communications, Inc. has successfully closed the merger of Telex and EV International, Inc. The combined companies are controlled by affiliates of Greenwich Street Capital Partners, Inc., the New York based investment fund.

The new company, which will operate as Telex Communications, Inc., will have over US\$355 million in sales and approximately 3,300 employees worldwide, and will be a major manufacturer and marketer of pro audio, wireless and multimedia communications equipment to commercial, professional and industrial customers.

The new Telex will enjoy the benefits of a significant number of well-known and highly-respected brand names, such as Telex, Electro-Voice, Altec Lansing, Klark Teknik, Vega, Dynacord, RTS, ProStar, University Sound, and Midas.

In Australia the former EVI operation will also be known as Telex Communications— not to be confused with nearby Australian company Audio Telex Pty Ltd, who have distributed Telex branded lines for 22 years, including in NZ.

CEO of Audio Telex, **Rod Craig**, says "It's business as usual".

In the swim

Perth turned on the charm of its famous weather for the opening ceremony of the 8th World Swimming Championships at Challenge Stadium recently. Cast and crew alike sweated it out in 40 degree plus temperatures.

Production houses worked overtime, with the opening ceremony story elsewhere in this issue.

The heats (appropriate word?) were handled by Perth AudioVisual, whose poolside crew were **Brad Haines** and **Glen Ludlam** - operating an ARX 922 concert series system.

Somehow, the people (below) were coerced into posing for this pic with an innocent ARX 922.



THE PRODUCER

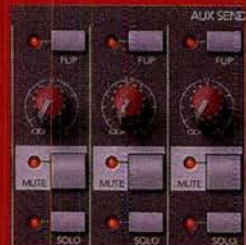
Charles Fisher



Profiled by **Madeleine Murray** - In our pullout studio & post section

Exclusive Reviews

SID'S MIC CASE; SII JRE BETA 52	15
MACKIE : SR 40 CONSOLE	18
MACH ROAD LOUDSPEAKER	22
MINISCAN HPE	62
TRACKSPOT	78



Mackie SR 40



Mach Road Series

HOW TO GET CONNECTIONS

SUBSCRIPTIONS: SAVE up to 33%!
Immediate! Free call: 1-800 635-514
or fax +61-2-9876-5715 from O/S

AUSTRALIA: \$39.90, (12 months) or \$58 (2 years)
NZ: NZ\$65, Asia A\$70,
USA A\$95, Europe/UK A\$110.

Pay half price for this magazine (Aust. only)

Buy 5 or more copies to one address each month - for resale or for staff or for customers. Pay only \$2.25 each, invoiced quarterly. Call Nicole **1-800-635-514**

Legal stuff: All contents © Connections Publishing Pty Ltd, 1998. Nothing herein to be reproduced in any way or transmitted by any means without the express written consent of the Publisher. No Warranty is extended in respect to any information herein. Opinions expressed in Connections are not necessarily those of the Publisher. Materials herein reproduced in good faith. Corrections made wherever material errors occur. It is a condition of purchase that the Publisher does not assume liability or responsibility for loss or damage that may result from any inaccuracy or omission in this publication. Opinions expressed herein are not necessarily the publishers. Please do not sue us. 100% produced in Australia.

How to make a Submission: We WELCOME well-written articles and stories for consideration. Send hard copy, preferably WITH a PC or Mac word processing RTF file and NORMAL file together. RTF means Rich Text File, also known as 'Interchange format'. Most word processors will SAVE a file (in the 'Save To...' field) as an RTF file. Photograph prints, B&W or colour, 35mm transparencies (preferred) also welcome. Digital images - you CAN e-mail us a high resolution JPEG image as an attached file, but not a TIFF image. It takes too long to download. A stamped self-addressed envelope is required if return desired. No responsibility for loss accepted, sorry.

EVENTS DO TECHNICAL TRAINING - & BENEFIT

Visiting **EVENTS - The Showbiz Shop** in Wollongong NSW on magazine business, we were struck by a group of a dozen or so people learning how to handle stage lighting.

Stuart Udy (pictured) says that Skillshare refer people to Events for the course which is an AusMusic innovation. Some of the people who do the course are CentreLink customers and are subsidised (free) to do the course.

Last year **EVENTS** participated in five courses. The modules are live sound, lighting, band management, recording sound, publicity, poster making and so on.

The modules Events handle are live sound and lighting, there are four full day sessions, 9am to 3pm, taught by Events. They have a Classroom area upstairs



at their impressive newish premises. "We get paid a basic teaching wage" said Udy, "but cherry-pick the best people for ourselves. We have 3 or 4 permanent employees from the courses!"

• **EVENTS: 47 Auburn St. +61 2 4229-6010.**

Mackie -vs- Behringer... Now for Round Two

SEATTLE: A war of words continues between **Mackie Designs Inc.**, and German audio manufacturer **Behringer**, who are locked in litigation regarding possible design infringements.

Last month Behringer's Australian importer **Music Link** faxed retailers and media outlets a statement to the effect that the US District Court for the Western District of Washington had dismissed the patent infringement claim brought by Mackie Designs against Behringer.

Music link say the Judges opinion also dismissed all of Mackie's claims against **Sam Ash Music Corporation**. Sam Ash (a New York based distributor of Behringer products) say they are in the process of preparing a major countersuit against Mackie for among other things, slander, libel and defamation. (*Fighting words which make a publisher rush for a lawyer's opinion..... trust us! - Editor*)

But Mackie say that the case will proceed in Seattle, despite the

court throwing out the case against Sam Ash and other US parties. Mackie boldly claim that in open court, Behringer and others "admitted that Mackie's design patent was valid - and that they had stopped selling Mackie patented products after the (original) lawsuit was filed".

It is quite possible we are the only magazine brave enough to report these ongoing hostilities.

PageMaker bug

Users beware: Adobe Pagemaker 6.5 for Mac is perfectly capable of destroying your document at the worst time, like on deadline. To make this even worse, Adobe (Australia) charge you A\$3 per minute to tell you that yes, their product is flawed. If you are using Pagemaker 5.0 (which is almost perfect) and contemplating an upgrade, then call us for more info on +61 2 9876-3530.

Total Concept Productions pause for breath

After a year in which they fitted out the two largest casinos in Australia and sold A\$6.5 million worth of equipment into Malaysia, Sydney based Total Concept Productions are reflecting on business opportunities

With 50 staff in four locations the firm is poised to ramp up activities in Malaysia, provided new business is won there. "We have a commitment to stay in Malaysia," says co-owner **Tony Musico** "but there's a definite slowdown and a shake out in the market there".

Partner **Richard Skyzynski** is puzzled by rumours the contracting firm is in trouble. "In December we closed our production division to concentrate on permanent hires, and then I started hearing all sorts of things", he said. TCP have always supplied equipment on long term hire at clubs and pubs, with large installations at Central Coast Leagues and this

month at Cardiff Workers Club in NSW. "We had about a million dollars worth of inventory in hire, so putting it into permanent hires made sense" says Richard.

TCP have been in business since 1984 and during the 1990's have been one of the most successful contracting firms in the entertainment technology business. Today they favour D & C (design and construct) projects, with tender work under margin pressure from an increased number of competitors.

"We made more in the recession than we would if we tried to beat some of the cowboy operators today on margin" says Tony Musico. It takes years to understand how to quote large tender jobs, he says, describing an

early job which taught him a lesson. "When we won the Aquatic Centre (in Sydney) we stood to lose \$50,000 at the end of the job through not reading the tender properly. Luckily we made back the money on variations and broke even".



Tony Musico (top) & partner Richard Skyzynski



Today TCP are active in boardroom AV contracts, which they describe as relatively easy - fast in, and fast out. The focus for this year is to service existing customers and sites, with Richard Skyzynski admitting this

part of the business had lagged recently. While Tony Musico keeps a running watch on business opportunities in Malaysia, he may re-locate his family there.

Central to this decision would be whether TCP win the contract for audio at the Commonwealth Games Stadium in Kuala Lumpur. "What happens in Asia does affect Australia", says Tony, "because if the top 500 companies here are down, then less money flows through the economy".

With Tony Musico concentrating on Asian business, Richard Skyzynski will continue to run the business in Australia. "The hotel market in NSW is booming now, due to gaming expansion" he told me. TCP operate a division in Melbourne, in partnership with **Peter Kemp** - who also operates Coemar DeSisti Australia. They also have an office in Coffs Harbour run by **Gary Rutter**.

~ PEOPLE ~

• **Seamus O'Connor** has been appointed as the Australian Transport Manager for Birkart Concert Cargo in Melbourne, responsible for controlling their expanded fleet of trucks dedicated to the concert and exhibition industry.

• **Terry Marshall** joins dSP - Digital Studio Processing - as worldwide sales and marketing director based in Sydney. Terry was with Sonic Solutions.

• **Andrew Winslade** is the new NSW Sales Manager for LSC Electronics. New number: +61 2 9899-1779.

• **Rhona Walker** returns to Melbourne as the new Victorian manager of Gearhouse Australia after running the Queensland operation. **Martin Featherston** will manage Gearhouse Show Techniques, a new division specialising in large scale, technically complex events.

• **Tim Rand** has been promoted to Head Quality Assurance Engineer at ARX Systems in Melbourne.

~ FIRMS ~

• **East Coast Lighting** have sold their retail activities but NOT their hire and production business as reported last month. Greg Hughes continues to do what he does best in Brisbane.

• **Cairns Sound and Lighting** has been acquired by Gearhouse. Danny Sale will continue as Project Manager with Gearhouse Cairns.

• **Intercity Gearhouse** will henceforth be known simply as Gearhouse Australia. See our story on Gearhouse chief Stephen Lakin in this issue.

• **EIEA turns 80 years old...** During 1998, the Entertainment Industry Employers Association (EIEA) turns 80. The EIEA specialises in assisting employer organisations in the arts and entertainment industry.

ShowSafe host conference at ENTECH

Health and Safety issues are increasingly important in all corners of the entertainment industry. Industry body ShowSafe was formed after the previous ENTECH in Sydney, where a safety conference resolved to establish a peak industry body.

This year ShowSafe is an incorporated body, and they are hosting the first ShowSafe conference the day prior to ENTECH. To be held at the Sydney Opera House, the conference on Tuesday April 21st has a practical bent. Chairperson Byron Comminos whose job it is to knit together the people and topics, says 'this year we hope people will leave the event with practical ideas to take with them back to their workplaces'.

The program is taking shape. It is expected an expert consultant (Don Brown, Safety Institute of Australia) with engineering and product handling expertise will inspire with the opening address.

Conference topics include:

- Manual Handling and the Entertainment Industry - Regulations/Standards,

- Engineering Controls, Applying Regulations and Controls to the Industry.

- Accidents/Incidents: Investigating Accidents- Report Structure, Developing Preventative Measures, First Aid Requirements

- Safety Training - Role of Training in Safety Management,

- An Industry Induction 'OK Card' Scheme.

- Imposing Noise Standards- Current Regulations, Australian Standards, Industry led Reform.

The Conference opens at 9.00am and Closes at 4pm. The price includes lunch, and morning and afternoon tea. Cost: \$179. ShowSafe members \$149. More details from Byron, call +61 2 9387-2167.

Bookings online at www.conpub.com.au, or call 1-800-635-514.

◆ FOURTH ENTECH AWARDS SHAPE UP AS BEST YET

Nominations have closed

The ENTECH awards have certainly generated a variety of emotions over the past four years. The first Awards were panned for lack of polish on the night, but the food was almost universally loved.

The second awards (in Sydney at the Metro) started with a bang but ended in upsets, after one of the presenters got tired and emotional - and told several tables (all winners) to 'shut up or piss off'.

Last year in Melbourne singer Lisa Edwards opened the night at the Plaza Ballroom - only to stop her song because of a problem with the sound. At an entertainment technology night too!

Next month the Awards return to the Metro in Sydney, where a new voting system will choose 20 winners - both prod-

ucts, institutions and people.

Nominations were sought from all known contributors late last year, then 2,000 Connections subscribers were chosen at random and asked for Nominations.

The voting system mirrors that used for the Aria Awards, where all nominations are listed in each category, and voters have a preferential 1-2-3 vote.

Once again the returning officer is Sydney entertainment accountant Bruce Rowland.

The Awards night is a dinner dance, with a three course meal. Staging Rentals boss Meri Took is the Executive Producer, and Technical Directors are doing video projection.

Music, grog, surprises, and host Dr. Karl Kruszelnicki (the science guy) will keep you vibed up!

Cost: \$69. Bookings-call 1-800-635-514

Editorial

This issue has 120 pages, of which we are very proud. It's worth noting that when we started in February 1993 our debut issue came out on time, and we have been on time ever since. The magazine always appears in the first 10 days of the month, which we think is important. This issue closed on February 15th, our usual deadline, and was distributed on Thursday 28th February, reaching most readers by March 4th. Next month our bumper April ENTECH edition, the largest for the year, will be distributed on March 26th, God willing.

NEW in this issue: Our Perth correspondents, Jacqueline Molloy and Andy Ciddor have devised a new Theatre Backstage News page. See page 46, tell us what you think. Also, Dates With Disaster is our new regular in the On Tour Section, which revives our very popular Great Mistakes format from yesterday. Send us your Date With Disaster, and we will try to run it. This feature appears each second month until we get your story - so send it in!

Audio Post gets a boost with new staff writer Christopher Foster, check out our 32 page pull-out directory, those listings have expanded out of sight!

China is one of three destinations that Connections writers will visit next month. Jacqueline Molloy will visit Shanghai to cover the debut PLASA trade show there, Caroline Grafton will travel to Rimini in Italy to attend the SIB tradeshow, and Christopher Foster will trek to Las Vegas for NAB. Then we will all reconvene for ENTECH in Sydney, April 22 - 24!

ENTECH is really going to buzz, and it's your last chance to see this vibrant and growing tradeshow before 2000. We are hosting a Meet The Writers session on Friday at 2pm in the Meeting Lounge just inside the entry. Come and tell us how to improve your magazine!

~ FIRMS ~

• **Birthday** for Aerobic Microphones Australia, who are about to celebrate three years of making and exporting a neat-o pro audio niche product. Yep, a headset mic for sweating grunters. Call them on +61 2 9313-4995 for more.

• **JuStaging and Multi-Image Lighting & Video Productions** are now at Suite 15, Level 2, Regent Plaza, 12 Short street, Southport QLD 4215. Call Justin Williams on +61 7 5528-1253, fax +61 7 5528-1256.

• **Garry Van Egmond, The Concert Corporation** is now located at 48 MacFarlan street, South Yarra, 3141. The new phone number: +61 3 9820-5955, fax +61 3 9820-8044.

• **Audio Visual Lighting Australia (AVLA)** has a new home

too, find them at 19 regal Place, East Perth 6004. Call +61 8 9221-1888, or fax +61 8 9221-1444.

• **Edward Keller Australia** is also at new digs, 14-17 Dansu Court, Hallam, 3803. Call +61 3 9554-6666 or fax +61 3 9554-6677.

~ MOVES ~

• **ShowTech Rigging** relocate this month to 115 Kavanagh street South Melbourne. Their phone and fax numbers remain the same.

~ GOSSIP ~

Audio visual calamity in Perth, as reported by The West Australian.... occasion: Holden Rodeo launch. Place: Rendezvous Observation City. Reveal: vehicles drive

through billowing curtains suspended from scaffolding. Problem: one driver smashed into platform. Result: frantic backstage scramble to hold scaffolding up. Show saved, but during pulldown a 5m length of scaffold fell onto one of the cars. Staging Connections did the gig, which was jinxed before it started because the transporter delivering the cars had a bingle outside.

Meanwhile, on the CAR topic, **Ford Motor Company** have a wild display at the Melbourne Motor show this month, created by event and multimedia firm Photomation. It's a 'brand experience' whereby the display is grouped for 'youth', 'family' and 'work' - and women are encouraged too. At a motor show, no less. (*Do women REALLY know anything about cars? -ed*) Anyhow, the use of light, vision and audio is integral to the display, so let us know what you thought.

Audience Motivation (AM) recently worked on the Singapore variant of Sapphire '97, the show/convention which German software giant SAP stage all over the world (see Dec Connections for the Aussie show review). AM worked for Singapore client, event managers Faber Image. Rob Kane was production manager and Bruce Brown was technical director. Major production elements such as music and video were made in Sydney, then the whole AM devised show was put together in Singapore with local production.

Crap sound for The Coors. Your editor attended show # 4 at the State Theatre in Sydney, where engineer Max Bisgrove applied so much reverb such as to mess up a nice concert. The best vocal sound was during the chat between songs, then BANG - on went all the processing. Sloppy audio engineering started the show, with the intro announcement segueing back to the taped music, which was then allowed to continue part way into another track. A false start, followed by all those heavy effects. Thinking maybe it sounded better at the desk rather than in seat N32, your fearless editor checked. It didn't.

Coming in Connections:

WHO'S WHO

Features and Buyer's Guides in your quality Industry Magazine

April

ENTECH PREVIEW

Complete program, and exhibitor directory. Buyer's Guides: Signal Processors, Film & TV lighting

May

ENTECH AWARDS: THE WINNERS

Buyer's Guides: Effectors, Effects Lighting

June

CABLE & CONNECTORS

Buyer's Guides: Live Mixing Consoles, Profile/PC spots.

**List your firm: Call Nicole
Advertise: Call Caroline
1-800-635-514 or fax +61 2 9876-5715**

SERIES
FIVE

The Console

- Four-band, fully parametric EQ plus variable High and Low-pass filters
- True LCR panning • 12 auxiliary sends (including 2 stereo) with individual on/off and pre/post switching
- 8 Subgroups, 16 x 10 output matrix including auxes 1-4
- 10 VCA Groups with PFL, Stereo AFL, SIP and mute
- 10 segment input metering on every channel
- 8 mute groups plus 256 MIDI controllable snapshots
- A and B mic inputs on every mono channel
- 4 stereo mic/line inputs with full EQ as standard
- Balanced inputs, outputs and bussing
- Rugged power supply with 3-year warranty
- 24, 32, 40 and 48 ch (plus 4 stereo) frame sizes
- 24ch: 1.484m(58.43")/95kg(210lb) 48ch:



The Engineer

"Running a busy hire company as well as being a sound engineer, I need to be sure of two things when buying a console. *One*, it has to be the correct choice in terms of sound quality and features and, *two*, it has to make financial sense. Series FIVE's spec is outstanding: fully sweepable EQ, top and bottom filters, A/B inputs and VCA groups. And when it comes to the budget, Series FIVE offers the best value for money on the live console market. In my book, that's an unbeatable combination."

Andy Dockerty, Adlib Audio on tour with Del Amitri and Texas

ENTECH



Jands stand E28

www.jands.com.au

Write in Reader Service Number: 120

 **Soundcraft**

H A Harman International Company

Distributed in Australia by: JANDS Electronics Pty Ltd
40 Kent Road Mascot NSW 2020 Phone: (02) 9562 0909 Fax: (02) 9562 0999

We're adding ceiling speakers to our popular F-Series line to solve sound coverage problems, and to put money in your pocket as well.

Because our unique diffuser disperses all frequencies uniformly, you can use less speakers per application. This means less wire to pull, less holes to cut, and more profit, too! And because of the increased intelligibility, your customer is happier as well. The F-Series speakers are built from the ground up for background and foreground applications – not for living rooms and

control rooms – so they deliver the correct sound for the application. They also deliver spring clips for quick ceiling mount, covered connector panels, rotatable design, optimal 1/4 and 1/2 space placement, and built-in overload protection.

Here's reliable, professional quality speakers from TOA, a company that helps you . . . solve your problems. For further information contact your local AWA Representative or National Sales Desk on 1 800 252 391.

FEWER SPEAKERS MORE PROFIT!



WE'RE NOT ABOUT TO LET YOU FALL BEHIND.™



SID'S MIC CASE

Shure Beta 52 bass/kick microphone

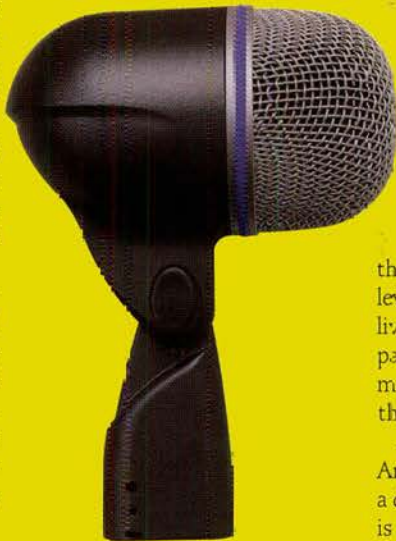
To borrow an expression from that middle eastern leader of note, "one mother of a kick mic", is a fully justified description of the Shure Beta 52. This weighty cylindrical shaped mic has a robust silver blue enamel die-cast case, and an industrial strength grill, with the familiar Shure Beta series blue rubber ring.

Actually weighing in at 605 grams, it is heavy. This weight probably contributes to the mic's ability to move great gobs of air with a reasonable PA.

The capsule inside containing the diaphragm, coil, and magnetic assembly, is similar in size to the other Beta series mics, however Shure have carefully designed the acoustic space inside so that the response is particularly suited to bass instruments.

Also, the anti shock mounting is quite elaborate.

A quick "check one two" makes it obvious that this is no vocal mic, but Shure have produced a response straight off this mic, that



engineers have been getting by wining out all the low mids, and tweaking up low and high, on the kick channel e.g.

The Beta 52's response has a 4kHz peak of 12dB, and at 50Hz, a gain of 5 to 20 dB depending on the proximity to the head skin of the kick or bass speaker.

Surprisingly, the mic has to be gained quite a bit on the channel. This is probably due to the loss of response in the low mids. Shure claim that the Beta 52 produces high levels before feedback. It certainly lives up to this claim on stage, in particular where the drummer demands a lot of kick in the foldback.

And how much will it cost you? Around A\$630, for which you get a dedicated kick or bass mic. And is this expense justified?



Well— Look at it this way. After a few gigs with the Sure Beta 52, hassles getting the right kick sound will seem like they never happened. But what, there's more. A punter will appear out of the audience and say "Hey, great kick man!" — Its true!

In conclusion, the Shure Beta 52 is definitely worth having, because it can make the soundperson's life so much easier.

• Sid Kidman is a musician and microphone fetishist from QLD.

WINNER!

STEVE HOWAT from the Australian Academy of Music in Brisbane is our **SUBSCRIBER CONTEST** winner this month. Steve

wins a return **BUSINESS CLASS** ticket to ENTECH on the flying marsuval next month! The delightful Therese Barron from Philips dropped by the electronic cottage where we make Connections, and drew Steve's name from The Winners Box. • **Subscribe & enter our competition, the contest ends March 20th, so hurry and freecall us on 1-800-635-514 NOW!**



MAJOR TRADE SHOWS

- **MUSIKMESSE**, March 11-15, Frankfurt. Fax: +49 69 7575 6433
- **SIB**, March 29-April 1, Rimini, Italy. Fax +39 541-711225
- **NAB**, 5 - 9 April, Las Vegas. Fax +65 291-8922
- **SHANGHAI PLASA**, April 14-16. +44 323 410-335
- **ENTECH 1998**, April 22-24, Sydney. Fax + 61 2 9876-5715
- **NSCA Expo '98**, April 27 - 29, Las Vegas. Fax +1 319 366-4164
- **AES 104th**, May 16-19, 1998. Amsterdam. Fax +1 212 682-0477.
- **LightFare International '98**, May 27-29, New York. Ph +1 404-22C-2215
- **PALA**, July 17-19. Singapore. Ph +65 227-0688.
- **PLASA '98**, Sept. London. Call +44 323 410-335
- **AES 105th**, Sept 26-29. San Francisco. Fax +1 212 682-0477.
- **LDI Nov 13 - 15**, Phoenix. Ph +1 212 229-2965
- **SMPTE**, 13-16 July 1999. Sydney, Ph. +61 2 9977-0888.
- **ENTECH 2000**, March, Sydney Olympic site. Fax + 61 2 9876-5715



THINKING OF GOING to:

ENTECH 1998 in Sydney next month?

Wed April 22nd, Thur 23rd, Fri 24th

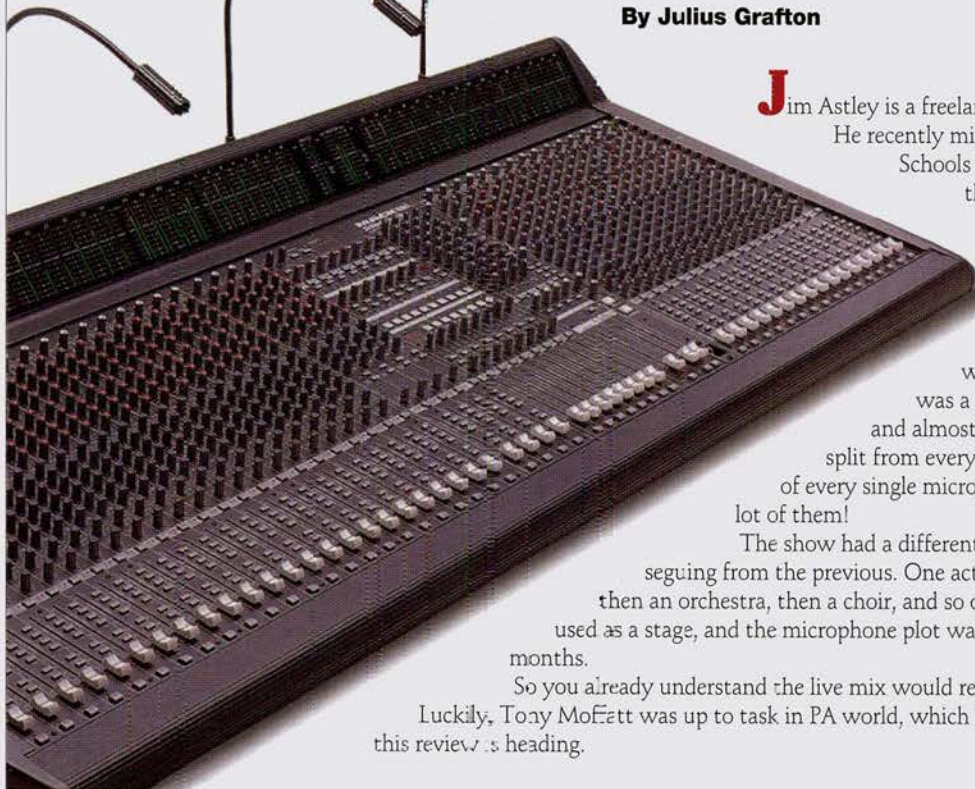
Just call Alison: SYDNEY 9237-2905 for advice on getting there

STAGE & SCREEN
TRAVEL & FREIGHT SERVICES PTY LTD

Mackie SR mixer faces ultimate test

A broadcast mix of a very complex show with an engineer who hasn't previously used the SR 40

By Julius Grafton



Jim Astley is a freelance audio engineer who specialises in TV. He recently mixed broadcast audio for a show called the Schools Spectacular, which is held each year at the Sydney Entertainment Centre. It features the BEST musical act from selected schools. Typically each act is totally different to the one before, and there are a lot of them!

In the auditorium the Live sound was mixed by Tony Moffatt, but that was a different story. Operating in a parallel and almost invisible universe, Jim had an isolated split from every microphone, so he had exact replication of every single microphone used in the show. There were a lot of them!

The show had a different act for every song, with each song segueing from the previous. One act might be three people playing conga's, then an orchestra, then a choir, and so on. The whole floor of the centre was used as a stage, and the microphone plot was carefully worked out in the previous months.

So you already understand the live mix would require superior organisational skills! Luckily, Tony Moffatt was up to task in PA world, which left Jim and his TV mix. Which is where this review is heading.

CONSOLES AND CHANNELS

This show needed two SR-40 consoles, plus two Yamaha ProMix 01 digital consoles, plus one Yamaha 03D digital console. One ProMix 01 handled keyboards and the other drums and cymbals. The 03D was used for vocals.

One Mackie console was the master mixer, with the three Yamaha digital mixers plugged in, plus the outputs from the other Mackie - which was used to mix brass and the orchestra mic's.

Four Tascam DA-88 modular digital multitrack recorders took signals from various outputs of the two Mackie consoles, to give a 32 track recording for later audio post production. Jim was assisted by Dean Lovell, who mixed the second Mackie and monitored the DA-88's, which need care because they are sensitive to input distortion if slightly overloaded.

Ordinarily Jim says three operators would work a show like this, but two did this one.

It's interesting to observe this story is about a broadcast mix, which is a live recording session rather than a live mix, where the sound goes out the left and right outputs. Jim needed 32 outputs, one for each input of a DA-88! Just imagine it - 32 cables, 32 tracks - what goes where? Then you have to monitor all 32 outputs.

MIXER BASICS

If you use concert mixing consoles, you can almost skip this section of our review. The SR-40•8 or SR-56•8 (add extra channels otherwise the same animal) is a compact but fully featured console for serious professional live sound use.

It doesn't have VCA groups, but has every other mixing console attribute in abundance.

Everything in the channel strip of the Mackie SR console is as you would expect. The signal goes in at the back, and runs from the top of the channel to the bottom.

There are eight subgroups, three main outputs (which are left, right and centre), and eight auxiliary sends from each channel. The equalisation is four band, with two sweep mid ranges. The channel output signal can be muted, assigned to subgroups, or assigned to left, right and/or centre outputs.

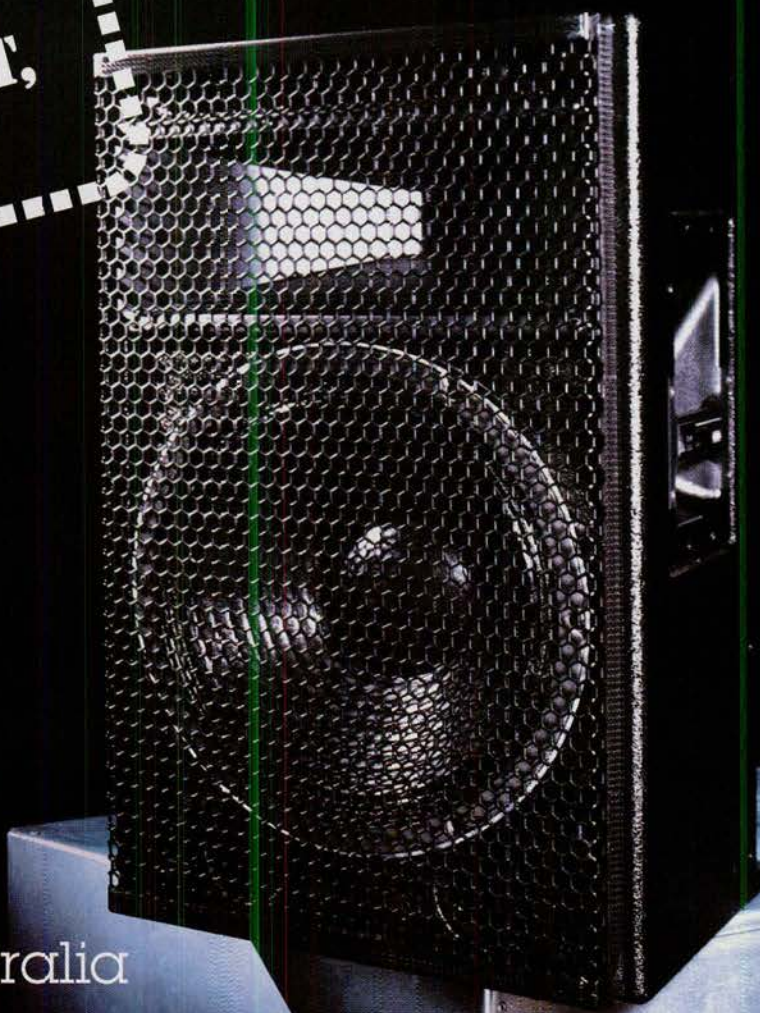
Auxiliary sends are switchable in groups of four for pre fader and pre EQ, or post fade and post EQ operation. This all adds up to standard operational procedure, and features which are not unlike those found on any up market console. *(continued next page)*



introducing the self powered

UPA-1P

**TO BELIEVE IT,
HEAR IT
TO HEAR IT,
CALL**



Meyer Sound Australia

4 Gordon Street, Newstead, Queensland, Australia 4006

PO Box 595, Albion, Queensland, Australia 4010

Telephone: +61 7 3252 4493 Fax: +61 7 3252 3380

Email: meyeraus@powerup.com.au

Website: <http://www.meyersound.com>

Write in Reader Service Number: 185

more...



~POWERFUL~ACCURATE~COMPACT~ARRAYABLE~

A no compromise touring, flying or installation system with more ...
hear it, we deliver all we promise.



A HARD ACT TO FOLLOW.

1997
live!
awards
BEST NEW AUDIO PRODUCT

AR Audio Engineering Pty. Limited
558 Darling Street,
Balmain, NSW, 2041, Australia
Telephone: +61 (02) 9810 5300
Facsimile: +61 (02) 9810 5355
Write In Reader Service Number: 187

Mackie SR mixer

Four stereo input channel strips are supplied in addition to the 40 (or 56) mono inputs. The stereo input allows for two mono 6.5mm jacks at line level, each stereo channel has 8 auxiliary sends but a basic four band equalisation without sweep. These inputs are almost always going to be used for effects returns, and they have a standard 100mm fader.

INPUTS

Aside from the 40 (or 56) mono inputs, and the four stereo inputs detailed above, every mono channel has a 6.5mm jack line input as well as a balanced XLR for microphones.

Four stereo aux returns (aside from the four stereo channel inputs) appear on the master section as rotary pots, two stereo tape returns complete the inputs possibilities.

There are also four matrix inputs, marked 'A' to 'D', which have no input gain control at the Matrix section. They just buss straight to each matrix master.

OUTPUTS

Both consoles have the output groups in the middle, which is where you would prefer to sit anyway!

There are four matrix outputs, which allow a submix of the eight subgroups, the left, right and centre outputs, to be mixed down to each matrix output.

You use Matrix outputs for zone submixes or for taping. The principle is easy, there are four balanced XLR connectors on the back which are the matrix group outputs. In use you would be surprised how useful this is.

The submix and master section has all the usual fruit, including a 'Rude Solo Light', Mackie-speak for ... a large solo light! It flashes when any PFL button is depressed anywhere. Nice touches: dimmer for desk lamps and master metres, assignment for PFL or AFL on Solo buss.

Auxiliary send masters (1-8) have a flip switch



with a LED whereby you can route the auxiliary send to the correspondingly numbered group output if you are using the SR for stage monitors. When so flipped, the actual group output is flipped to the auxiliary master and output. There is a FLIP light for each FLIP switch - but personally your editor feels this feature is capable of providing enormous strangeness and should be tactfully removed henceforth.

Imagine you are mixing a show, and somehow a flip switch is hit. What was running from - say - auxiliary one to an effects unit, is now blasting out subgroup one. What if it is a snare drum? Worse still, what if the auxiliary group is feeding a stage monitor send and you flip it so that the subgroup - carrying drums - is blasted through the monitors? Fergit this one, Mr. Mackie!

The eight subgroup outputs have a very nice feature, called 'AIR'. This is a simple high frequency boost curve at 16kHz which you can dial in or out. It gives a nice lift to the mix, but it would also push those high frequency horns if they were lacking in response. Use with care, or buy some new h/f horns!

Finally, left, right and centre outputs are as you would expect, the Centre output is actually a mono output, which you assign at the channel. You need to hit the Centre switch at a channel for that signal to get to the Centre output, just as you need to hit the L-R assign button on the channel for the output from the channel pan pot to get to the outputs.

A communication strip is Clearcom compatible, meaning if this is your talkback protocol, you can use the talkback microphone socket on the desk. Jim Astley found this useful at his Schools Spectacular zig.

IN USE

Jim Astley had a busy time with the Schools Spectacular. "Every hole was filled bar a few" he comments, referring to the inputs and



WAVECOM JR.

**Wireless Audio Video Everywhere
COMMUNICATOR**

H & C Audio unveils the first high quality inexpensive 2.4 GHz digital wireless transmitter receiver system. Send VIDEO, DATA, AUDIO or SECURITY signals for under \$700 inc. tax. Perfect for live sound or general contracting.

Contact H & C Audio (03) 9876 2333, fax (03) 9876 2033



Write in Reader Service Number: 163

Let us perform for you



Email from anywhere in the world 24 hours a day for a detailed quotation
birkart@iaccess.com.au

Birkart Concert Cargo are leaders in:

- Stage, Sound and Lighting Forwarding
- Worldwide Concert Logistics
- Aircraft Charters
- Carnet Applications and Customs Clearance
- Exhibition Forwarding
- On Site Handling at Venues
- Total Tour Transport and Travel
- Trucking
- Storage
- Insurance

Third Floor 'The Tea House' 28 Clarendon Street SOUTH MELBOURNE VIC 3205
Phone: (03) 9696 2988 Fax: (03) 9696 7096

Level 2 Suite 4 Centrum Place 6-8 Crewe Place ROSEBERY NSW 2018
Phone: (02) 9313 7299 Fax: (03) 9313 7300

MELBOURNE • SYDNEY • SINGAPORE • HONG KONG • LONDON • DUSSELDORF
AND OVER 60 BRANCH OFFICES WORLDWIDE



Mackie SR mixer

outputs on the two Mackie SR's.

"Other thing which is offputting is not having inserts on the auxiliary groups", but he got around this. There are inserts on the main subgroups and main outputs, as indeed on all channels except the stereo inputs.

Jim's mix management relied on the Mute abilities of the SR's. Every channel, every auxiliary send, main outputs and every group can be individually muted by way of a button with a corresponding LED on each. This is standard operational procedure on all serious mixers these days. But only some mixers have MIDI mute capability, and this is one of them.

The Mute section of the Mackie has a name, they call it Ultra Mute™, it is a neat module which enables two distinct operating modes. In Group mode, you can assign and operate ten different mute presets. Preset one might mute all vocal mics, preset two maybe mutes the drums, preset three mutes your effects returns, and so on. You can mute or unmute any or all ten presets in an additive sense.

There are in total ten groups of ten mute presets, you would need to dial up each group of ten to use them in this way, which is not likely, because having ten mute buttons is probably enough for average use.

But Jim wasn't mixing an average show, with every song coming from different performers. He used the MIDI mute capability, known as 'snapshot' mode. There are 27 snapshots available, each triggered by a different MIDI note.

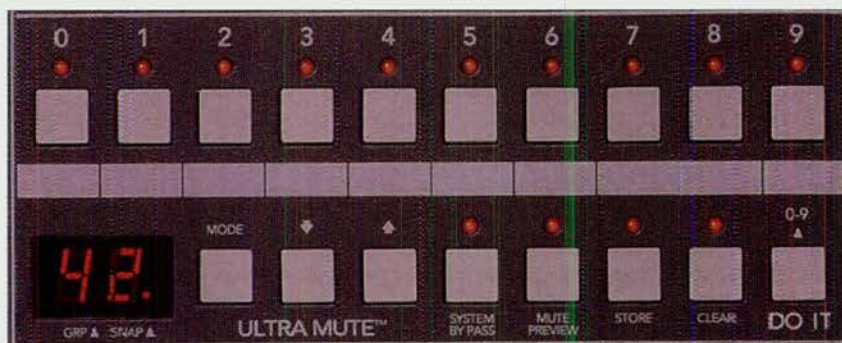
"I used a Roland MC500 (sequencer) in performance mode, where it only transmits. At the start of each song it sent a program change to each console to update each mute group" said Jim.

A hassle emerged: "You can't change the MIDI receive channel on each SR console. Each console only receives on channel 16". The outcome of this is that both consoles were changing groups together. "I got around it by using the 2 MIDI ports on the MC500. They should make it so you can change the MIDI receive channel on the SR. But it's not the sort of thing you'd use a lot. Except in theatre".

MECHANICAL & CONSTRUCTION CONSIDERATIONS

One issue that sets the price and features balance is that most mixers for the professional PA market with features like these have modular channel strips. Meaning you can unscrew one channel, and pop in another. In some cases, you can configure a modular console in different ways, with more (or less) stereo or mono inputs.

In the early 1990's Soundcraft sold all their consoles this way, but then they created the Spirit brand when they saw that the first few Mackie



models were selling up a storm. Mackie reasoned that consoles didn't need to be modular at all, and that the issue was serviceability and price. Spirit followed, and the two brands

batter each other for market share around the world today. Both brands do not offer individual channel modules.

Mackie stress that mechanical integrity means a channel strip shouldn't require service in normal use. The common failure point for many modular consoles is actually the wiring harness which

connects the module to the console, or the faders or potentiometers breaking off the circuit board. All these possibilities are minimised on the SR consoles, say Mackie. Certainly the pot mounting method they use on the SR appears to give the little thing some serious physical support, unlike the 'wobbly' pots you find on some brands. Wobble equals trouble, we say!

OUTCOME

"I got them (the 2 SR's) on Wednesday, used them on Thursday. Was I worried? It's a Mackie, it'll work. They're basically same as the 24:8 - 8 buss, which I have".

Here are Jim's other reflections. The owners manual: "a great book!"

"It's a console - everything's where you need it. The Mic preamps sound really good and clean, with a lot of head room after you start EQ'ing. But get a mic like a U87 and they are a bit low - you've got to wind the gain up. It's not noisy, you just run out of stick occasionally. The EQ is nice and musical. It doesn't matter where you turn the knob it sounds good. It's like any other Mackie - it's a workhorse. There's no drama, and it's logically laid out. Also two people can lift it".

"I was very happy with them!"



Price: SF. 40 A\$19,995
SF.56 A\$TEA

Distributed by:

Australia: Australian Audio Supplies,
+61 2 4588-4666
New Zealand: Accusound Pacific,
+64 9 379-2910
Hong Kong: Tom Lee Music,
+852 2730-1098
Singapore: Swee Lee Co,
+65 356-7886

Mach Road Series Loudspeaker System

By Julius Grafton

Tim van den Berg is co-owner and audio manager at Events, The Showbiz Shop in Wollongong NSW. The town is a thin market, attached to Sydney which is just over one hour north. Which means that to operate a successful audio rental and production business, as Events do, you need to be very flexible.

Enter Tim who is by definition an audio pedant. His rental department is like Noah's Ark, there are two (or more) of everything. Yamaha Waveforce speakers, EV-SX200a's, Deltamax's, Bose Panaray's, and they even have some Bose Cannon's.

This is because Tim likes to 'fit up' a particular job to a particular speaker system. The criteria of a customer's job are sought, so that dispersion, SPL and cost are all factored in. So lots of different kinds of speakers in stock are OK, he says.

ENTER THE MACH

This loudspeaker company has the most unlikely origins, being a division of the Martin Professional conglomerate in Denmark. Martin are, for those audio people, makers of a Vari*Lite alternative. Mach was generally not going to get much recognition unless they either threw VAST sums of money at launching their brand, or got street cred.

The 156R is a dual 15" woofer and horn box, which is the 'standard' kind of device favoured by hire and production firms who service work underneath the top end of the industry where 'active' split box systems are required.

But the Mach is specified slightly above the army of System 1500's, Cobra's, Mongoose's, Slam boxes and other types out there. For starters it doesn't come covered in carpet, which is quickly going out of fashion as rock solid paint finishes become more favoured. The Mach product also has a high level of finish, with flying tracks either side and quality hardware. They look good.

156R has a deep trapezoidal shape, while the front face is 540mm wide, the rear is just 225mm. The trap angle is 105°, and the depth 600mm. "It generates some low bass- and is useable down to 40hz" said Tim. Internally the box has steel bracing to support the flying

tracks. Externally, the tuned ports have some foam damping at the mouth.

LOADING

Like all other boxes in this category, there are dual 15" woofers, and a constant beamwidth ('CD') horn married to a large diaphragm compression driver with a 2" horn throat.

There is fairly stiff compliance on the 15" woofer, which like the high frequency horn is made by Beyma in Spain. Mach will say they are 'proprietary' designs, which we can't dispute. Beyma is a well regarded brand elsewhere, which has enjoyed a low profile in Australia.

There are two versions available, being passive (with an internal crossover) or active (requires an external crossover). Most hire operations favour the former, a benefit of a passive network is that the system designer has incorporated tricks to assist the overall operation of the components. This can happen with an external 'controller' or 'processor' too, but an active box can find itself alone without the electronics - because audio people like to tinker. What works perfectly nicely with an external processor sometimes sounds horrible without - and vice-versa occasionally!

THAT CROSSOVER

Speaking of tinkering, by nipping a couple of jumpers on the internal crossover, Tim has changed the box into a quasi active, or bi-amped box. This means that the input

Speakon connector can feed two amplifier channels into the box, to drive the high pass and the low pass sections of the internal (passive) crossover separately. The standard way you run a passive box is that one amplifier side feeds the whole box, and runs to the internal crossover where the signal is then fed to the hi pass and the lo pass sections. The Tim method means that you can push more amplifier power into the box.

Reason? "There is no possibility of cross modulation between the components and the passive crossover network" explains Tim. "This is not widely understood, but you don't just send signal to a speaker or horn coil and have it dissipate. It has just gone one way. The

(continued next page)



Tim van den Berg



www:

net

[the ptmElectronics Network]

Phone: +61 2 9361 5847
Fax: +61 2 9332 1656

The InterNet is Hotting Up!

Our team at ptmElectronics has the network and the technical skills to get your business up on the World Wide Web.

Whether it's a company web site or short term showcase style advertising, there's a whole world out there, 24 hours a day.

Email: service@ptmE.com.au
Network: <http://www.ptmE.net>

NEW

MCE 7

MICRO LAVALIER MICROPHONE



**ONE OF THE SMALLEST
STUDIO CLIP-ON MICS
IN THE WORLD...**

FEATURES

- Wide frequency response
- Extremely small dimensions
- Omnidirectional polar pattern
- Insensitive to handling noise
- Removable wire mesh wind screen

APPLICATIONS

The MCE 7 is an extremely small omnidirectional electret condenser clip-on microphone. It is designed for all theatre applications, especially musicals and broadcasting. Due to its extremely small size it is ideal for near-to-invisible placement on costumes or in the hair. The MCE 7 is available in black or flesh-tone. The wide frequency response guarantees intelligibility of speech and a very high fidelity of reproduction. The MCE 7 is available in various models for connection to all beyerdynamic beltpack transmitters.

beyerdynamic

Write in Reader Service Number: 131

SYNCROTECH - EXCLUSIVE DISTRIBUTORS FOR:

AMS NEVE

hard disk recorders, analogue & digital mixing consoles

A.T.I. AUDIO

processors & mixers

BEYERDYNAMIC

microphones & headphones

CALREC

broadcast mixing consoles & processors

DAR

hard disk recorders

DOREMI LABS

random access video & audio disk recorders

FAST FORWARD VIDEO

dual channel raid array digital video recorders

KRK

studio monitors

LOGITEK

audio level display & monitors

OUTBOARD

theatre automation systems

SOUNDTRACS

digital & analogue recording & live mixers

SPENDOR

active audio monitors

SONIC SOLUTIONS

CD mastering, post production & broadcast digital systems. Networked, real time audio mass storage & retrieval.

SYDNEY:

Unit 26, 43-51 College Street,
Gladesville NSW 2111
Phone: (02) 9879 0800
Fax: (02) 9879 0899

SYNCROTECH
SYSTEMS DESIGN PTY LTD

MELBOURNE:

Suite 4, 14 Spink Street,
Gardenvale VIC 3186
Phone: (03) 9596 0973
Fax: (03) 9596 0601

Mach Road Series Loudspeaker System

amplifier feeds current to the driver (speaker), sets it into motion, then it tries to return to its starting point. In doing so, because it's a coil with a magnet, it's going to generate a current in moving backwards. The inability of an amp to control that is known as a poor damping factor. That also happens in a non mechanical state at the coils in a passive crossover, and it's quite possible to generate back emf between the two sections of a crossover. Unless you de-couple them!"

You retain the internal attributes of the crossover, like EQ. "I've seen it done as workshop mod's on other systems. In an active system you'd just have a high value capacitor in line to protect the high frequency driver, and that's it. You'd do all processing outside the box. But the customer just wants something to work".

"It really opens the sound up! You can use it as a high quality banger, or for ridgy didge EAW style work".

"You get an extra 3dB running the de-coupled system"

The downside to the 'de-coupled crossover network' is that you need two amplifier sides to run one speaker box, as opposed to one amplifier side. For those times when power is not so crucial and cost is an issue, Tim has wired up an adaptor cable, so that the two sides of the crossover are joined as bridge links on the Speakon connector on the adaptor lead. The customer doesn't need to think!

SOUND?

"When I first got them I A-B'ed them with a number of other speakers, like Cobra's and others. But I'm not a great fan of equalisation (when required to smooth out the response of a speaker cabinet). I didn't have to screw around with these. It's worth throwing a bit of extra money at a box like these to get away from problems which could cause amplifier oscillation. Keep the amplifier happy, keep the box happy, keep the customer happy".

"I'm not seeking a flat response, I'm not that idealistic. We use these boxes for corporate work

or for high spl theatre - we are putting these into WogBoys (a local production). They aren't 'furry' on the top end, the dispersion is tight - 60° x 40°".

"I'm getting interest from a different level of clientele - for instance, a church client ordinarily take a system with subs - but they took these for a carols by candle light without subs. When they returned, they used the Christian equivalent of the 'F' word, which by the way, is 'GOLLY' - these are GOOD! So we won a new client".

"Much as everyone would like Meyers or JBL Arrays - that level of work is just not here. It's nice to have something that even if it doesn't have a big name, it works well. I give the customers the option of not paying us if they are not happy!" This slightly scary policy is offset against Tim's ability to read the customer. He did a degree in philosophy specialising in logic, so I guess he has figured out the customers likelihood of satisfaction BEFORE making the money back offer. Right?

THE WRAP:

Events do community shows, theatre, commercial sound reinforcement, and driveway hire. For amplification of the Mach speakers they use either Australian Monitor, "for a warm sound" or QSC Powerlite 1.8 "for a dry sound".

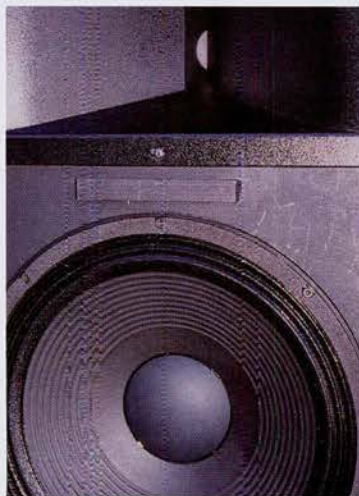
"They are still clean at the point where you are shouting very loudly at the mixing point to be heard". Events have had the Mach boxes for 18 months. "They have worn quite well, and are strong" are Tim's closing comments.

Price

Mach 156R A\$4499 (active) A\$4699 (passive)
Wheel dolly optional at A\$649

Distribution

- By Mach Systems A/S, Ph +45 8621-2588
- Aust: Audiology Pty Ltd, +61 2 9584 0033
- Hong Kong, Macau, China: Shalom AV Technology Ltd, +852 23981263
- Good people to know:
Events +61 2 4229-6010



infonics Interactive Digital Audio

- Digital Voice Annunciation (DVA systems)
- Interactive Audio Soundscapes
- Public Transport Annunciation Systems
- Exhibition and Display design
- Automated PA Announcement Systems
- Animatronics
- Interactive Displays
- Lighting and Animation Control Systems

Infonics Pty Limited, 11 Illoura Avenue Wahroonga NSW 2076

Ph: (612)9489-0260 Fax: (612)9487-5066 Internet: <http://www.infonics.com.au>

Write in Reader Service Number: 184

X-Array
EXPANDED RESOLUTION TOURING SYSTEM
Electro-Voice Efficient Sound Management

The all round advantage.

DDA
CS8

EVI PROFESSIONAL AUDIO GROUP
the
**Management
of Sound**

KLARK TEKNIK

VL250
LIVE PERFORMANCE CONSOLE
MAKING THE MIDAS TOUCH
MULTI-FUNCTIONAL

MIDAS



THE EVI PROFESSIONAL AUDIO GROUP



EVI Audio (Aust.) Pty Ltd
Unit 23 Slough Business Estate, Silverwater 2128
Tel: 02 9648 3455 Fax: 02 9648 5585

LETTERS

*#//@%XX-?!
 # // @ % XX - ? !

Gearhouse and venue AV policy

Thank you for once again highlighting the subject of restrictive policies in venues that exist in Australia (*Connections, February*). I would like to add a few points to the debate.

Firstly, I'd like to clarify one point - the article with comments by Michael Hassett infers that Gearhouse have some control over the exclusivity at the Melbourne Convention Centre, however, our status as preferred supplier (providing additional a/v support as required) means that we are not involved in policy issues.

On the matter of venues restricting audio visual companies I make two observations -

1. Convention Centres apparently are within their rights under the Trade Practices Act to force clients to use their services, as they run the centre and own the equipment.

I do not agree with this policy as I consider there is no need for it, the reasons being -

They buy their equipment tax and are inhouse, all reasons why they have an advantage over staging & production companies. They quote the excuse of "We then have control over the standards and therefore reputation of our venue", I also now find this as an unacceptable excuse because of the huge investment in equipment and technical skills many Australian companies have undertaken and, judging by the number of complaints I have received from clients using some convention centres the reverse is now the norm, whereby the skills level of some centre staff (and attitude) leave a lot to be desired. Also why hide

the policy in the finer print of a contract?

A final note on convention centres is that legal advice I have received, clearly states that a centre is breaking the Trade Practices Act if they charge their services out at more than market rates because of their restrictive policies and the size of the market they command.

2. My bigger concern is that of some of the major hotels, who happen to be using the services inhouse of audio visual companies, are attempting to charge fees to other companies who come onsite. These fees are often \$500 plus \$50 per hour for a technician.

Several years ago a *five star hotel in Sydney* (*name deleted) who have *another AV company* (name deleted) inhouse, attempted this policy and to their credit lifted the policy once I informed the General Manager of the situation.

Unfortunately, once again there have been instances where venues that *another AV company* are inhouse, have implemented this policy and I can only assume that the venue Banquet Managers are not aware of the grave situation they are placing themselves in, as well as *another AV company*. This is a blatant restrictive trade by two organisations against any competition.

On a final note I make it clear that although Gearhouse are inhouse in some Australian venues we do not accept and will not be party to similar behaviour. Gearhouse are proud and happy to compete on a level playing field with our competitors.

Russell Bennett
National Marketing Manager, Gearhouse (Aust)

* Ed: *names supplied but removed.

Tascam is OK by me

Quite surprisingly, I must disagree with your article on Page 40 of Feb 98 *Connections*. Over the years, I have come to consider Teac/Tascam's Melbourne based spare parts division as one of the most efficient. Nothing seems to be too much trouble on the 'phone and there has been many times I have appreciated their help in tracking down obscure parts in a hurry for machines often over 15 years old. In general, I would say they are one of the best.

I suspect the problems that other readers are having with Tascam are not based in Melbourne but are due to the DA88 and DAT digital standards which are both crap, full of holes and as unreliable as a modern PC running Windows 95.

Tascam's analog equipment (and the service backup for them) is simply the best in OZ and has been for a long time. To those of you who are having problems with DAT or DA88 then give up and get a real digital machine with a bit of redundancy in it's standards like the ADAT, or spend money on a good hard disk editor.

- **Paul Matthews,**
St. Mary's NSW

You tell it like it is!

I read your fifth birthday issue with gusto, and am still amazed at your ability to tell it like it is, and survive commercially. In order of appearance, you reported on how Kiss Corporation went broke, how Tascam are in trouble with some customers, how some traditional hire and production firms pay poorly, how the ShowRoom at Star City is flawed, how venue AV policies cost them money, and how the Jands Hog is misunderstood by some lighting technicians.

Riveting stuff. But as long time *Connections* reader I am reassured by the continual typo's, the misused apostrophes, and the screwup and correction in your letters page when you tried to define the decibel. I also find the advertorial on John Barry and the Duncan Fry retirement fund pull out section (column, book extract AND advertorial product review for ARX) encouraging, because it proves that someone in your company still has eyes on the purse strings!

- **'Ligger', Williamstown, VIC.**

* Thanks. *Advertorial* is a very dirty word here, *NO* article in *Connections* appears as a consequence of advertising or commercial negotiation. -editor.

We Welcome Letters!

Try to keep them under 400 words, and always include your name, and contact details, even if you wish to write under a non-deplume. We usually always print letters containing constructive criticism, we are less likely to print letters containing general praise. Email your letter to mail@conpub.com.au or fax editor, +61 2 9876-5715

The MINI is hereand it's not just another lapel mic

Audio... a very natural sounding mic due to the frequency response being flat from 20 Hz to 20 kHz +/- 2 dB. Acoustic equalisation using the short plastic grid boosts +3 dB between 8 - 20 kHz, and the long plastic grid boosts +10 dB at 12 kHz.

Connections... mic terminated with Bruel and Kjaer Micro Dot which was developed for the aviation industry. Allows individual testing of each mic. 9 adaptors covering XLR P48, major wireless mic systems or terminate yourself. serial numbers for each mic 1.4m cable.

Available in... headworn, miniature lavalier clip, pin or magnet versions... black, beige or white with 5 coloured wind socks... models DPA4060, DPA4061, DPA4062.

At a price LESS than you think!

From **Danish Pro Audio** world wide suppliers of **Brüel & Kjaer**



STUDIO
 SUPPLIES
 PTY. LTD.

5 Myrtle Street,
 Crows Nest,
 NSW 2065
 Tel 02 9957-5389
 Fax 02 9922-2043
 Email : leonhart@ozemail.com.au

ACN 003184503

Write in Reader Service Number: 171

InterM

SMX812

AUDIO MIXER



Input Section:

Mono 4 Mic/Line, 3 Band Tone Control
Stereo 2 with +4/-10/-20 Attenuator

Output Section:

- 1 Stereo L/R
- In/Out Connector: XLR or 1/4
- +48v Phantom Power
- Built-In Echo
- Effect Send & Return with Level Control

\$399.00

SPECIAL INTRODUCTORY OFFER

Present this advertisement when purchasing your new SMX812 mixer from Inter-M, and take advantage of this special Connections Magazine/Inter-M introductory offer. For your nearest Inter-M stockist, contact Magna Systems on (02) 9417-1111.

Write in Reader Service Number: 143

D.A.S.
a touch of excellence

PF-215
Frequency Response: 40Hz-20kHz
RMS Power Handling: 500W
Program Power Handling: 1000W
Nominal Impedance: 4
Sensitivity (1W/1M): 102dB

PF-112
Frequency Response: 55Hz - 20kHz
RMS Power Handling: 300W
Program Power Handling: 600W
Nominal Impedance: 8
Sensitivity (1W/1M): 100dB

PF-115
Frequency Response: 60Hz - 20kHz
RMS Power Handling: 250W
Program Power Handling: 500W
Nominal Impedance: 8
Sensitivity (1W/1M): 99dB

PF-112
Frequency Response: 60Hz-20kHz
RMS Power Handling: 250W
Program Power Handling: 500W
Nominal Impedance: 8
Sensitivity (1W/1M): 99dB

SUB-15
Frequency Response: 40Hz-1.8kHz
RMS Power Handling: 300W
Program Power Handling: 600W
Nominal Impedance: 8
Sensitivity (1W/1M): 100dB

PF-012

PF-015

MAGNA SYSTEMS AND ENGINEERING

Magna Systems & Engineering A trading division of Sekore P/L, ACR 004 004 997
Unit 2/28 Smith St., Chatswood, NSW 2057 Phone: (02) 9417 1111 Fax: (02) 9417 2394

Write in Reader Service Number: 144

LETTERS

*#/@/%XX-?!

MANFROTTO & MILLER

Reference the Buyers Guide publication printed by your company related to Truss/Flying Systems and Rigging. I would like to clarify the distribution policy for Manfrotto and Avenger products in Australia as manufactured by our company.

Manfrotto lighting stands and accessories, plus our Avenger range of lighting grip equipment is distributed in Australia by Miller Professional Products who are our official agents in Australia.

Comar DeSisti Australia are not the official Manfrotto or Avenger distributor and the mention of this in your buyers guide has caused confusion in the market and obviously upset Miller who are our distributor.

Comar DeSisti Australia are the official DeSisti product distributor in Australia. The DeSisti manufacturing company in Italy does purchase from Manfrotto lighting stands and grip equipment under their own brand name and therefore should be promoted as DeSisti products and not Manfrotto which, as I mentioned earlier, causes confusion in the market place.

I have written to the DeSisti company in Italy to ask them to instruct their local distributors to refrain from any future press releases using the name Manfrotto.

I understand that the confusion created in the Buyers Guide was not your intention and is really the fault of Comar DeSisti Australia.

Paul Wild
Sales & Marketing Director
Manfrotto, Italy.

PA & PAY TO PLAY

I would like to raise an issue that has been concerning me for some time.

As we all know the number of live music venues catering to 'young' bands in Sydney has been on a downward slide for some years now. Most venues have found that 'cardies' and pool tables provide better revenue than hosting live bands.

Of the remaining few venues, a

number offer some sort of in-house production. Many of my colleagues agree that in most cases these 'PA's' (loose description) rarely amount to more than an interesting collection of antiquities vaguely strung together.

It seems that in recent times the venues have begun to supply an 'operator/house sound person' and introduced an associated charge to bands for supplying this person, regardless of whether or not they are needed. Some venues also say this charge is for the use of the 'system'. One venue on the lower North Shore is charging up to \$50 per band for this person on nights that see from 3 to 5 acts performing. As a freelance Sound Engineer I find many of these bands approaching me to mix for them. Often I will hear 'there is a house sound person there but s/he is no good'. By my calculations the person at the aforementioned venue earns a minimum of \$150 per night (usually 3 nights a week).

I pose the following questions:

1. Why do venues charge separately for the use of their system? I believe that if a venue wants to book bands and has a system in-house then that cost should be absorbed as part of their profit ... after all they booked the entertainment. Alternatively allow the band to supply their own production & correspondingly charge the venue? Yeah right!

2. Why do venues charge the bands for use of an 'in-house person' when the band bring their own engineer? In my experience there is limited assistance even to help set up, let alone anything like performing a foldback mix or (shock horror) operate a lightshow. They are often rarely seen during the performances so the excuse 'they are there to look after the PA' washes very thinly with me.

3. Are young bands being asked to 'pay to play'? I thought we rid ourselves of that ugly concept some years ago.

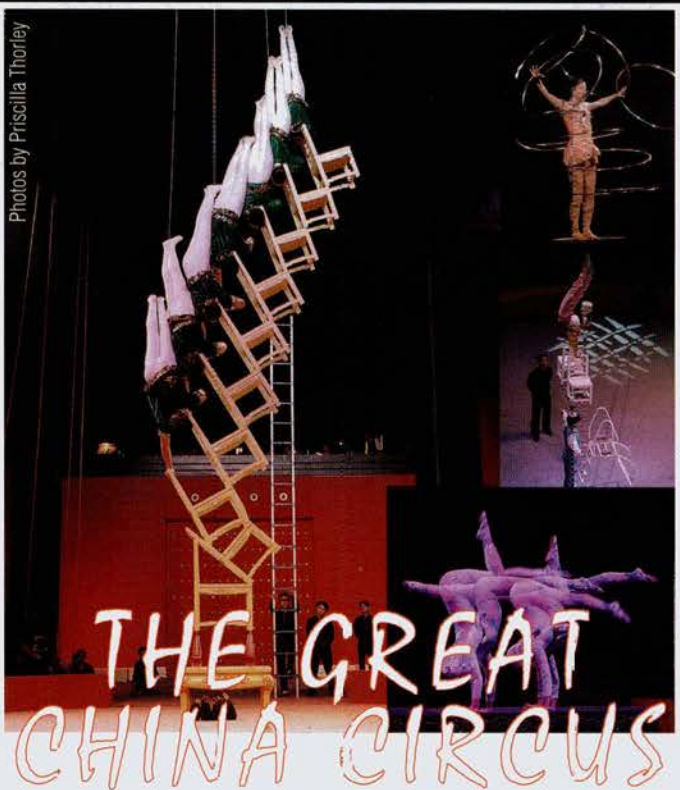
I would just like to add that the Annandale Hotel is NOT one of the venues that does this, they are always very helpful!

Andy Liell, email, Sydney

SHOWS WE'VE SEEN LATELY

A PUNTER'S PERSPECTIVE

Photos by Priscilla Thorley



While the Chinese swimming team were in Perth looking very suspect due to drug use, another troupe of Chinese performers were touring the eastern states looking very wholesome. The Great China Circus brought its share of chaos for the promoter, who almost closed the tour in the first weeks due to soft bookings.

The circus landed in Australia three days before the first show, and many of the acts hadn't toured together. The production crew were faced with three different dialects, and had received numerous cryptic plans by fax. The Circus played in arena's such as Sydney Entertainment Centre.

Producer Tony Barber employed Gary 'Squirt' Brockenshire to put the tour together. Before decamping to work on U2, Squirt hired Jands for production and passed his baton to Michael O'Berg. The rigging company Show Tech joined the crew for rehearsals and the almost impossible task of catering to different acts speaking no English.

Jands sound engineer Mal Collins recounted the first encounter with the Orchestra, who produced ancient instruments previously unknown.... at least to Mal. One device looked like a tree with strings, and produced ambient sound - so a C-Ducer (tape pickup) was the only solution. The orchestra were not accustomed to microphones and were almost invisible to Mal so strange things and sounds happened for the first week. It is a treat to hear these traditional instruments through a modern PA!

Traditionally the artists worked with white light in China so a lighting rig with the audience in darkness created some urgent situations for lighting designer Francesco Calvi. The hula girl almost fell over until a reference light was shone on the floor in front of her. Other performers needed different reference points, Frank ran around trying to figure out what was troubling each different act. The Vari*Lite's were totally a freakout for the Chinese.

Overall the production team faced almost insurmountable hurdles but delivered the goods. The show is very formal, with ancient acts unchanged by time but presented with modern entertainment technology to large audiences. Some of the artists are extremely sweet exuding a kind of earnest innocence. A very interesting production!

- Julius Grafton

MIPRO

Innovative Wireless Mic Technology

MIPRO True Diversity VHF wireless microphone systems are designed using the latest in surface mount technology and miniaturised RF components to ensure maximum reliability and performance. Operating with either a hand held or lavalier transmitter, the MIPRO systems provide clear, interference free audio. **The NEW frequency agile MIPRO systems feature 16 preset channels in the 180-220MHz VHF band, allowing users to select compatible frequencies in multi-system installations. Also, if stray RF interferes with a selected frequency, users can simply dial up another frequency.**

The hand held mic features a revolutionary capsule structure, incorporating a shock-proof mounted insert, which virtually eliminates handling noise. Plus, the patented mic grill can withstand a vertical drop from **one metre** without sustaining damage, so they're perfect for hire companies or systems which are used regularly.

Features:

- Hand held or lavalier transmitters
- Frequency agile over 16 preset VHF channels
- Tone squelch circuit for reliable no-signal muting
- Balanced 3-pin XLR and unbalanced 6.35mm outputs
- LED indicators for diversity channel, RF and AF levels
- Removable TNC antennae (external discone optional)
- Conforms to 19" rack specifications (bolt-on rack ears)
- Includes AC plugpack adaptor and 6.35mm audio lead
- Covered by a 2 year warranty

For further information, contact:

ALTRONIC DISTRIBUTORS pty. ltd.

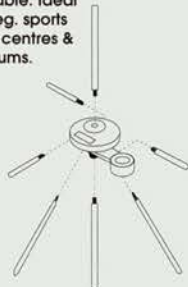
Head Office: 174 Roe St, Perth, W.A. 6000

Perth
(08) 9328 2199

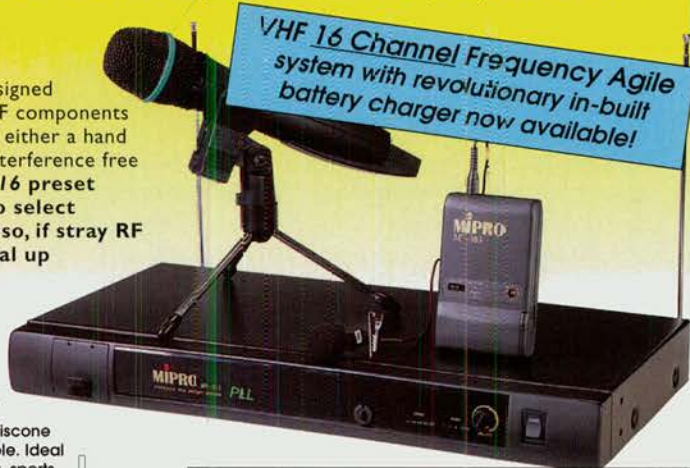
Sydney
(02) 9648 5266

Melbourne
(03) 9574 0065

Optional external discone antenna now available. Ideal for larger venues eg. sports grounds, shopping centres & large auditoriums.



Professional Wireless Microphone Equipment



Do you own shares in a battery company?

THEN WHY WASTE MONEY ON THROW-AWAY BATTERIES?

MIPRO'S Frequency Agile System features an in-built, fully automatic, Nickel Metal-Hydrde battery charger which could save you up to **\$500 - \$600 per year***. The charger can accept up to two batteries (one is supplied with the system) so you can always have a fresh battery handy.

* Based on hire systems used twice weekly, and supplied with a fresh alkaline battery valued at approximately \$5 each.



Enlarged view of battery charging drawer.

By Choosing **MIPRO** Products, You Have Selected The Best...

Write in Reader Service Number: 104

Full power at off-peak rates



Sound Reinforcement Systems

The way some people name-drop about their P.A. gear, you'd think it was the name-plate on the front of the box that did all the work.

If they're happy to pay more just to have a famous name in their rack, that's their business. But if you're interested in peak performance (without the big-name price), you really should take a look at JEIL (pronounced "jeel").

A major P.A. supplier for the Barcelona Olympics and the designer and supplier for the Seoul Winter Olympic Games, JEIL equipment boasts specifications as good as (and often superior to) better-known brands, all at very competitive prices.

Imported and fully supported nation-wide by Australia's AWA, the Korean-made JEIL range includes professional-standard mixing and front-of-house desks, power amps, graphic equalisers and commercial 10CV line P.A. solutions. There's a JEIL solution for just about every application.

All that's missing is the expensive name-plate.

For further information, or the location of your nearest JEIL stockist, call 1-800 252 391



Brought to you by **DISTRIBUTION**

The Targeted Approach AWAP 9789

Write in Reader Service Number: 137

Why do Industry Professionals choose Acoustic Technologies Audio Products?

"Well, I have been a JBL man for twenty six years and our audio designs have been held back by the types of cabinets available from JBL and their overall cost. So, I used Jets and Apogeess as an alternative until I came to Brisbane to speak to Acoustic Technologies. AT can manufacture to meet our designs, give us more efficient power handling and reliability. Both my clients and Mick James Electronics can benefit from the cost savings".

Mick James Electronics (Audio and Lighting Consultant / Installer). Call (07) 5572 0133.

"Firstly, their reliability. We've abused AT amps and speakers for ten years seven days a week. The few times they have needed repair (and I do mean a few) the after sales service was great.

Secondly, I'm used to hearing reference monitors but I'm really impressed with the AT FRO1 Speaker and AT M-1000B Amplifier combination. The FRO1 is only as big as a wedge and the sound is clear sweet and LOUD. The box is so good we don't even run graphics with them. Lastly, I like to buy Australian whenever possible".

Joe Panetta - Red Zedz Recording and Rehearsal Studios. Call (07) 3262 4150.

"Over the years I have flirted with other brands but I have always come back to Acoustic Technologies. Over the years I have received nothing but intelligent, considerate advice and appreciate the way AT have tried to come up with the ultimate product".

Don Betts - Veteran Session Musician.

"Well, Acoustic Technologies is the best sound company I have encountered. The sound systems we use are as good, if not better than any I have heard around the world. Apart from performance they are super reliable. Considering the heat, smoke and humidity of a club environment, they have performed perfectly".

Jimmy Considine - Entertainment Director McGuire Hotel Group.



FRO1



acoustic technologies

8-10 Staple St., Seventeen Mile Rocks QLD 4073 Australia.

Phone: (07) 3376 4122 Fax: (07) 3376 5793

email: info@acoustic-tech.com.au

website: www.acoustic-tech.com.au

(Show) Business

Shrinkage

Problem as old as time, still hurts (any) business today

Imagine you KNOW you've made money. The fact you are strapped for cash and have extended the overdraft to the limit is irrelevant. Right now you are extremely depressed, because you've just done a stock take and you know you are short of some assets. Gone, stolen, lost - where and when?

Shrinkage is the loss of assets, and almost every business experiences this to varying degrees. A retailer knows about pilfering and spends an inordinate amount of time monitoring staff, customers and security in general. But the worst shrinkage happens to successful business, going places in a hurry. ✓

We had a hire and retail outlet in the 1980's. Our hire business was going faster than we could buy equipment, and we sub hired a lot of gear every day. To keep tabs on this we got the first version of HirePoint software in 1984, when computers were mysterious.

One day we realised that the system showed four complete 36 channel dimmer systems in stock and on the floor - but we had five. We physically checked every hire contract to see if there was a chance someone had returned one early. They hadn't.

Our gain was at another rental firms expense. Somehow we had subhired their system and instead of returning it on the given date, rehired it out again to someone else. Our floor crew thought we owned it. The other firm had marked the system as returned, possibly under pressure from accountancy staff who wanted to do the weeks billing's.

We were embarrassed and we decided to hang on to the system until they asked for it back. Can't happen, we hear you say? Well, because we were in control of our inventory - thanks to HirePoint - we saw that regular checks of inventory against actual physical equipment on the floor was essential. We scored some more in similar circumstances. I am not ashamed to tell you, readers, that in that heated and competitive environment we were quite happy to sit tight until challenged!

RETAIL GROW-AGE

Retailers can enjoy generosity from wholesalers. In our retail shop we fast discovered the inefficiencies of the distributors of the day. Any retailer will grumble about chasing a supplier when short delivered, and it even happens at the Connections office when Glenys at the Stationers shorts us a box of envelopes which were billed.

But in our audio retail shop we sometimes got MORE than we ordered. Did we dutifully return the stuff? Only sometimes, and then only to the distributor we liked. It is an irrefutable rule of business that you can actively dislike some of your suppliers. In return for their hard nosed accounts department, or their haughty arrogant rep's (never, he hear you say!) - or the aloof, remote boss who drives a Roller, you sometimes take revenge. Or you may dislike their warranty or service policies.

If your revenge is to sit quiet when over supplied but to bitch like crazy when short supplied, I imagine you are not alone!

The biggest source of gratis pro audio equipment in our shop was when a rep would dump something uninvited on the carpet for us to evaluate. Often the sealed box was shoved aside because we really didn't want to know about yet another product. After a few more visits the rep might stop asking about it, and eventually it turns up at stocktake as untagged inventory. Then we would sell it.

I must say that most distributors in that era (ten years ago) had lousy loan equipment documentation, and so they were experiencing shrinkage.

(Show) Business

As a retailer it used to annoy me when a rep gave me appraisal stock in this manner, so it wasn't too hard to enjoy the eventual bonus when they didn't ask for it back! That is, provided the thing sold and didn't sit gathering dust in the showroom!

Does all this happen today. Well, yes. Without throwing stones, someone I know told me on good authority that most equipment distributors have tightened up their loan agreements. We've heard that another magazine a few years ago some Review stock tended to remain unclaimed. Now, I disregard and reject the urban myth that magazines like to keep the stock as 'payment' for a review. Rather it seems the old human nature trend was still at work, where the paperwork wasn't followed through, and that particular magazine publisher had a habit of putting the cartons somewhere out of the way, awaiting the distributors collection.

We at Connections expressly do not handle Review goods, our Reviews and First Looks are done where equipment is actually used, not in our office. We are not interested in handling cartons, nor do we wish to be responsible for other people's expensive equipment.

BILLING SHRINKAGE

It happens in production and studios too, when your projects don't get invoiced properly. Your production business could be rental, corporate theatre, audio production, music recording, or an AV department. Do you sell time?

If you sell time, do it in six minute blocks if it is a project, not a live show. Ten per hour, 70 or 80 per staff day. When you ring your accountant or lawyer they sell you the telephone time this way.

The best managed inventory in town is little use if you only invoice 90% of your work - because your net profit usually is a reasonably low number - like 10 or 20% of your gross revenue. So any failure to invoice or properly account for a job hits the bottom line, and hard.

Again we know of whole jobs that have gone unbilled. From all kinds of organisations, for all kinds of reasons. You simply must crosscheck your internal paperwork against external billings, and if they don't balance, check. Perhaps you've overbilled a client. The cross-check will show this and allow you to rectify the situation as you must, before the poor client is forced to contact you.

A hire firm or a retailer can fail to invoice a sale or a hire by the simple loss of the paperwork. How do you guard against that?

Finally there is no correlation between a large, tight fistled accounts department and efficiency. Trust me on this one! Many a business operates on the precept that a mean and hard-assed bookkeeper or accountant equals a good one. Accounts are a boring issue, right?

We've found the opposite is often true, a motivated, rewarded and diligent accounts department operator who communicates and who works methodically to firm guidelines will usually always produce the goods. Involve them at the highest level, make sure they understand your business structures like you do. We all sometimes love to hate our accounts staff, but if you work with them to a common objective, everyone should be happy.

Then you will make more money.

Or, at least lose less!

-By Julius Grafton

INTRODUCING THE
NEW...

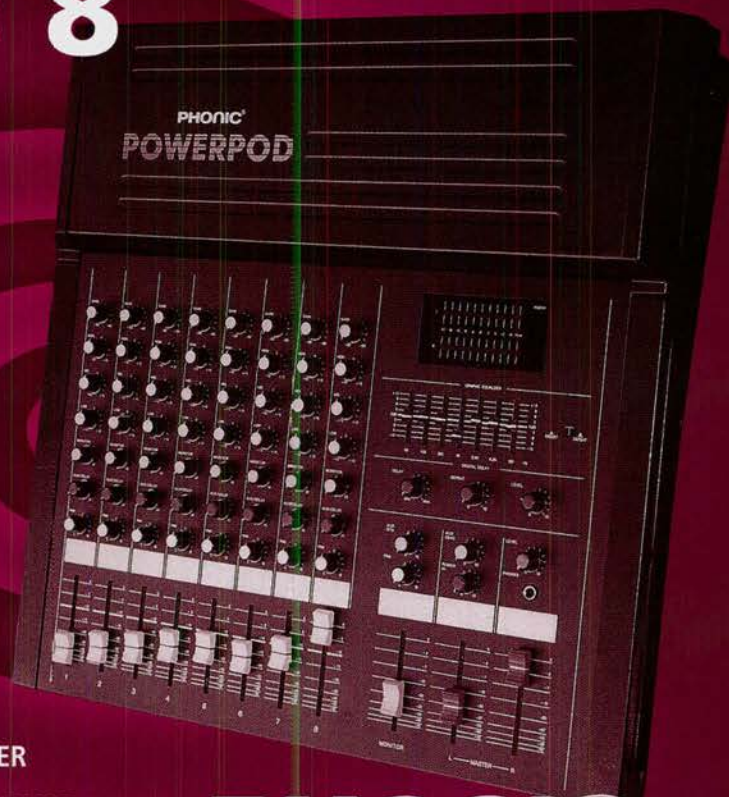
POWERPOD 8

PHONIC's new Powered Mixer has the following fantastic features:

- Digital delay
- 8 mono input channels
- 200w into 4 ohms in stereo
- 7 band stereo EQ
- Phantom Power

CHECK IT OUT NOW AT YOUR LOCAL DEALER

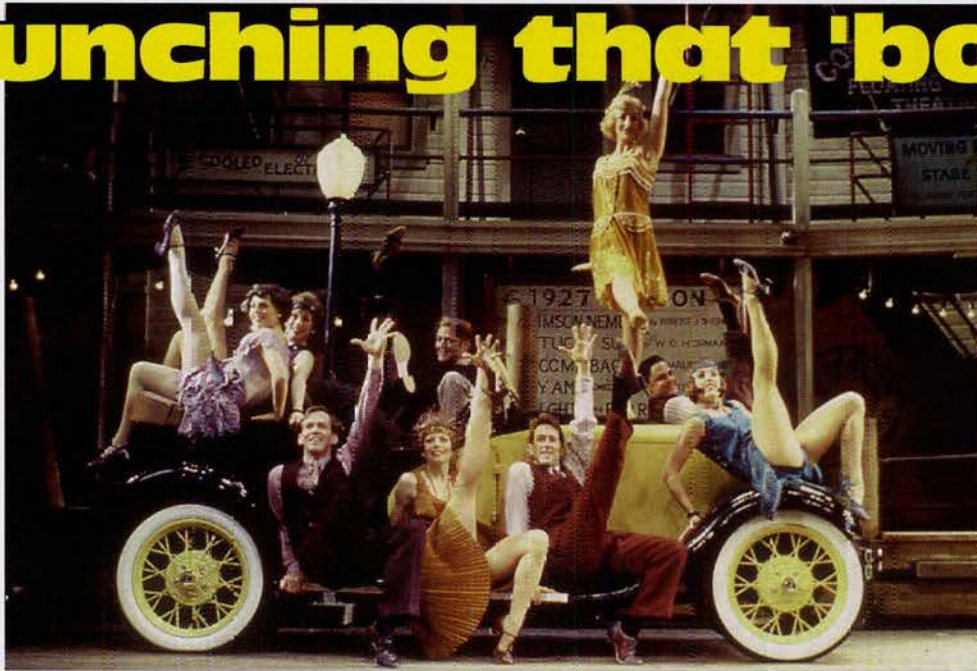
DISTRIBUTED IN AUSTRALIA BY C.M.C. MUSIC
CALL (02) 9905 2511 FAX (02) 9905 0189



PHONIC

Write in Reader Service Number: 149

Launching that 'boat



Preparing for *Showboat*, by Madeleine Murray

Garry McQuinn is the guy in the hot seat. As production manager of *Showboat*, he has to get everything right.

"A show like this all hinges on the schedule and the budget," he says. "The parameters for something the size of *Showboat* are uniquely and really large."

And what do you need to put on a huge theatre show these days? A desk, a computer, and an airy open office in a converted Leichhardt warehouse.

Showboat has been mounted in North America, but has to be put into an Australian context. One of the perks of the job, is getting to go over and see other productions. McQuinn explains that, "It's pretty standard for shows like this, to get yourself up to speed by seeing, visiting, talking to your counterparts. Then you judiciously invite them out here, for an efficiency visit. This happens about the time we're getting into the theatre, to take advantage of their expertise. This is happening more often. People are recognising that the investment in the airfare, and accommodation pays dividends when you get into the theatre. These days, there's a lot more movement back and forth of senior production staff.

"Livent seem more flexible about how they put a show on. There are currently 3 or 4 different versions of *Showboat*. They adapt to the budget, or the theatre size. Some other big shows, like *Saigon* or *Beauty* are ironclad. With *Showboat*, we have a little more freedom to adapt to local circumstance. From a production point of view, that's heartening. We feel we can have an opinion, and be heard.

"The Livent General Manager, Robert Topol, was out here to give us some advice. He's been particularly supportive about adapting the show to an Australian context. There aren't many adaptations in set or costume, because the Lyric is very adequate.

"We're having most influence on the budget, the personnel, and the schedule. We're given a free hand to determine how the production develops, how it gets into the theatre, how many people it takes, and where our priorities lie. That

reflects a lot of common sense from overseas, because we're the people that know most about the local conditions.

"So, the experience so far has been quite a good one. It seems the producers have their feet on the ground, and allow us some room to move."

Communication

McQuinn is a great believer in communication. They have a production meeting every two weeks, and all the department heads come, including the construction managers from Adelaide, and the publicists.

"Exchange of information is so important," he says "No amount of telephone calls can ever quite replace face to face contact. At our production meetings, we pretty well insist that everyone is there, and shares information."

At the meeting, they talk logistics, budget, schedule, personnel, progress report, and problems. McQuinn likes an open forum, with everybody hearing. "We just discussed a photo call, which would affect wardrobe, mechanics, and budget. From someone casually mentioning a photo call, everybody sat up, and thought, 'What do I need to do?' So it's actually worth their air fares to come up and be involved."

"I'm sure that people from the different areas like to be involved, and to meet the others. It's a change from working in a vacuum. This approach probably pays off in commitment, and efficiency. McQuinn gets them together in a room without any distractions, and makes them focus on the show. They go through his agenda, distributed in advance. The list includes sets, automation, props,

lighting, sound, wardrobe, production schedule, budget, travel, marketing and PR.

The schedule

One of the stresses, is that the Adelaide Festival Centre Trust is doing a 22 week build, in 14 weeks. McQuinn and Malcolm White, the TD, went down to Adelaide for the set trial and tests on Feb 2.

"It's tight," White admits. "22 weeks was the fastest they built the set in Canada, so for us to do it in 14 weeks is a big task.

Garry McQuinn, PM



The World's Best



Group Technologies (Australasia): 11/41-49 Norcal Rd
Nunawading Victoria Australia 3131
Ph: (+61 3) 9872 5000 Fax: (+61 3) 9873 2922



Active speaker systems

The new ART Series from RCF are the world's first truly professional, fully integrated active speaker system.

All systems are bi-amplified and protected by 3 forms of self-sensing technology.

Featuring the highest output power in their class, and backed by the best warranty in the business. They have just arrived in Australia.

So if you demand the best - Demand RCF



UNLIMITED SOUND

Write in Reader Service Number: 135

Hottest Systems Coolest Prices

Mach

S P E A K E R S

Road Series

Installation Series

MADE IN DENMARK

DJ Series

5 YEAR WARRANTY

Atmosphere Series

TX Series

NEW!!!

TX15 - 300 watt 15" + 1.5" horn \$1199 rrp

TX12 - 200 watt 12" + 1.5" horn \$999 rrp

TXS15 - 300 watt 15" Sub with x-over \$1099 rrp

TXS18 - 400 watt 18" sub with x-over \$1299 rrp

**Exclusive
Australian
Distributor**

Audiology

Ph: + 61 2 9584 0033
Fax: + 61 2 9584 0154

Pty Ltd
ACN 071 218 417



Write in Reader Service Number: 155

The only way to do it, is to throw a lot of resources at it."

Music rehearsals started in the theatre on Feb 9, and full rehearsals Feb 16. They had eight and a half weeks in the theatre, before the show opens. The Associate Director comes out for a few weeks before the show, and the director, Hal Prince comes for the last few days to polish. "When you're dealing at this level, these people are available for limited amounts of time," McQuinn says.

Lighting and automation

The conventional lights will be supplied by Bytcraft, and the Vari*Lites by Jands. The LD, Richard Pilbrow, or an assistant will probably come from the US for the plotting and tech during the last weeks to check the show. McQuinn explains that, "Richard has been flexible enough to look at the gear we can provide, and our budget. When put out the lighting to tender, we have a look at what they can provide. Not everyone has the gear, and sometimes they have the right to put in alternatives. Over the course of six weeks, we refine their quote until it matches the price with the equipment we want to use."

Showboat uses Vari*Lites, a lot of projection onto painted scenery, as well as the new DHA pitching light curtains, which can tilt across the stage as well as up and down. That means it is possible to do a lighting pan diagonally across the curtain.

A life size showboat drives onto the stage. It splits into six pieces, which are articulated, and can bend around corners. Other bits and pieces track on and off stage, and some pieces are flown.

The TD, Malcolm White explains that "the biggest part of the lighting package at the moment, is the set electrics. So we're getting

information from overseas, which involves faxing details, and trying to glean things from plans. *Showboat* is a show that has evolved, so there's a lot of information in people's heads, rather than on paper."

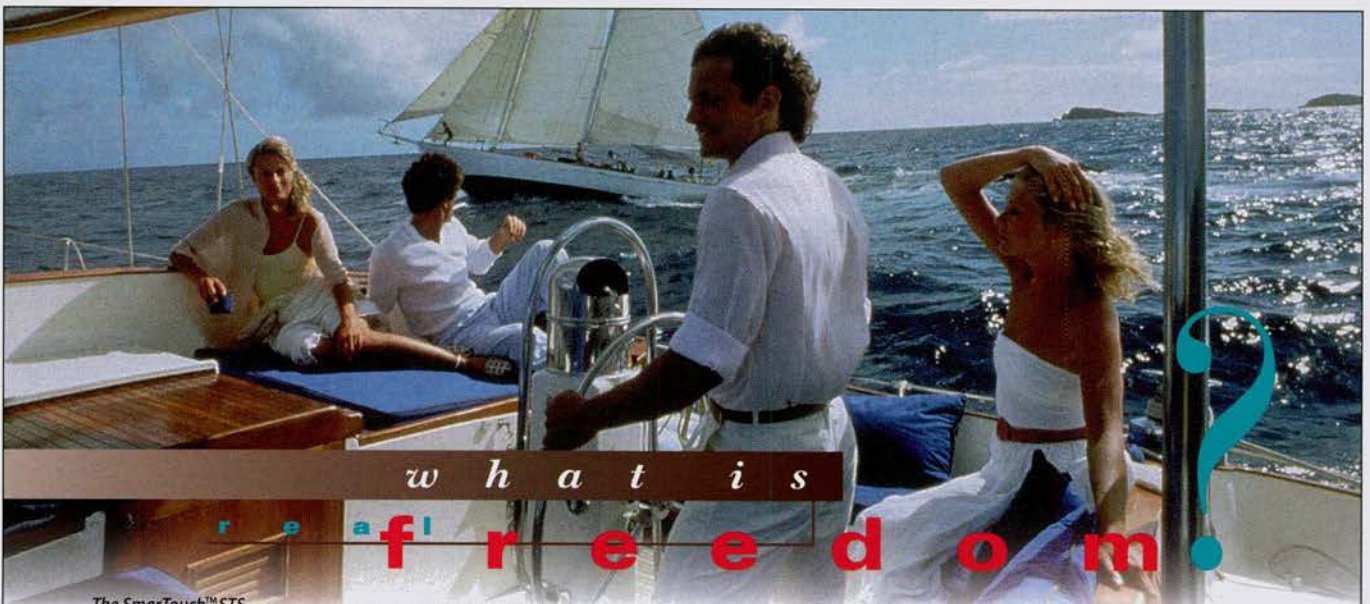
White's job is to make the ideas at the meetings a reality. "I have to get information from the various people overseas, and feed it back to the workshops. I have a daily liaison with the workshops. For example, we made some changes to the automation, so I had to get approval from the States, making sure what we are using will meet the specifications of the show. John Mignone, the mechanical designer in Adelaide, has now gone out and found the right motors. He tells me, and I have to get approval."

There are five Pani projectors. One effect is a train which goes across the back of the set, built up into one of the cloths. Another effect is a boat in the distance, that crosses the stage, getting closer with each pass.

Audio

The audio is designed by Martin Levan, and the team here is given some latitude to adapt. The orchestra is 30 piece, and 48 Sennheiser mics are used. "We put it out to tender, and there were 3 or 4 companies big enough to bid," McQuinn explains. "They all have to get the chance to bid, because that's our responsibility. Shows are so complicated, and technology improves so fast, that theatres tend to be hired out without much equipment. We just assume there's nothing there. We get a very specific list, right down to the length of cables."

System Sound are supplying the audio. •



what is

freedom

The SmarTouch™ STS –
complete, simple, portable
– designed to fit into your lifestyle



Your choice of color
or grayscale display

The freedom to go anywhere, do anything, at any time? Perhaps the freedom to enjoy your life and ignore the petty details and inconveniences of everyday life. 🌊 Take your home, for instance. It's a reflection of you and your lifestyle. Shouldn't everything in it be easier to enjoy? If only more things were at your fingertips, with no strings attached. 🌊 Introducing the SmarTouch STS. A complete control system for home theater

or whole house automation – or anything in between – in an elegant package. It all fits in one little touchscreen panel that goes anywhere you go. And because it's genuine Crestron wireless technology, you can control electronic items in one a from the touchpanel in another room. Real freedom. Pure and simple. 🌊 Call Soundcorp today for more information and for the name of the Crestron dealer nearest you.

Soundcorp and Crestron are proud CEDIA members and supporters

SOUNDCORP

Soundcorp Pty Ltd Sole Australian Agent

Melbourne:
72-90 Cambridge Street
Collingwood, VIC 3066
Tel: 03.9416.1066
Fax: 03.9419.6963
email: sales@soundcorp.com.au

Sydney:
21 Gladstone Street
Newtown, NSW 2042
Tel: 02.9557.6455
Fax: 02.9517.9457


Crestron Electronics, Inc. USA www.crestron.com

©1998 CRESTRON ELECTRONICS, INC. ALL BRAND NAMES AND TRADEMARKS ARE THE PROPERTY OF THEIR RESPECTIVE OWNERS

EXPERIENCE SMARTOUCH™ STS AT EnTech '98 STAND S26

Write in Reader Service Number: 175

My New Gig

Roger Cameron: The Pyrotechnician

Fireworks for the SEA (South East Asian) Games in Jakarta. If one didn't know better, one would think, 'that sounds like a great job.' To all intents and purposes it was a great job, but Jakarta is not one of my favorite places and working on an event there was never going to be easy.

I do not know exactly when negotiations began or with whom but Andrew Howard was responsible for that aspect of the job and to his credit he got it happening. This was good given how close the original Howard and Sons got to doing the Hong Kong Spectacular, but that's another story. It turned out we were the only Caucasians working on the event in Jakarta 'cept for a Kiwi Laser guy out of Singapore.

I became involved in August when circumstances were such that the occasion arose for me to learn a new discipline in the entertainment industry. Fireworks, is it not every little boy's, (and girls?, I dunno cause I'm a boy) dream?

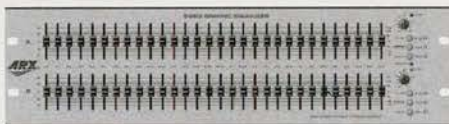
Before I could properly represent Les and the Lads, we agreed I needed to know just how things work. It's really like setting up and wiring a lighting system. It takes a little longer to do and is over quicker than your average lighting gig - but it really is a matter of wiring the effect back to the appropriate control channel, covering your ears, turning it on and watching the pretty colours. Aside from good, safe work practices the key lies with the control system and the F.E. 1000 (Aussie product) is perfect. The F.E. can fire in increments of



milliseconds and will tell you all about it after the show with a complete show readout including each shot's fuse head resistance! The F.E. coupled with the insight of Christian Howard and designer Stephen Wilson indicated I would be working on a superior presentation.

We agreed I should be one of the crew of 12 going to Jakarta and assist the setup of vast quantities of mortars varying from your 4 inch

The Price is RIGHT!



EQ60 The industry standard



Quadcomp@II The best just got better



MaxiMIX and MaxiSPLIT The choice of installers everywhere



PowerMAX 1
Processor controlled
ocket rocket



922
Processor-
controlled
bi-amped
3 way



Ambience 1
Ultra compact
installer system



SX Ampifiers From 100W to 1000W
per channel - there's one for
your application, including 100v line
models



MIXX and MIXXMaster The name says it all

And lots, lots more...

At the moment, overseas manufacturers have a bit of a problem - the money crisis has suddenly made their products a whole lot more expensive.

In fact, right now you're probably seeing price rises like you've never seen before!

But at ARX, we build all of our products right here in Australia*, with Australian people and Australian dollars, so this is less of a problem.

What does all this mean to you? It means there's never been a better time to make a conscious effort to buy Australian.

From Signal Processing to Equalizers to Amplifiers to Speaker Systems, we've got it!

And all of it coming with the legendary ARX back-up service that only local manufacturing can provide.

So Phone, Fax, E-mail (info@arx.com.au), write to us, or check out our www page for complete info on everything ARX.

Why? Because the Price is Right, **RIGHT NOW!**



*Truth in advertising check: Except for the Ambience speakers which we assemble here from overseas components.

Vic/Tas: Tony Hosking 03 9877 8233; NSW/Qld: Iain Everington 041 118 3153 WA: Ian Foss 089 354 3185
ARX Systems, 33 Advantage Road, Highett, Victoria 3190, Australia. Phone 03 355E 7859 Fax 03 9555 6747

Made in Australia, Sold around the World™

Write in Reader Service Number: 124

The Pyrotechnician

number up to the mega 12 inch job. I have seen a 36 inch mortar and 24 inch ones are not uncommon, but for a newcomer I'm here to tell you a 12 inch mortar is a fairly intimidating sight. A collection of 40 of 'em is even more so. Especially when they are complimented by a vast array of 10 inch, 8 inch, 6 inch, 5 inch and 4 inch mortars covering the best part of a soccer pitch.

Out Of Sydney

The two 40ft containers left Australia late August, full of tools, mortars and product. The bulk of the crew arrived in Jakarta on September 29th, drawn from different parts of Australia and of varying ages and occupations. Like Theatre, many of the crew who work as pyrotechnicians need to have other jobs and sometimes take holidays from those jobs when a big pyro job comes along. They love their job.

The much feared air quality was not so bad, just Jakarta's normal dirty smoggy two stroke air. The smoke and haze from out-of-control fires in Sumatra was, for the most part, travelling north to Thailand and east to Malaysia with some effect in Singapore but thankfully not in Jakarta.

The accommodation was most acceptable, taxis are cheap but the traffic is slow and aircon essential. The first couple of days were spent acclimatizing and working out when, or indeed if, the containers would be released for us to begin work. The two day delay in getting 20 tonne of sand delivered did not auger well. The local understanding of delivery deadline requirements is not wrong, it is just different; we remained in high spirits and optimistic.

Sure enough, eventually, our 'man on the ground', Eric, was able to confirm the containers were travelling from the freight forwarders yard to our site. This in itself was cause for great excitement and when they did eventually arrive our crew near mobbed them in their eagerness to unload and begin the set up. Eric later told me how impressed the security, customs and sundry local associates were with our work ethic! Surely they understood we were already some days behind and we had to get it together quick smart, nevertheless it was kind of him to tell me. I reckon he meant how good it was to watch the white fellas sweat a bit.

The 8 inch mortars we loaded into 3 x 6 cubic metre steel waste dump bins, angled and packed down with the sand. The 12 inch and 10 inch mortars we positioned and staked while the seemingly endless racks of 6, 5 and 4 inch were positioned strategically according to the plan. It was an impressive sight. Lowering a 12 inch shell into a 6ft tube ensuring the lift lies just so, is almost a religious experience.

For most of the blokes hand firing a show is the best rush possible but we were electrically firing and the shells were all wired to a rail then to the F.E 1000 control system - no hand firing here. As for me, I just like to watch!

The next task involved a crane with a bent fly, hours of delay and the roof of a 40 year old 100,000 seat stadium built by the Russians. Don't forget, it is also very hot and humid and dirty and smoggy and the locals don't understand.

Oh, and why, oh why, do they insist on locking the gates all the time? No kidding, when the crowd is in the arena - they lock the gates. When they go out, they lock the gates. We regularly lost a minimum of an hour a day getting into the place.

The roof access was at best very awkward and at worst damn painful as a poorly placed conduit bracket on a narrow gangway tore more flesh from the same spot on your body. Anyway we got all the gear up and laid out bays 1 to 24 with racks of saucisions, candles, 300 shot Colourful Whirls, gerbs, confetti bags and some air cannons

for the streamers, wired it all up with a lot of figure 8, (about 5kms worth I reckon), tested everything, tested it again, and we were ready.

Roof dwellers

Those uncomfortable with working the roof spent their time putting alfoil and masking tape hats on the field of mortars (a task I liken to cutting gel) and come show day we were ready, tested (at last twice) and raring to go.

The view from the roof of the opening ceremony is the best seat in the house and it was great to be there. The armed forces marching bands were a highlight. Guys wearing scuba tanks with dive masks on their heads beating a big bass drum as they marched along were part of the craziest, wackiest most entertaining gaggle of drummers I've ever seen.

Lots of High End System lights, studio colours and Intellabeams which did a pretty good job, lots of mass people choreography and a P.A. that was quite adequate.

Our big moment came and Stephen fired that mother up, Christian and I had the best position possible, right there to see the roof effects and also able to see the belch of fire, smoke and ash as the mortars sent their shells skyward, then the effects that lit the night sky.

Christian named many of them as they did their thing, Golden Spider Webs, 3 colour changing Chrysanthemums, Peony's, Willow's, Croisette's, Palm cores, Shuttle's, Bow Tie's. It was a great show, set cleverly to the music we got over the two way (but which sadly didn't go to the punters, that's another story too), at times I cringed as the sky exploded with reports that shook the roof and seemingly the arenas very foundations.

The elements were kind, gently dispersing the smoke perfectly and so too was technology as the F.E 1000 informed us there were only four misfires in 1500 fuses and it all finished together, on time, and when it was supposed to. It was a brilliant display, mere words are incapable of doing it justice, not even the video footage conveys the live impact, but the Skycam coupled with the Mortarcam does give a pretty good idea.

With the passing of time the less attractive aspects of Jakarta are forgotten and I am left with a fantastic memory of a hell of a pyro show.

Somebody told me Sydney's Lord Mayor reckons only one Australian company is capable of doing fireworks on Sydney Harbour, well Mr. Mayor, be proud there are at least two Australian companies capable of fireworks spectacles on that scale and the Original Howard and Sons are doing Australia proud in the International arena. •



UNIQUE PUBLIC AUCTION

STATE OF THE ART TELEVISION, BROADCAST & AUDIO EQUIPMENT

MULTI MILLION \$\$\$ CLEARANCE

Under Instructions from SONY® Australia

SONY®

Equipment being Demonstration, Evaluation & Loan Stock

At the Premises: Unit 2, No. 12 Barcoo Street,

CHATSWOOD N.S.W. 2067 Australia

WEDNESDAY 18 MARCH 10.30AM

PROFESSIONAL AUDIO DXME2000 Digital Audio Mixer; MXP-P390EK 20 Channel Audio Mixer; 8 x 3-in-1 Multitrackers, MDMX4; 3 Digital Audio Multi Effectors, DPSV77; 2 CD Players, CDP3100 (Broadcast), CDP2700; 4 Professional Power Amplifiers incl. MVA400, MVA200, SRPP2070; 2 DAT Recorders DTCA8, PCM2600; 3 Minidisc Player/Recorders, MDSB5, MDSB3; 5 Wireless Mic Dual Diversity Receivers, WRR850A; 6 Bodypack Wireless Microphones, WRT860A; 3 Dynamic Hand Held Transmitters, WRT867A; WRR810A Synthesiser Tuner; 4 UHF 800 mHz antenna, AN820A; SRPE1000 Graphic Equaliser; ECMMS5 Stereo Microphone; 23 Powered Speakers, SMS1PB; 4 Studio Monitors, SMS3; Huge Range of Microphones & Monitor Speakers.

OTHER PRODUCT LINES incl. Professional Broadcast Equipment incl. Digital Betacam, Betacam SP & Betacam Cameras, Recorders, Players, Editors, Mixers, Multi Plexers, Digital Multi Effects Units, Hyper Had CCD Blocks & Many More Items.

120 Professional Video Monitors CRT & LCD 39" to 10.4"; 30 Professional Video & Data Projectors to suit High End Display & Home Theatre.

Some Items may be Withdrawn from Sale.

25% CASH DEPOSIT, BALANCE BY CASH OR BANK CHEQUE

INSPECTION: MONDAY 16 MARCH FROM 8.30AM TO 5PM, TUESDAY 17 MARCH FROM 8.30AM TO 5PM & PRIOR TO SALE WEDNESDAY 18 MARCH FROM 8.30AM.

FOR FURTHER DETAILS, PLEASE VISIT OUR WEBSITE: www.ozauctions.com.au



Gray Eisdell Timms Pty Ltd
AUCTIONEERS & VALUERS

30 Legge St Lakemba NSW 2195

(02) 9740 6611

IN THE SWIM

Production for the Opening Ceremony at the 8th World Swimming Championships

The 8th World Swimming Championships were recently held at Challenge Stadium in Perth. To kick the swim meet off, the opening ceremony was held at the main competition pool. Perth turned on the charm of its famous weather as cast and crew alike sweated it out in 40 degree plus temperatures. It would have seemed logical to have a quick dip and cool off but this was definitely against pool rules; unless you could swim a lap in under 45 secs. The pool police were all around us keeping an eye on the delicate chemical balance of the water – though a few of the tech crew did manage to sneak in an illicit midnight dip!

The opening ceremony featured the competitors from all 123 participating countries in a march past that stirred the obviously sports crazed crowd. The audience excitement was raised even further later in the program by the energetic performance of Human Nature. David Helfgott was also a featured performer along with a 600 voice choir and an orchestra under the baton of maestro Tommy Tycho. Aboriginal dance group Wadumbah performed an atmospheric piece while the Ruth Osborne dancers were kept busy both in and out of the pool; where they had an array of props such as floating candles, balloons and a giant inflatable globe of the world to interact with.

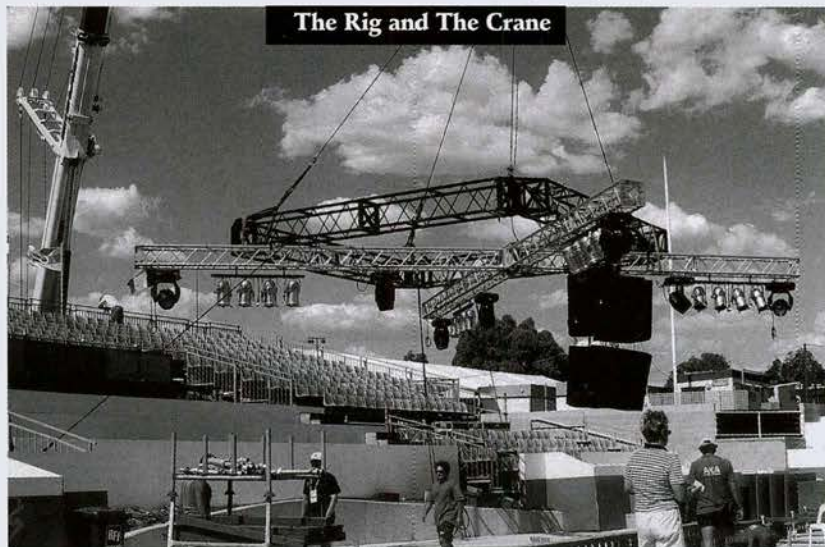
From a technical point of view this was a big production that presented quite a few challenges. The huge stage was built over several levels at one end of the stadium: reaching back into the grandstand and out over the pool. The 600 members of the choir filled the grandstand seating and the orchestra were placed on a couple of lower levels of

the temporary stage. Downstage was kept clear of everything except the foldback speakers, in order to provide a performance area for the acts and the march past. A huge video wall was mounted on scaffolding behind the choir.

One of the first technical hurdles was where and how to actually rig the lighting and sound gear. An open air swimming pool is not exactly the ideal venue. Suggestions were tossed around over a period of months but for one reason or another they were all rejected by World Swimming Officials who naturally had the final say on what took place in and around the main competition pool. One of the most significant issues was bumping out the equipment for the opening ceremony so that it didn't interfere with the swimming competition.

It was the head electrician, Tim Bradsmith from Concert and Corporate Productions, who eventually came up with the concept of using a construction crane to suspend an overhead trussing system. The truss which carried part of the lighting rig and the front of house speakers was hung from a 130 tonne crane, which easily took the weight of the 2100kg fully rigged truss. This solution pleased everybody except for Worksafe (the WA agency who monitor safe work practices) who at the last minute, when the temperature had hit 42 degrees; suspended all work onstage for about three hours.

Naturally, lighting had to work through the night in order to focus and programme, but I don't think it was such a bad deal since they had cooler temperatures which made life a little easier. Jerry



The Rig and The Crane



Audio crew, R-L: Simon Hunt, Karl Ackers, Chris White, Neil Campbell.

LIVE PRODUCTION

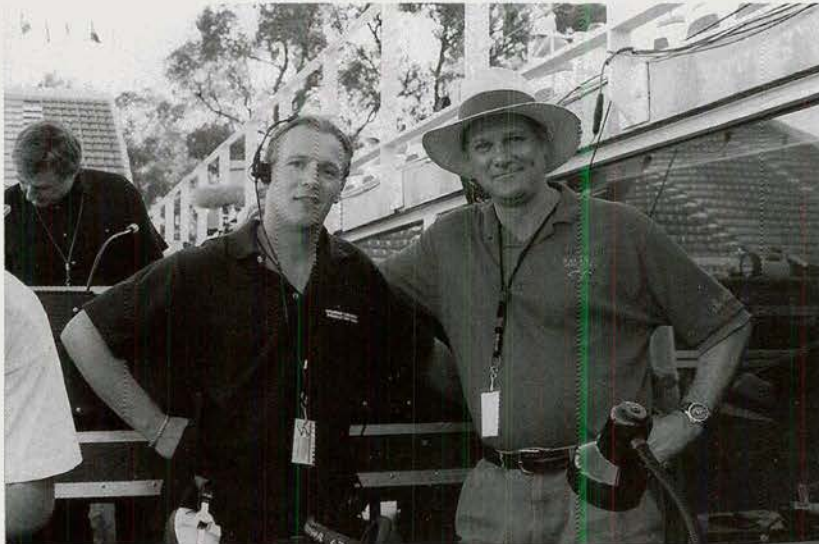
Reinhardt, the lighting designer still had a smile on his face the next day despite the lack of sleep! Reinhardt operated the Event 48/96 desk which was running the 200 parcans, Brad Smith ran the Hog 250 which was controlling 14 Mac 600s and Anthony Petruzio operated the Scanco Commander which ran the 12 HPE Golden Scans.

Reinhardt had huge areas to light as a lot of activity also took place in and around the pool. The orchestra had scone lights to read music by and 6 x 1200w Selecon Performer follow spots were kept busy with soloists and ballyhoos across the audience. 5 x 36 way CCT Jands racks and 2 x HP 12 racks provided dimming. The majority of the parcans were rigged above the audience along the top of the grandstands to provide washes around the pool and stage area.

The opening ceremony and the competition were broadcast by Network 7 for national and international audiences. Craig Bramley from Intercity Gearhouse in Melbourne provided the 7 x 7 cube CRT (cathode ray tube) Toshiba video wall that dominated one end of the stadium, to provide a video relay for the audience. Bramley said the wall was equal in size to anything else that had been used in Australia. He trucked 72 cubes across the Nullarbor in a custom designed semi-trailer to provide this wall and two others also used for the championships.

The video wall was assembled in about 2.5 hours and aligned in

5 hours. Bramley said it would usually take about 20 hours to line up a wall of this size but 36 of the cubes were already aligned as they had been used for the Whitbread sailing competition in Fremantle the week before. The video wall was fed from the Channel 7 Outside Broadcast van. Two Electrosonic Pic 3



Jerry Reinhardt LD, and Barry Laphorne SM

processors powered the wall and an industrial air conditioner worked hard to keep it functioning in the high temperatures. All up the video wall weighted about 5 tonne though this didn't stop it swaying about a foot in the high winds that Perth is famous for!

Sound Designer Neil Campbell from A.A.A. Productions, ideally would have liked the mixing position

to be in the centre of the pool! Since this wasn't practical or affordable he and Karl Akers, the sound designer had to be content with mixing from off to one side. The audio team would also have liked to have positioned speakers in all four corners of the stadium but this wasn't possible due to space restrictions.

Fortunately the crane concept enabled them to fly the FOH cluster which consisted of 8 x EVMCTH2 speakers. The outfill was made up off EV Deltamax DML 1122 speakers. 8 x EV SX200's were distributed throughout the 600 voice choir as foldback and the frontline foldback was EV Deltamax DML

(continued over page)

More Rock 'n' Roll...Less Heavy Metal

P1600.....\$995 RRP
P3200.....\$1395 RRP
P4500.....\$1695 RRP



Yamaha Music Australia
17-33 Market Street, South Melbourne 3205
A.C.N. 004 259 527

The new P Series are a range of no-nonsense, no gimmicks, no hassle professional amplifiers, that won't hurt your wallet or your back...less Heavy Metal. They represent the new standard of excellence against which all others will be judged. Their price/power/feature specifications make Yamaha amps the only choice.

For more information
Call 1800 805 413
or your local Yamaha Pro- Audio dealer.



The specs. are simple and the design is elegant:

- ◆ Power outputs up to 1440 Watts in Bridge mode
- ◆ Lightweight - 12 Kg, 15 Kg & 16 Kg
- ◆ Precision dB calibrated input attenuators (31 position)
- ◆ Stereo, Bridged & Parallel modes
- ◆ Comprehensive Protection Circuits
- ◆ Balanced XLR, Jack & barrier strip inputs



The EEEngine outperforms other efficiency-enhancing schemes - for both power consumption and signal quality.

Write in Reader Service Number: 169

1122w speakers. The string players in the orchestra were miked individually with Sony ECM 50 Bugs and AKG and Nuemann mics were used for the rest of the orchestra. There were 72 channels offstage and a Midas XL 200/50 desk was the main board. An Allen and Heath GL4/24 was used as the sub board. Campbell said the smooth surface of the pool provided some bonus bounce on the ground level.

The production management team, consisting of your writer as show caller and Barry Laphorne and Russell Lanyon as stage managers, were kept busy throughout the two hour show.

Crowd management was a crucial factor for us though in this case the crowd were all onstage! With approximately 1000 in the cast, many of them tucked away in make-shift dressing rooms all over the complex, communications were an essential tool. In addition to a standard talk back system we also utilised a Motorola 2 way system because of the constantly changing location of production elements.

Despite the heat and the temptation to jump into the forbidden pool we all survived and the performance itself went off very



Gearhouse supplied the 7 x 7 cube CRT Toshiba video wall

well. The stadium was filled with an enthusiastic crowd who didn't hold back on displaying their approval in a way I think only a sports crowd can do. The night sky was clear allowing the pyrotechnics which closed the show to literally light up above us and thankfully the obligatory speeches didn't go on for too long!

By Jacqueline Molloy

Placido Domingo brings Temporary Outbreak of Peace to the Perth Production Scene

The opportunity to prove that there is enough know-how in Perth to handle even the most demanding of productions brought together two of the town's largest and most experienced sound production companies to deal with one of Australia's notorious venues.

A.A.A. Production Services and Audex are normally out there cutting each others throats for the lion's share of the WA production work, but Placido Domingo in concert in the legendary Burswood Dome proved to be too fascinating a job to pass up for either company.

Production Manager Bill Rowe admits that his initial thought was to engage one of the big boys from the East Coast: Jands or System Sound, but discussions with Neil Campbell of A.A.A. and later Keith Crammond of Audex revealed the possibility of a local co-operative venture of at least equal capability. As the required system was bigger than any one local company could provide A.A.A., as the company with the most orchestral experience, was hired as the prime contractor with Audex, who have a larger concert rig, brought on board to complete the system package.

The concert, a one-night-only in Australia production featuring Placido Domingo and Spanish soprano Aihoa Arteta accompanied by the Western Australian Symphony Orchestra, was not your everyday PA job, especially in a concrete structure with an air-supported roof and an ambient air pressure of 1.2 atmospheres.

DOMES IMPROVED SINCE 'STONES

Burswood Dome achieved notoriety in the late eighties when the sound for its first major gig, the Rolling Stones, was considered by critics and audiences alike to be a fiasco. It was certainly suggested by many at the time that the most widely known event staged in the Dome, the Hopman Cup Tennis tournament, was the perfect gig for the venue's acoustics. Needless to say,

much has been done to improve the acoustics of the venue since then. With the addition of a suspended acoustic ceiling and the "doona" quilted baffle panel, the Dome has been used for quite a number of rock concerts in recent years.

An operatic concert with a full symphony orchestra on a proscenium stage however, presents a whole new set of problems and expectations, especially when the "punters" are paying four hundred and forty dollars for the best seats and expect to hear what they know from listening to studio recordings. Sound Designer and Senior Operator Carl Akers' concept for the sound design was just one word "intelligibility".

All efforts to achieve this intelligibility were concentrated on the notion of each audience member receiving a single clear sound which appeared to originate from the artists on the stage. To this end a single overhead speaker cluster was the primary sound source for the majority of the house with additional sources for the most distant (\$65) seats in this extremely wide auditorium setup. Speakers were also placed under the 1.5m high stage to provide a source for audience in the front (440) rows who were beneath the main speaker cluster. Senior Systems Engineer Neil Campbell from A.A.A. and Keith Crammond, principal of Audex put a great deal of time into calculating the placement and angles of every source. Time alignment calculations for the five delay groups in a space with an air pressure 1.2 atmospheres were also more complex than usual.

SYSTEM DESIGN

The resulting sound design called for a central cluster of twenty-one speakers: 4 EAW 853 long throw and 17 EAW 850 mid throw boxes to cover the 180 degree horizontal spread. Neither Audex nor A.A.A. had previously flown a cluster of this complexity, requiring

(continued over page)

AON Risk Services

presenting

AUSTRALIA LIMITED
ACN 000 434 720

Entertainment Protection Plus

INSURANCE FOR ALL YOUR ENTERTAINMENT RISKS

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

**Call Ken Killen or Ian Stack
TOLL FREE 1800 806 584
for free quotations & advice**

Level 20, 201 Kent Street, SYDNEY, 2000 Tel (02) 9240 0470

Write in Reader Service Number: 100

"setting the new standard for multipin connectors"



Link

- 13 pin to 150 pin versions
- easy & positive coupling
- audible "snap-in" lock
- waterproof to 10m for 12 hours

call now for full technical data on Link multipin connectors

- excellent for audio applications
- male & female cable
- male & female panel
- male & female dust caps

trc The Resource Corporation
6 King Street Blackburn Vic 3130
tel: (03) 9877 8233
fax: (03) 9877 8244
email: sales@trc.com.au

Write in Reader Service Number: 131

www.conpub.com.au March '98

WHY KNOT

Your Leads



ONE-WRAP™

Take the wear & tear off your cables & connectors simply attach the VELCRO® One-Wrap™ to keep all your cables tidy & free from knots

- 200mm long rolls of 100
- 300mm long rolls of 75

Re-useable
Adjustable
Strong
Washable
Weather Resistant

\$ 59 per roll

\$ 49 per roll ex tax
plus \$ 6 postage

To Order Phone
(06) 280 8777

Sound Advice

A U S T R A L I A
For all your Audio, Lighting, Video and Staging needs

Write in Reader Service Number: 192

such accuracy, so a rigging trial was undertaken under the supervision of Campbell from A.A.A. and Ray Godfrey, the Senior Systems Engineer from Audex. "The trial helped us to overcome some of the difficulties in achieving the required precision before we got to the Dome," said Campbell. "and working together on the rig gave each of us a chance to learn how the other company works."

The only serious rigging problem was due to the concert's date in mid December. When cables from the roof pickup points were found to be shorter than expected there were no cherry-pickers of the appropriate height available - they were all being used to hang Christmas decorations. Eventually a crane was used to extend the cables.

PUMPING SOUND

With all of the baffling in place, the acoustic absorbency, and the sheer volume of the Burswood Dome became problems to be overcome by the sound design. "Out of interest, during the rehearsals, we pulled the masters down to listen to the natural sound reaching the mixing position from the stage," commented Campbell, "Placido in full flight sounded like Marcel Marceau, and the only way of knowing that the orchestra was playing was that we could see the string section's bows moving. We actually had to pump about fifty percent more power into this space than we would an open air venue, something I've noticed on other gigs we've done here."

To compensate for the absence of any natural sounds Akers miked the orchestra to within an inch of their lives, to the point where he used thirty-five channels on an auxiliary desk to do a submix of the string section which was fed into four channels on the main desk. In all, sixty-five channels were used for the orchestra mix. The sound team feel that they were greatly assisted in tuning the system and the

space by having four days in the venue and by Placido Domingo wanting three full orchestral rehearsals, a bit more time than is usually allocated for a sound check.

WHAT PEOPLE SAID:

The concert was certainly a success, with the audience and the critics commenting favourably on the clarity and precision of the sound mix; the only lament being that it didn't sound like a concert hall, but how many 12,000 seat concert halls are there?

Perhaps the biggest problem with the concert, aside from the parking, was the video coverage. As is usual at large scale concerts, there were video screens on either side of the stage to give the audience close-up views of Mr Domingo. The interesting feature of the coverage of this concert though was that the video director must have got the pages of their score jumbled up. The cutaway shots of the orchestra were invariably to musicians who weren't playing at the time, although there were a couple of great shots of timpani actually being played, unfortunately on both occasions Mr Domingo was singing a wonderful rousing crescendo at the end of a song. Perhaps next time the promoters might find a video company as professional as the sound team they assembled.

The trucks were all packed, the last argument over which company that mic cable with the purple heatshrink really belongs to was finally over.

Audex and A.A.A. Production Services are back out in the marketplace competing for jobs and (maybe) telling their clients, in time-honoured tradition, that the other company are a bunch of cowboys. The short lived peace is over, perhaps until the next of the tenors comes to town!

-By Andy Ciddor

Gearhouse fight margin war and expand at the same time

UK firm dig in with additional Australian operations. Julius Grafton spoke with the CEO, Stephen Lakin

Product launches feed Gearhouse Group PLC, which is arguably the largest live production company in the world today. Call it Corporate Theatre, call it Audio Visual, or call it Presentation Services - what Gearhouse do is supply audio, lighting and video systems for product launches, conventions and meetings.

Stephen Lakin is CEO of Gearhouse Group PLC. He was in Australia recently to oversee Gearhouse operations here which included 10 separate trading entities in five states at present.

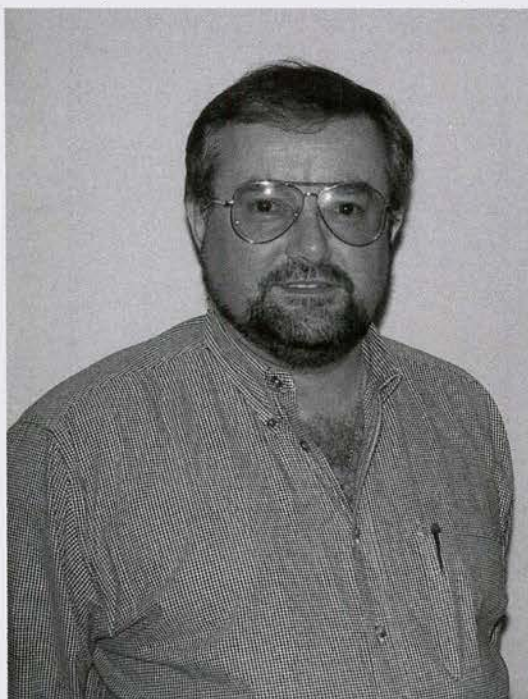
Lakin met with Connections to explain his plans for the region, and to detail the nature of his business. Last year he spent over 100 days flying between Gearhouse operations around the globe, and plans to keep a heavy schedule. Because Gearhouse has a very flat management structure.

There are no country managers, rather each company is run by one hands-on manager who answers to Lakin. A discretionary bonus scheme is detailed in the annual report, which pays 10% of the profit growth for the subsidiary plus a further 10% of growth in excess of 30% of the previous years profit.

Back in 1980, Lakin started an A.V. rental company from scratch in the UK, and by 1985 he not only had over 20 branches but listed on the stock exchange as well. How

did you do this, I asked? "I opened branches" was his response. Obviously staff motivation and reward is near the top of the Lakin operating philosophy.

When Gearhouse purchased Intercity Hire for A\$1.8 million in



Stephen Lakin, CEO, Gearhouse Group PLC

1996, the staff came with the deal and a manager was appointed for each office. The group has traded as Intercity Gearhouse since and has just deleted the Intercity part of the name. A lot of equipment has been added, as Intercity was somewhat neglected by previous owners, the Fairfax media group.

Last year Australia represented 8% of Gearhouse's business, turning over almost A\$10 million and making a small profit. "It's a long term project" Lakin explains, having been on a heavy investment and growth cycle to get Australia up to speed. Since the end of the financial year Gearhouse has added a wholesale AV distribution business, Gearhouse Systems, and just announced a broadcast rental operation. Results from Gearhouse Lighting are starting to flow though, since this business was created in the third quarter of last year.

Gearhouse is still acquiring, Lakin had just bought Cairns Sound & Lighting

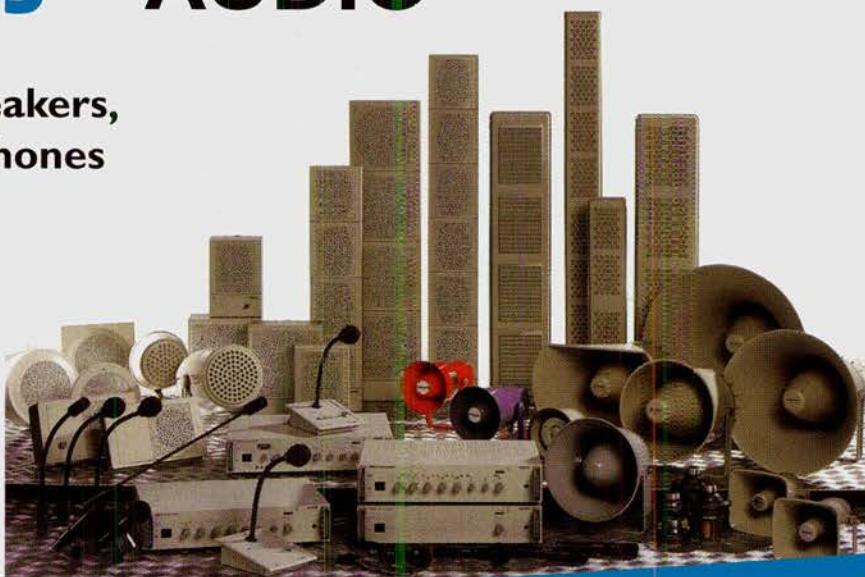
THE BEST KEPT SECRET IN PUBLIC ADDRESS



PHILIPS AUDIO

Complete range of Speakers,
Amplifiers and Microphones

FOR A DEMONSTRATION
OR INFORMATION,
CONTACT LES GODING
Phone: (03) 9357 8580
Mobile: 0412 392 455



A POWER[®]



PHILIPS

Let's make things better.

Write in Reader Service Number: 188

Laney CONCEPT Powered Monitors

CP10

Concept Powered Monitor 1 x 10 +
Horn 65 watts @ 4 Ohm 2 band
passive EQ, mic & Line inputs.
LIST PRICE \$659

CP12

Concept Powered Monitor 1 x 12 +
Horn 120 watts @ 4 Ohm 2 band
passive EQ, mic & Line inputs.
LIST PRICE \$869

CP15

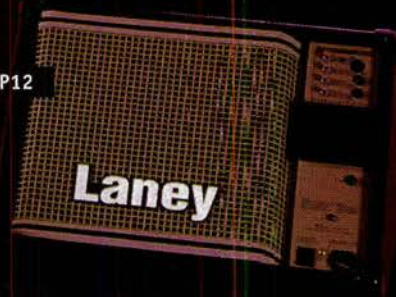
Concept Powered Monitor 1 x 15 +
Horn 150 watts @ 4 Ohm 2 band
passive EQ, mic & Line inputs.
LIST PRICE \$1099

CP15



**A professional high
performance package**

CP12



CP10

ALSO AVAILABLE AS F.O.H. BOXES
CPC12 \$899 CPC15 \$1099

AVAILABLE FROM YOUR LANEY DEALER, OR CALL PRO MUSIC ON 1800 777 486 FOR MORE INFORMATION

Write in Reader Service Number: 196

the weekend before. The Gearhouse business is fed from cashflow and also has the ability to issue more shares to raise funds if needed. It has done this several times in the last year or so, to buy extra subsidiaries in South Africa and America.

The challenge today is to get the margins more uniform, because Gearhouse makes more in the UK than anywhere else. This means that the presentation services or corporate theatre business in Australia is ultra competitive. Gearhouse has also met intense competition from Staging Connections, who operate a similarly sized national network of outlets.

Staging Connections was originally the takeover target of Gearhouse Group, instead of Intercity Hire. Gearhouse decided that Staging Connections wasn't structured for takeover because most of its branches were franchised. "I would have had to negotiate separately with all the franchisee's" said Lakin.

The business is changing too, with Gearhouse now going after the whole event rather than just part of it. Establishing Gearhouse Lighting was part of this strategy, to give Gearhouse all the technical and staging components of a show, rather than just the video, for example.

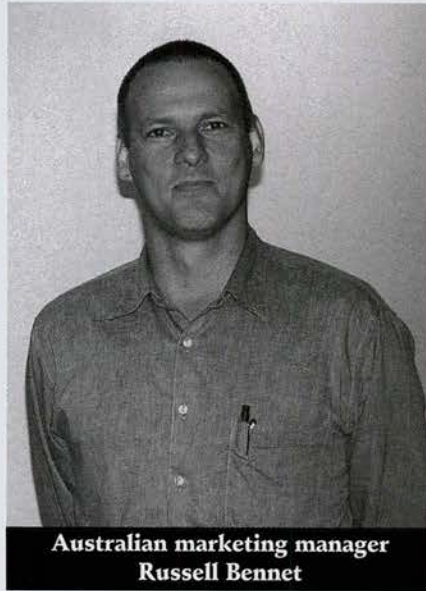
"We do the most important part of a show. We do the product reveal," says Lakin. A trade launch is one of the most crucial kinds of theatre because the big reveal often lasts just minutes - but cannot go wrong. "I think in 17 years we have only stuffed up two shows anywhere, and they were due to mains power

spikes", Lakin asserts.

The growth of this kind of company has been documented before in Connections, in the early 1990's big production meant big trucks and big systems. Picture the conventional audio and/or lighting production company as a huge truck on a highway, trying to overtake other huge trucks. While doing this, a fleet of perhaps a hundred vans is zooming past on a side road. Collectively all these vans amount to more than all the trucks. Notwithstanding the fact that a typical corporate product launch needs a lot of big truck loads of equipment, I am drawing this picture to illustrate that companies like Gearhouse are much more nimble than large production firms who once trained road crew to do large touring concert work.

Training is a growing issue, but the firm feel that in-house training is the best option, in order to instil a quality culture in staff. Lakin insists that his driving modus operandi is to offer customers superior quality. Which means crew who can speak the language of business, and who also look at a career path. A middle ranked A.V. Technician (crew person) with Gearhouse will earn around A\$35,000 base.

I offer that Gearhouse are now in need of some serious audio equipment, as they have been using Jands or other companies for larger sound gigs. They have high technology lighting and video in plague proportions, but only own small scale PA systems. Lakin and Australian marketing manager Russell Bennet exchange glances and say nothing. •



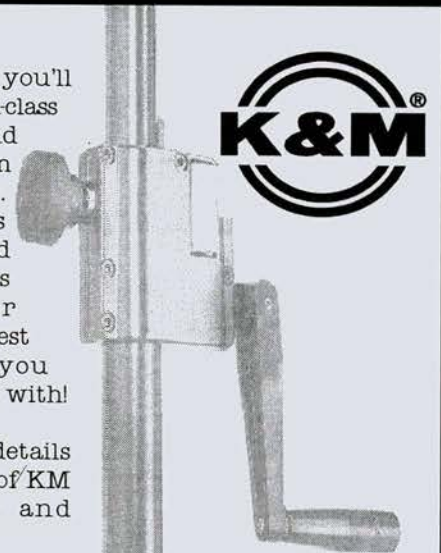
Australian marketing manager
Russell Bennet

Since 1976
T-PAC
Sound & Light
The Right Equipment
The Right People
The Right Price
Sound & Lighting
Hire, Sales and
Installation
To Any Scale
Ring Around
But Save The Best Number Till Last
(02) 9799 7219

how do your
speakers stand up?

if you're clever, you'll be using the world-class quality stands and accessories from Konig & Meyer. There are models to suit all uses (and all budgets) plus accessories for some of the wierdest configurations you guys can come up with!

call us now for details of the full range of KM speaker stands and accessories.



YES! we have K&M lighting stands and accessories as well...

trc The Resource Corporation
6 King Street Blackburn Vic 3130
tel: (03) 9877 8233
fax: (03) 9877 8244
email: sales@trc.com.au

Write in Reader Service Number: 132

WHO?
WHAT?
WHERE?

Connections Studios & Post Directory March 1998

Use this Directory
to locate WHO does WHAT in the Australian
recording industry, including studios, replicators,
and audio post houses

PULL ME OUT

Credits*Michael Jackson**Rolling Stones**Blackstreet**Whitney Houston**Stevie Wonder**Aretha Franklin**Janet Jackson*

"Pro Tools makes my whole life complete"

- Teddy Riley

We're blushing. Coming from Teddy Riley, whose credits include more than 30 platinum and multi-platinum records, that's a pretty powerful statement. How could Pro Tools® possibly make this superstar's life more complete?

"If you could see me, you'd think I was a real wiz. I do everything in Pro Tools. I track directly into the system...take a guitar part and loop it. I do fade ins, cross fades. I put together the whole *Blackstreet* album so fast — mixing, effects, and everything. And I really dig some of the TDM Plug-Ins like Drawmer and Focusrite. There's always new stuff that truly amazes me... like the 24-bit, 32-track system."

Now, you're probably thinking we had to pay Teddy to say all this. But the truth is, he's been using Pro Tools on every project since Michael Jackson's *Dangerous* — simply because it's the best tool for the job. Based on the number of hits he's cranked out, his career and life have been nothing short of remarkable. Or, as Teddy would say..."complete."

For more information about Pro Tools and Third-Party development products, call **02.9568.1711** for a free Pro Tools video, or to schedule a free demo.

www.digidesign.com
www.avid.com

TEDDY RILEY, PRODUCER | ARTIST
Lil' Man Records/Future Recording Studios, VA



◆ Pro Audio Sector Embraces ENTECH Trade Show

DAW'S AND DIGITAL MIXERS LINE UP

Christopher Foster

Virtually every major digital audio workstation will be on show and in open competition at ENTECH in Sydney next month. Leading the battle for your hearts, minds and dollars are DigiDesign, showing ProTools 24 for the first time, and Electric factory, with Ensoniq's new Paris system.

dSP will show Postation, also an ENTECH debut, while Fairlight will also feature.

Soundscape, Sonic Solutions DVD system and Sadie are also scheduled, with Otari other systems lined up on the PC or Mac side of the industry. Roland will show their new VS-1680, which offers an embedded system approach.

New Modular Digital Multitracks from Alesis include the 24 bit M-20 (hopefully on

show), and new versions of ADAT will be shown.

Digital mixers is also a very hot sector this year, with news at presstime that Soundcraft will debut a new Spirit digital mixer at ENTECH. It will also join the first trade showing of the new 24 bit Ramsa DA-7, which has created a lot of interest. Mackie will be shipping their Digital 8 buss from ENTECH while Yamaha will line up the latest ProMix family for side-by-side comparisons.

Of the 130 exhibitors expected at ENTECH, audio makes up half the floorspace. With a total exhibition space equal to SMPTE, this gives the pro audio sector in Australasia its largest trade show yet

• **ENTECH also hosts six Pro Audio Seminars, including 24 bit recording and digital mixer topics. Info: 1-800-635-514.**



Supersonic = hot dudes

Julius 'the ears' Chan told me about these guys, so I decided to hit the Cross, and hope to score. I got the good stuff at Supersonic.

Fronted by a beautiful and hyper-efficient, in the nicest sense of the word, Miranda Culley, Supersonic is three guys from film school, with a mini-

mum of gear, and lots of ideas. Before I had even put down the phone, Miranda Culley had faxed me a personal letter, and seven pages of info about the team.

After a quick scan through the fax, and a visit to the walk up studio, I got the general idea.

(continued next page)

HOW IT'S DONE



SFX on Wheel of Torture

I've always wondered how the sound effects are done for a game show. I imagined a bunch of old carts all stacked up, or a newish 350 systems Instant Recall hard disk replaying device were used. But no.

Jim Astley is audio operator on Wheel of Fortune, recorded at ATN 7 in Sydney - just a stone's throw from the electronic cottage where your magazine is made.

Jim uses a MIDI keyboard and two AKAI samplers to punch in those myriad of noises and music beds for 'Wheel, on cue. An AKAI S3000 sampler has noises onboard, like the nice 'ding' you hear everytime one of those letter cards on the letter board needs to get turned over.

There is a computer on the floor, which spits out a MIDI note

every time a 'ding' is required. The Sampler then does the ding thing, automatically

Sound effects from the two Akai's can be manually triggered with a MIDI note, so Jim has a nice inexpensive Goldstar MIDI keyboard sitting over the top of the Euphonix console. Each key has a different sound effect or music pad written on it in text! Simple?

The computer on the floor, and the keyboard are run through a MIDI merge box to the two samplers. With each sample fired by a different MIDI note, it is damn easy to fire your noise - either manually from the keyboard, or automatically from the computer.

Drum roll music ding! You win the CAR!

-Julius Grafton

INSIDE

CHARLES FISHER: The producer interview by Madeline Murray page 6

TRACKDOWN: What makes a music studio a success? Few do you go from trying to get \$30 an hour from a rock band to making TV commercials? page 10

ProTalk: Favourite Songs! Studio owners tell page 15

Music & Effects: New Kids on the block page 26

How To Do It: Tom Misner's studio series page 28

BASF TRACKING GUIDE: The original and authoritative guide to who is doing what, with whom, and where! ...P30

...& the LARGEST listing of Studios!

Supersonic

(from previous page)

Apart from Miranda, there is Andrew Lancaster, 26, cute, hip, plays keyboards for Custard, won ARIA for directing You are I clip 'Soldiers', also makes short films, about to work on David Caesar's next film.

And Paul Healy, 35, wrote music for STC play *Closer*, is mixing his CD, *Porn Star*, and is about to work with Barrie Kosky on *Mourning Becomes Electra*.

Absent, but also there, is Antony Partos, 28, composing with the Tasmanian Symphony Orchestra.

As a group, Supersonic have designed music and sound for ads, dance, and many films, long and short. And they have made their own CD, *Scope*.

At Supersonic, each guy has his own room for composing, and there is a central mixing/recording studio. Andrew Lancaster shows me around. He seems particularly disinterested in equipment, which suits me. But he admits that they have just upgraded with Cubase VST, "which means we can run MIDI and 32 tracks of hard disk recording on the same screen."

They started with MIDI stu-

dios at home, then decided to pool resources, and get a central venue. They use mainly Kurzweil K2000 for sampling, and Emu ESI32. "My studio's even simpler than that," Lancaster says. "I just use a Kurzweil and Cubase audio, and that keeps me going for all my sampling. I can do quite complicated stuff."

They compose in their own room, then dump it onto Pro Tools, where they do their mixing and mastering. Lancaster, with a Mac running Cubase, the Kurzweil and some speakers and guitars, has a particularly simple room. "I can pretty much do everything from that. I like to keep my studio really simple, not get too complicated."

They can transfer files to each other via the Ethernet. "We've been using Cubase ever since it came out on the Atari," he says. "We got into using it on the Mac, and it became a really good sequencer, and then they added the audio part. It took them about two years to sort out the hard disk recording side of it, which happened last year. We've been using VST a lot more these days a lot more, whereas before

we were using Cubase in conjunction with Pro Tools. Now we do most of our stuff within VST and dump it into Pro Tools for final mixing and mastering."

Sometimes they work on the same project, from their own rooms, with Partos doing strings, Lancaster rhythm, and Healy bass. "We often work together on projects, because our studios are compatible. I can import samples into the K2000 or straight into the Cubase VST. It's an easy way of working."

I asked Lancaster point blank why people considered them interesting.

"Well, it's not the equipment, which is pretty standard. I find stuff about gear very, um, boring. As long as it's there, as a tool, and it works. We do a lot of different projects, a broad range from independent dance to feature. There's a lot of interesting projects here. Equipment's all good and fun to use, but it's pretty simple. Most people sequencing would be using Cubase and Pro Tools, it's pretty standard."

The only thing that seems to excite him is being able to trigger samples with MIDI, and add

effects. "The ability to edit MIDI and hard disk in the same screen is interesting for us. We used to have to lock up the sequencer to the tape recorder, or other hard disk thing, and now it's all in one."

He takes me to Healy's room. "What makes you special?" I ask.

Paul: "How little equipment we use, and how little we rely on it. How simple it is."

Andrew: "We're totally against the totally installed studio, with everything behind everything. Here is pretty much like a home studio. Instead of having soundproofing, this is more like a lounge room. It's the economy of size, in terms of what we use. We all have one sampler, one hard disk sequencing program, one bit of outboard effects."

We go into the mixing mastering studio, where everything ends up. "Any shortcomings get compensated for here," Healy says. "Even though it's very simple, it's also very powerful. Pro Tools is advanced and competitive now, with TDM, reverbs, compressors, mastering tools, waves, ultra maximiser, which we use for mastering." •

DIRECTORY

ACT

N.R.S. Group

Post-production facility
PO Box 350, 9-13 Laery Place,
JAMIESON ACT 2614
PHONE: (02) 6251 6333
FAX: (02) 6251 6240
CONTACT NAME: Graham Patrick

N.R.S Training School

Media Training
141 Lawry Place, MAC-
QUARIE ACT 2611
PHONE: (02) 6251 6189
FAX: (02) 6251 6240
CONTACT NAME: Ms Susan Watt. Professional training in video and television production sound recording radio production, six months full time.

TEN Capital Canberra

Post-production facility
Aspinall Street, WATSON
ACT 2602.
PHONE: (02) 6242 2430

FAX: (02) 6242 2457
CONTACT NAME: Mark Colston

NSW

301 (Studios 301)

Level 7, 301 Castlereagh Street, SYDNEY NSW 2000
PHONE: (02) 9211 7301
FAX: (02) 9211 8301
EMAIL: studios@301.com.au
WebSite: www.301.com.au
Contacts: General Manager: Fiona Simpson
Technical Director: Steve Crane
Managing Director: Jim Taig. "The Phoenix Room" Australia's #1 SSL mixing & recording studio, SSL 4056E 64ch Console. G-series Automation. Live Recording Area/Client lounges/overdub booth

Variable Acoustics. JBL L/C/R Surround Monitoring. & Australia's largest collection of new & classic outboard & effects equipment. 2 x Studer A800 Analogue 24 tracks Mitsubishi 24 track digital. "The Midi Suite" The bedroom studio of your dreams for electronic music, pre-production & budget mixing. Macintosh 8100, 24 meg/2 gig HD Logic Audio, Cubase Audio ProTools V3.0 16ch hard disk recording Akai S3200XL sampler, classic synths, modules & drum machines. Comprehensive outboard and effects Studer A800 24 track analogue tape machine & DDA DMR-12 56ch automated console 1 (112 inputs on mixdown) In-house production, Engineers and

Programmers on request. Outboard equipment repairs & service.

301 Mastering (Studios 301 P/L)

Australia's #1 Mastering Studio
Level 7, 301 Castlereagh Street, SYDNEY NSW 2000
PHONE: (02) 9211 7301
FAX: (02) 9211 8301
EMAIL: studios@301.com.au
Website: www.301.com.au
CONTACT NAME: Jacqui Espie
More Platinum, gold & ARIA award winning albums than any other mastering facility! 1997 ENTECH awards voted: "Best Mastering Facility" People, Service and Equipment: Australia's leading mastering engi-

DIRECTORY

neers, Specialist analogue & digital mastering techniques 4 x Mastering Suites. Custom Classic analogue EMI TG Mastering Consoles Sonic Solutions digital editing systems with No Noise audio restoration software. All format dubbing including vinyl, Cassette & one off CDs. Can you afford to Master anywhere else?

A#Sharp Studio

24 Track Recording
339 Belmore Road,
RIVERWOOD NSW 2210
PHONE: (02) 9153 9988
CONTACT NAME: Jeff Cripps. CDs to Demo's 3 live rooms. We don't just press buttons - we help.

A.B.H. Rehearsal and Recording Studios

Rehearsal Rooms and Recordings
Unit 7, 127/129 Newbridge Road MOOREBANK NSW 2170
PHONE: (02) 9601 4552
FAX: (02) 9601 4552
CONTACT NAME: Brian Banks. We provide excellent band rehearsal facilities and have a fully equipped 24 track recording studio.

ACDC-Audio Compact Discs & Cassettes

Manufacture of CDs
CDROM & Tapes
69 Parramatta Road,
Silverwater NSW 2128
PHONE: (02) 9748 6055
FAX: (02) 9748 6152

EMAIL: A.C.D.C.@bigpond.com CONTACT: Clive or Peter. If you want to be taken seriously you need your own CD. If you have the recording then the rest is easy - and probably cheaper than you think. We have the hottest prices and the best service in Australia. We have our own art studio with typesetting, design, film separations.... in fact everything you need in one place. Ask around then give Clive or Peter a call.

Airwaves Sound Studio

Recording Studio
2 Davidson Parade
CREMORNE NSW 2090
PHONE: (02) 9953 4666
FAX: (02) 9953 0622
EMAIL:
airwaves@airwavesound.com.au
CONTACT NAME: Carlie Gosson. Digital Hard Disk Recording using ProTools, System Voiceovers, Jingles, CD Burning, Professional Recording.

Albatros Sound

Post-Production Facility
PO Box 253, RYDE NSW 2112
Level 7, Suite 2,
46-56 Holt Street, SURRY HILLS NSW 2010
PHONE: (02) 9310 7448
FAX: (02) 9699 2805

Albert's Studios

Post-Prod, Film Mixing, Recording
9 Rangers Road, NEUTRAL BAY NSW 2089
PHONE: (02) 9953 2544
FAX: (02) 9953 9263

CONTACT NAME: Eruce Brown

AM Studios

Post-prod facility, Recording Studio
3 Caledonia Street, PADDING-TON NSW 2021
PHONE: (02) 9328 7077
FAX: (02) 9326 1081
CONTACT NAME: Peter Newberry.

Arizona FX

Film Mixing Studio
3/13 Kellet Street, KINGS CROSS NSW 2011
PHONE: (02) 9326 9277
FAX: (02) 9356 3835
CONTACT NAME: Robert Searls.

Art Philips Music & Productions

Recording Studio
PHONE: (02) 9540 1238
FAX: (02) 9540 4954
CONTACT NAME: Art Philips

Artec Digital

Post-prod facility, Recording, Film Mix Studio
PO Box 223, Level 1, 168 Willoughby Road, CROWS NEST NSW 2065
PHONE: (02) 9906 3151
FAX: (02) 9906 2515
CONTACT NAME: Stuart (Pal) Sheldon.

Atlab Australia

Recording, Film Mixing,
PO Box 766, ARTARMON, NSW 2064
PHONE: (02) 9906 0100
FAX: (02) 9906 2597
CONTACT NAME: Peter Willard.

Audio Loc Sound Design

Post-prod facility,
Recording, Film Mixing
255b Penshurst Street,
WILLOUGHBY NSW 2068
PHONE: (02) 9411 3157
FAX: (02) 9419 6337
CONTACT NAME: John Dennison, Tony Vaccher.

Audiobrien/Videobrien Pty Ltd

Recording Post-prod facility
11 Ridge Street, NORTH SYDNEY NSW 2060
PHONE: (02) 9955 2000
FAX: (02) 9925 0449
CONTACT NAME:

Robbi O'Brien

Audioscapes.

16Trk Digital Post Production.
25 Camden Street,
NEWTOWN NSW
PHONE: (02) 9550 4205
FAX: (02) 9564 0099
CONTACT NAME: Jim Blackfoot. Specialising in Vocals, voiceover SFX Post Sync. Composers, songwriters note: Projects are our specialties.

Axent Recording Studios

Music and Speech Recording
11A Queen Victoria Street,
KOGARAH NSW 2217
PHONE: (02) 9587 7711
FAX: (02) 9587 5667
CONTACT NAME: Ross H. McGregor. 24 Track recording and Midi production established 21 years. Music composing and arranging professional, friendly service.

Beyond Facilities

Post-production facility
109 Reserve Road,
ARTARMON NSW 2064
PHONE: (02) 9437 2000
FAX: (02) 9437 2002
CONTACT NAME: Cora Spear.

Blacksheep Productions

Post-production facility
22-36 Mountain Street,
ULTIMO NSW 2007
PHONE: (02) 9212 7222
FAX: (02) 9212 7018
CONTACT NAME: Ben Alcott

Bread & Butter Recording Studios

24 Trk Digital Recording Studio
PO Box 1011 DENILQUIN NSW 2710

CD Mastering @ 301

Australia's leading Mastering Engineers.
More Gold, Platinum & ARIA award winning albums than any other Australian Mastering facility.

Call Jacqui Espie on
02-9211-7301



Can you afford to master anywhere else?

Not Listed?

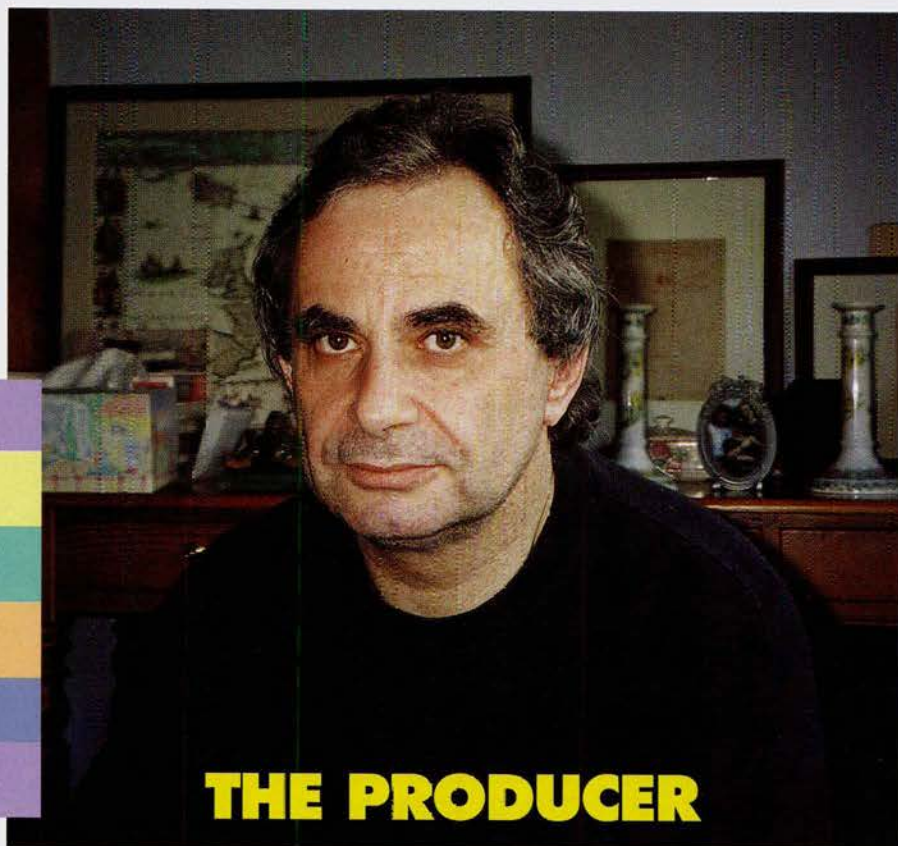
Is your facility a SECRET?

See back page

Charles Fisher

The
Atmosphere
Dealer

Savage
Garden
Guru



THE PRODUCER

Interviewed by Madeleine Murray

Charles Fisher has just catapulted into career hyperspace, and yet he is sitting on his navy blue sofa, looking exceptionally normal. The LA equivalent of the Savage Garden producer would be in a mansion, guarded by gates, dogs, and agents. Instead, Fisher lives with his family in an overgrown ground floor house, stuffed with family pictures in frames, a sewing machine, ruffled cushions, and a little dog called Misty.

To top it off, most of Darren's amazing vocals on the Aria-sweeping Savage Garden CD were recorded in Fisher's 14-year-old daughter's bedroom with a U87, onto a 2"/24 track analogue machine! "Sarah's bedroom puts out the best vocal sound in the house," Fisher said. "It has a good feeling, because it's her bedroom, and it's filled with stuffed toys, and books, and has a nice warm sound. Darren's a tremendous singer. We only had difficulty with two or three tunes, and that was because we had been working so long. When you're recording, whatever has happened that day affects your performance.

"Generally he just walked into Sarah's bedroom, sang the song, and I recorded it. My job was just to make him comfortable. We essentially did all the recording in this living room."

Sarah got a bit tired of having to do her homeworks in the kitchen. Still, her friends must have been impressed, in retrospect.

Some tracks had the vocals laid down first. "I like to get vocals onto the tape as quickly as possible, because you stop cluttering the record, and you do leave space this way. Because if you're not hearing the vocals, you hear holes. So it becomes over-produced."

Fisher, who reminds me of Paul Simon, thinks in metaphors and images. "I come at it from a very visual point of view. I will tell a guitarist that he doesn't sound tall enough. It's important to me to close my eyes, and get a really strong picture when I'm hearing it. If I don't, then it doesn't make sense to me. And my theory is, if it doesn't work for me, it doesn't work for the listener. A piece of music should stir every emotion you have, not just tickle your ears. It should make your heartbeat, make you think, or cry. It's doing all those things because you get a mental picture."

To the moon and back

The opening bars of the first track, *to the moon & back*, start off with a bubbly sound, then repeated beats, eerie effects, and some ground control innuendoes.

"The opening repeated beats are a synthesiser with a delay on it," he explained. "It pans left to right, so it feels a bit like a motor. We wanted to create this atmosphere where the whole thing was revving up for a takeoff, like winding up for a launch."

The spooky high pitched sound had been on an old keyboard that Daniel used to own. "We couldn't duplicate the sound, because he'd sold the keyboard. It sounded a bit like a Theramin, one of the first synthesisers invented in the '40s. A lot of the early '50s sci-fi film sounds were made on that. You generate a tone, and your hand movements change the pitch. This was a simulation, the idea was to give you the old fashioned sci-fi feel."

The ground control voice, turns out to be Houston Central, talking to the cockpit. Literally. Fisher took the NASA recordings off the internet.

The space keeps opening wider and deeper, and "then we kill it all, bring it down to the vocal entry."

Who are We?

So, who is "we"? For anyone unfamiliar with the tale, Darren Hayes and Daniel Jones - two boys from Brisbane, were taken up by John Woodruffe, and produced over an eight month period by Fisher, at home. The CD won seven ARIA categories, and the song *truly, madly, deeply* is currently number one in America. Not bad for a band who was turned down by everyone.

"The CD was a team effort," Fisher said. "I try to help them conceptualise what they're hearing. The opening atmosphere was pretty much their idea, and I helped them create it. It's a producer artist relationship. Sometimes they hit a hole, and they don't know quite what to do, and I'll give them an idea. But most of the time, I'm just helping them realise their ideas."

Fisher added, with perfect candour, "It was very much a learning curve for them. When they first came here, I started

PRISM SOUND RECORDING TECHNOLOGY

PrismSound
Cambridge, UK

Dream DA - 2

- 96kHz 24-bit conversion with 115dB* dynamic range and 0.0006% high-level THD&n.
- Up to 24-bit input with no truncation.
- High jitter attenuation plus unique master mode for complete jitter elimination.
- Supports 96.0, 88.2, 64.0, 48.0, 44.1 & 32kHz master sample rates and slaved from 30 to 100kHz.
- Reference output for clocking external devices in master mode.
- 7-input selector supporting AES3, AES3id, SPDIF, SDIF-2 and Toslink.
- DRE decoding for hi-bit performance on DAT.
- Floating, balanced analogue outputs.

AD - 2

- 96kHz 24-bit conversion with 130dB* dynamic range and 0.0006% high-level THD&n.
- Internal sampling rates of 96.0, 88.2, 64.0, 48.0, 44.1 & 32kHz; locks to external rates from 30 to 100kHz
- Multiple SNS noise-shaping curves enabling capture of the 24-bit sound on a 16-bit format such as CD.
- Dual outputs allowing simultaneous recording at different sampling rates or wordlengths; eg 96.0kHz 24-bit and 44.1kHz 16-bit.
- DRE system for hi-bit recording on DAT.



MLA-2

MEA-2

MUSIC POWER TOOLS MASELEC MASTER SERIES



"a very special sound"

The MLA-2 compressor features unique signal processing techniques and delivers without side-effects.

The MEA-2 equaliser features signal processing techniques that gives rise to warmth, punch or air - great sounding EQ is right behind the controls.

The clear and straight forward presentation of Maselec Master Series products with their precision stepped controls provides the raw creative power you need - and nothing else.

The Producer

Charles Fisher

teaching them about samplers and loops, and how to make their fields a little less electronic. The demos were very electronic. After a month of working together, I could sit back and read a magazine! Daniel became a very skillful programmer."

One of the beauties of the album is the combination of electronic and acoustic instruments, one of George Martin's signatures. "That was probably my greatest input. Essentially all the songs were there. The electronic side was there. I told them I wanted the record to sound like *Bladerunner*, with influences from everywhere."

The Spanish guitar solo, on *to the moon and back*, was the result of three tries. They started with an organ solo, then an electric guitar, then they thought about a saxophone solo. "We tried to find the right sound to not upset the atmosphere, and the nylon just seemed to fit perfectly."

"Daniel had most of the strings on synthesizers, and it was my call to make them more organic, rather than synthetic. We made them lush and warm. The string sound is a mixture of real string players, and synthesizers. We did a day at Paradise Studios with eight or nine people, and double tracked them. Jackie Orszaczky did the orchestrations for us."

I imagined they must have had some euphoric moments after finishing a song, but no. Because they were working at home, they were never able to hear an entire song until they got into Gotham studio, where they could play two 24 tracks locked together. There they dumped the 24 track analogues onto a 48 track digital. "We worked on one tape, filled it up, then went to another tape, and put things on that tape to give us a bit of a guide. We were never sure that everything was working until we got to the mix situation. Darren and Daniel let out this huge sigh of relief when they heard the first mixed track."

"I knew we were doing a really good record, but I didn't expect the international success."

This album is the biggest hit of Fisher's illustrious life. He's been getting offers from LA. It hasn't gone to his head, but he is renovating his house. "It's a mixture of offers. Some people think I can wave a magic wand over their career. And there's a lot of interest from young bands, which I love working with."

Impeccable ears

So what does Fisher have going for him?

Dave 'Hoodoo Guru' Faulkner did two albums with Fisher.

"Charles has a really relaxed bedside manner, a fairly ironic line of patter, and he keeps the mood light. He tends to defuse situations through humour, plus he's got an impeccable set of ears. When I first started, I was astonished at the things he could differentiate between."

"Creatively, he comes up with different ideas, which can trigger things in you as well. He's not just someone who sits back and waits, he motivates and prods. Finally, he has an unerring sense of structure. You would hope all producers would have that, but many are just glorified engineers."

"Charles has done the Savage Garden thing before. He has had bands which were pretty unwanted, and nursed them through from infancy to maturity in the first album. Suddenly everyone goes, 'We could always hear that was going to be a hit!'"

When I asked Fisher to tell me his good points, he hesitated, and said, "I guess I'm pretty patient, and I'm careful to avoid saying No. I'm very conscious that I'm dealing with an artist who is trying to express himself. My patience is my biggest psychological plus. In every other way, I'm as insecure as anybody else!"

Fisher goes for truth and consistency. "Everything about the

continued next page

DIRECTORY

PHONE: (03) 5881 7112
FAX: (03) 5881 7238
CONTACT NAME: Richard Sievers. New state of the Art studio set amongst redgums, we strive for your perfection.

Bush Traks Pty Ltd.
Recording and Multimedia Unit 1, Bush Factory, NIMBIN NSW 2480
PHONE: (02) 6689 1290
FAX: (02) 6689 1210
EMAIL: bushtracks@nwt.net.au
CONTACT NAME: Ruth Miller. Air conditioned 24-track studio with in-house multimedia suite. Specialty web design and multimedia for musicians.

CD Makers
Audio Transferred to CD-R (at Tiger) 3/35 Mitchell Street, McMAHONS POINT NSW 2060
PHONE: (02) 9922 4700
FAX: (02) 9922 3604
EMAIL: a-host@geocities.com
CONTACT NAME: Andrew Host. Audio to recordable CD, digital editing and compiling available.

CD Oz Pty Ltd
CD Replication Packaging & More!
Unit E8, Slough Estate, 46-62 Maddox Street, ALEXANDRIA NSW 2015
PHONE: (02) 9310 4355
FAX: (02) 9310 4030
EMAIL: cdoz@tpgi.com.au
CONTACT NAME: Virgil StJohn CD Oz is Australia's premier CD-Rom Replication house. From 100 to 100,000,000. We'll look after you.

CD Bureau
Custom CD Manufacture 13/505 Pittwater Road, BROOKVALE NSW 2100
PHONE: (02) 9905 7144
FAX: (02) 9939 1943
EMAIL: sndwarp@inetnet.com.au
CONTACT NAME: Meredith Brooks, Bill Syrratt. One-off CD's made to order. Pre-release, demo's, archive, interactive, advertising. Editing, mastering services also available.

Charing Cross Studios
24 Track Recording Automated mix.

312 Bronte Road, WAVERLEY NSW 2024
PHONE: (02) 9387 8362
FAX: (02) 9369 3910
CONTACT NAME: Gordon Hervey. Vintage Neve console, Studer Multitracks, Huge range of tube mic's and outboard equipment, great atmosphere.

Cloud Studios
24 Track 2" 32 Track Dig Automtd.
11 Mardi Road WYONG NSW 2259
PHONE: (02) 4353 2429
FAX: (02) 4352 2637
EMAIL: cloud@ozemail.com.au
CONTACT NAME: Parris MacLeod Cloud Studios offered exclusive recording environment with top quality equipment professional staff and competitive rates.

Colin Black Productions
Freelance Audio Engineer PO Box 92 SEAFORTH NSW 2092
PHONE: (02) 9907 0237
FAX: 9907 0237
EMAIL: cydonian@tpgi.com.au.
Professional Audio Engineer for Studio and Live gigs. Experienced with ProTools and Logic Audio.

Counterpoint Sound
Recording, Post-prod facility, Film Mixing
109 Union Street, NORTH SYDNEY NSW 2060
PHONE: (02) 9957 2270
FAX: (02) 9957 5773
CONTACT NAME: David White.

Crystal Clear Studios
24 Trk Automated Recording Studio
9 Bridge Street, RYDALMERE, NSW 2086
PHONE: (02) 9684 1152 or 015 106 776
FAX: (02) 9898 1271
CONTACT NAME: Dave Tozer 24 Track ADATs, AMEK BIG Automated Console, Total Recall, Dynamics, Lexicon 300, Extensive Outboard Neumann Mics.

Damien Gerard Sound Studios.
Music Recording, CD Manufacture
64 Wattle Street, ULTIMO

WANT TO BREATHE SOME FIRE
INTO YOUR MUSIC?

GET READY FOR FIREWORX!
THE EXPLOSIVE NEW
STUDIO EFFECTS PROCESSOR
FROM TC ELECTRONIC
- THE MOST RADICAL YOU'VE
EVER HEARD

TURN UP THE
HEAT

FIREWORX

t.c. electronic
ULTIMATE SOUND MACHINES

SPARK CREATIVITY

Experience the limits of your imagination. Share the sound. Give it personality. Control it. Celebrate the discovery of an all-new kind of effects processor!

SIZZLING EFFECTS

Set your sound apart from the rest of the crowd with extreme multi-effects: Vocoder, Ring Modulator, Aliaser, Resonator, Pitch Shifter, Fractal Noise Generator, Distortion, Reverse Delays, and more... - all packed up and ready to explode!

AUDIO PYROTECHNICS

Create an infinite number of effects for any style of music or sound design: Endless routing possibilities with more than eight internal and nine external modifiers.

BLAZING DIGITAL TECHNOLOGY

24 bit AD- & DA-converters, AES/EBU, SPDIF and ADAT™ I/O's are all brought together through TC's cutting edge DARC3™-chip technology.

For further information on the complete TC Electronic range please contact:

Amber Technology Pty Ltd ACN C03 231 187

Sydney
Tel: (02) 9975 1211
Fax: (02) 9975 1368

Melbourne
Tel: (03) 9699 1955
Fax: (03) 9699 1944

Brisbane
Tel: (07) 3831 8444
Fax: (07) 3831 8455

Write in Reader Service Number: 130

**Amber**
TECHNOLOGY

TRACKDOWN: from this, to THAT

Trackdown, with technophile Simon Leadley as technical director, is the other end of the spectrum. "Quite a lot of studios have closed down," Leadley says. "It's very competitive, and there's got to be good reasons for people to work beyond their lounge room. We've moved with the times, and reinvented ourselves a number of times.

"Our focus is still on music, but mainly TV, and post-production work. That stuff is highly technical, both for equipment and personnel. So it's important we have the latest and greatest technology that's around. And we can deal with people in America and England. We can work in most formats."

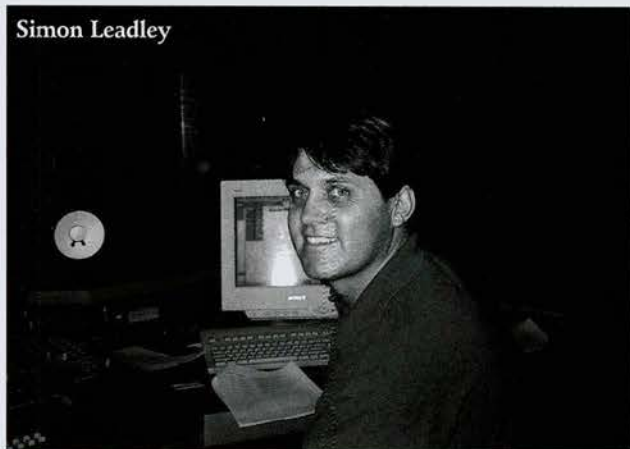
That day, they are doing some

post sync dialogue for *Skippy*, the animated TV series, made by Yoram Gross studios, which are in the same building. And Guy, son of Yoram, is the Trackdown resident composer, as well as being particularly charming.

The studio uses digital video, and mixes on a Yamaha digital O2R. "It's totally recallable," Leadley says. "We've got the actors and the settings stored in it. There's a lot of bench space in the studio, because the console is small. The engineer is always in the centre of the stereo field. It's great, so there's good working areas."

Leadley was full of enthusiasm for the studio, its gear, personnel, lighting, air condition-

Simon Leadley



ing, and comfort. The recording booth has an array of mics on stands in one corner. The floor floats on rubber. The 3/4" glass windows cost \$2000 each, the doors \$1000 each.

Guy Gross composed the music for *Priscilla, Queen of the Desert*. He likes to blend electronic and acoustic sounds. Tablas, sitar, and other instruments sit in his music room.

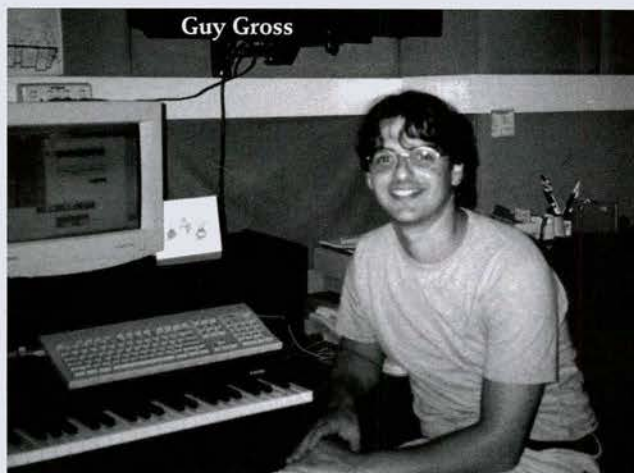
When I asked Leadley why Trackdown seems to be getting ahead when music studios are not, he replied, "We've been doing this longer than anyone. And we have streamlined the process of production. We work with external companies, particularly video editing. We can take their work, and digitally couple it across to our stuff. At the mo-

ment Gross is composing for Stephen Elliott's new film, *Welcome to Woop Woop*. Gross puts his music on the internet, and the director in London listens to it."

Gross thinks Trackdown is unique, "because we have so many versatile people, from different backgrounds. Between the engineers here, we could put together a rock band, and a small chamber orchestra."

As a footnote, Leadley and studio manager Geoff Watson went to Vaucluse High, at the same time as Bruce Jackson and Phil Storey, who started Jands, as well as the inimitable Julius Grafton! Howard Jones was there too. Talk about a hotbed of valves, amps and strobes!

-By Madeline Murray



The Producer: **Charles Fisher**

(continued from previous page)

record and the artist has to add up. If it doesn't, it won't work. That is part of what I meant when I said that sound is very visual to me. If I'm working with a bunch of short guys, and the record sounds tall, it's not the truth..."

He is a musician, but not particularly technical. "I learn on the job. I just keep pushing the buttons until it sounds right."

The past

Fisher's career includes Air Supply, The Radiators, and Hoodoo Gurus. I asked him about the classic *Death Defying*, on Mars Needs Guitars. "That was the least straight forward track on the album. We cut that song three times before we got it right. We wanted it to feel really simple, nice and loose and relaxed. It's the kind of song you imagine playing in a bar at three in the morning."

Radio Birdman

"That was a really exciting time. Like Savage Garden, we couldn't get anyone interested in Radio Birdman. I took a tape to an agent once to try and get the band work. He put it on, listened for ten

seconds, picked up his little ghetto blaster, and said 'What is this shit? Get out of here!'"

Without work, or a record release, they invented the blitzkrieg. They would do three or four tight shows in an area, then disappear for a month. Fisher took the band into his studio, and recorded them. He set them up in a straight line, put Rob Younger in front with a mic, and just recorded them. They pressed records, and sold more than 5000 copies of *Radios Appear* by mail order out of the studio. "We just sat in the back of the studio, licked stamps, put them in boxes, and sent them out!"

Seymour Stein, head of Sire records came out from the States to sign the Saints, saw Radio Birdman at the Oxford, and decided to sign them up instead. Australian companies followed.

Mixing regrets

Like Edith Piaf, Fisher doesn't have any specific regrets, only hindsight. "I wish I'd been more aware of how important mixing is earlier in my career. And I wish I had been more adamant about record companies spending the right amount of money. If you can't afford the whole hog, don't even start. I should have fought harder. I fight tooth and nail now." •

NETWORKING IS THE KEY TO SUCCESS AND ONLY SAE HAS A NETWORK OF COLLEGES.

**MORE PRACTICAL
EQUIPMENT THAN ANY
OTHER PRIVATE COLLEGE OR
UNIVERSITY IN AUSTRALIA.**

**ALL OUR AUDIO STUDENTS
ARE GUARANTEED
INDIVIDUAL STUDIO TIME.**

**ALL OUR MULTIMEDIA
STUDENTS ARE GUARANTEED
THEIR OWN MULTIMEDIA
COMPUTER WORKSTATION.**

Accredited in Australia by:



VETAB
(NSW)



Nationally
Recognised
Training



VETAB
Victoria



ACPET
National



(QLD)



Southern
Cross
University



DEET
National



AFC
South
Australia



Approved
Training
Provider

University
Western
Sydney
Macarthur

**AUSTUDY
APPLICABLE**

FULLY ACCREDITED CERTIFICATE - DIPLOMA - UNIVERSITY DEGREE IN AUDIO ENGINEERING, MUSIC AND MULTIMEDIA.



Call any of our colleges to obtain a free brochure and organise a full inspection of our facilities:

SYDNEY	55-57 Wentworth Ave. Surry Hills NSW 2010	Tel. (02) 9211 3711
MELBOURNE	14-16 Fitzroy St. St.Kilda VIC 3182	Tel. (03) 9534 4403
BRISBANE	22 Heussler Tce. Milton QLD 4064	Tel. (07) 3367 0143
ADELAIDE	18-20 Deeds Rd. Camden Park SA 5038	Tel. (08) 8376 0991
PERTH	231 Adelaide Tce. Perth WA 6000	Tel. (09) 325 4533
HOBART	164 Elizabeth St. Hobart TAS 7000	Tel. (03) 6231 5446

<http://www.saecollege.edu.au>

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

Write in Reader Service Number: 141

DIRECTORY

NSW 2007
PHONE: (02) 9660 8776
FAX: (02) 9692 9915
EMAIL: crow@world.net
CONTACT NAME: Marshall Cullen. Established fifteen years, Two inch twenty-four track full service facility, all other formats catered for.

Darling Harbour Studios
Tour Rehearsal, Recording, Photo, Video
Level 3, 549 Harris Street, ULTIMO NSW 2007
PHONE: (02) 9211 1474
FAX: (02) 9211 1474
CONTACT NAME: Ike.
Amazing Studio vibe, unique creative atmosphere, large rooms, lounges, kitchen, storage, 100 percent recycled environment.

David & John Recordings
Recording, Post-prod facility
16 Eden Street, CROWS NEST NSW 2065
PHONE: (02) 9929 5522
FAX: (02) 9955 2403
CONTACT NAME: John Taylor, David Woodley Page.

David Hinds Recording Studios
Recording Studio
PO Box 9072, 7 Chestnut Road, PORT MACQUARIE, NSW, 2444
PHONE: (02) 6581 1235
FAX: (02) 6581 1279
CONTACT NAME: David/Lyn Hinds

David Lawrence Music Productions
Recording Studio,
2 Mission Terrace
LAURIETON NSW 2443
PHONE: (02) 6559 8766
CONTACT NAME: David Lawrence. Digital multitrack and mixdown, midi sequencing and notation printing, jingles produced, songs written for artists.

Deep Blue Music
Composition and Music Production
Pier 21, Pirrama Road, PYRMONT NSW 2009
PHONE: (02) 9566 4194
FAX: (02) 9552 2652
CONTACT NAME: Charles Edwards/Anthony Mott.
Original Composition, Production, Sound Design and Audio Post for Advertising,

Film, TV, Radio and Multimedia.

Digital City Studio
Post-production facility
PO Box 123 KINGS CROSS, NSW 2011

Level 4, 134 William Street, WOOLLOOMOOLOO NSW 2011
PHONE: (02) 9356 2870
FAX: (02) 9368 1772
CONTACT NAME: Michael Gissing, Mark Keating.

Digital CD Mastering
CD Mastering
104 Alexander Street, CROWS NEST NSW 2065
PHONE: (02) 9436 2113
FAX: (02) 9436 2665
CONTACT NAME: Bruce Sheldrick CD Mastering using Sadie Hard-disk Editing to DAT CDR Or 1630

Digital Pictures
Post Production Audio
111-115 Chandos Street, CROWS NEST NSW 2065
PHONE: (02) 9349 5044
FAX: (02) 9438 2647
EMAIL: facilities@digipix.com.au
CONTACT NAME: Mike Kent

Duplitronics
Production - CD Replication.
Suite 3, 22 John Street, WARNERS BAYS NSW 2282.
PHONE: (02) 4948 6550
FAX: (02) 4948 4133
CONTACT NAME: Robert Baker CD and CD-R manufacturing artwork, printing & packaging Audio Cassettes wound to length and Duplicated.

Feral Studio
Recording and CD Mastering
24 Agne Ave Queanbeyan NSW 2620
PHONE: (02) 6299 3224
FAX: (02) 6297 0244 Contact: Jon Robertson. Your complete recording service awaits multitrack CD mastering short run or large run replication.

Festival Mastering
Mastering - Makes it sound better!
63-79 Miller Street, PYRMONT NSW 2009
PHONE: (02) 9395 8075
FAX: (02) 9395 8001
EMAIL: edp@festivalrecords.com.au

CONTACT NAME: William Bowden. High quality audio mastering at reasonable rates.
Sonic Solutions, Genlec Monitors, Neumann Console. Comfortable environment.

Festival Studio.
Recording Studio.
63-79 Miller Street, PYRMONT, NSW 2009.
Phone (02) 9395 8080
FAX: (02) 9395 8001
EMAIL: edp@festivalrecords.com.au
CONTACT NAME: Mark Thomas/Matt Lovell. Classic Neve, 24 or 32trj, Studer MCI Mitsubishi. Large recording spaces, spacious control room - lounge, Great vibe.

Figjam Recording Studios
Digital Recording and Mixing
37 Kennedy Street, LIVERPOOL NSW 2170
PHONE: (02) 9601 6159
FAX: (02) 9601 6159
EMAIL: figjam@one.net.au
CONTACT NAME: Anthony Bartlett. Fully MIDI equipped. FIGJAM=Fantastic Ideas, Great Jingles and Awesome Music. Just Ask Us.

Fusion Factory
Budget Live Multicam Video Promo
22 Lincoln Street, MINTO NSW 2566
PHONE: 0411 201 513
CONTACT NAME: Nick Fehlberg. Broadcast quality, 4 cameras. Get a live video and get working packages. From \$260.

Garden Street Studios
Post-production facility
92 Garden Street, ALEXANDRIA NSW 2015
PHONE: (02) 9319 6033
FAX: (02) 9319 7648
CONTACT NAME: Eleanor Cox, Marcus Gillezeau, Keith Lynch

Garner McLennan
Post-production facility
PO Box 1418, 166 Willoughby Street, CROWS NEST NSW 2065
PHONE: (02) 9438 1002
FAX: (02) 9439 6710
CONTACT NAME: Briohney Pogue.

Glebe Recording Studios
Recording, Film Mixing Studio

98 Glebe Point Road, GLEBE NSW 2037
PHONE: (02) 9660 0875
FAX: (02) 9552 3629
CONTACT NAME: David Jacobson

Global Television Pty Ltd
Post-production facility
Cnr Epping & Delhi Roads, NORTH RYDE NSW 2113
PHONE: (02) 9886 3222
FAX: (02) 9886 3266
CONTACT NAME: Chris McMillan.

Haco Pty Ltd.
Maxell Tape Distributors.
104 Vanessa Street, KINGSGROVE NSW 2208.
PHONE: (02) 9370 8917
FAX: (02) 9370 8951
CONTACT NAME: John Benfield. Sole Australian Distributor of Maxell Professional Audio and Video Tapes.

Hadley Records.
Recording Studio and Labels
5 Egreet Place TAMWORTH NSW 2340.
PHONE: (02) 6765 7813
FAX: (02) 6765 7813
EMAIL: hadrecs@tpgi.com.au
CONTACT NAME: Eric Scott.
Thirty Seven years recording and promoting Australian Country Music.

Harlequin Sound Production.
Mastering-Editing-Test Pressings
PO Box 1A, MT KURING-GAI NSW 2080
PHONE: (02) 9457 8304
Contact: Winfield "Blicka" Blue. Established 1984.
Employing dedicated Akai editing systems. Mail order CD-R available. Rates \$45.00 per hour.

Hello Testing Pty Ltd
Recording Studio
21 Charles Street, CASTLECRAG NSW 2068
PHONE: (02) 9958 0251
FAX: (02) 9958 7518
CONTACT NAME: Jennifer/ Paul Goodwin

Hullabaloo
Audio Post and Music Production
Level 1, 48 Chandos Street, ST LEONARDS NSW 2065
PHONE: (02) 9906 2933
FAX: (02) 9436 4897
EMAIL:

Hafler®

THE
standard



transnova
50 Watts x 2 @ 8 ohms \$1095 P 1000 trans • ana

transnova
75 Watts x 2 @ 8 ohms \$1395 P 1500 trans • nova

transnova
150 Watts x 2 @ 8 ohms \$1895 P 3000 trans • nova

transnova
200 Watts x 2 @ 8 ohms \$1995 P 4000 trans • nova

Australian Audio
AUSTRALIAN AUDIO SUPPLIES
Tel (02) 4388 4666 • Fax (02) 4388 4688
Website: www.ausaudio.com.au
Email: sales@ausaudio.com.au

Write in Reader Service Number: 170

CAD MICROPHONES



CAD E100

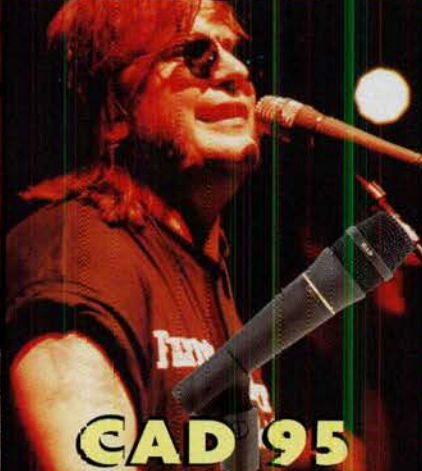
"After comparing the CAD E100 to the mics I have been using on kick drum... it outperforms them all!"

Randy Siegmeister

Production Manager, Maryland Sound

When it comes to choosing microphones, Randy Siegmeister relies on years of touring experience as house engineer for top performers like Mariah Carey, Daryl Hall & John Oates, Roberta Flack, Juice Newton, and Anita Baker.

Whether you're recording vocals in a sound booth or reproducing a kick drum live in an arena, the CAD E100 provides an amazing level of signal reproduction. (\$895 RRP)



CAD 95

Road tested songwriter and artist Steve Earle and his band the Dukes on stage use the remarkable new CAD 95 condenser microphone, providing crisp and articulate signal reproduction along with extraordinary gain and stability.

The CAD 95 features transformerless electronics, exclusive FlexForm™ dent resistant screen, and exclusive I.N.R.™ internal shock mount providing excellent isolation from mechanical noise. Available in black-rubberized finish with brass accents or nickel screen with nickel accents (\$399 RRP)



CAD E300

Acclaimed performing and recording artist, producer and composer Teddy Riley is topping the charts with his unique blend of R & B and Hip Hop. Working with such popular artists as Michael Jackson, the Rolling Stones, Tom Jones, and Blackstreet, Teddy's choice is the CAD E300 servo-condenser microphone to maximize sound quality and performance. The E300 combines vintage capsule design with a unique advanced headamp, providing remarkable presence, superb transparency and phenomenal detail. (\$2295 RRP)

made
in the USA

**TWO YEAR
WARRANTY**

AUSTRALIAN AUDIO SUPPLIES
Tel (02) 4388 4666 • Fax (02) 4388 4688
www.ausaudio.com.au
sales@ausaudio.com.au

Australian Audio
AUSTRALIAN AUDIO SUPPLIES

CAD
Conneaut Audio Devices

Write in Reader Service Number: 194

DIRECTORY

glenn@hullabaloo.com.au
CONTACT NAME: Glenn Heaton. All audio & music services for TV, Advertising, Theatre, Digital Workstations, Large Comfortable Rooms.

Ian Lawrence Music
Recording Studio
10/11 Milson Road,
CREMORNE NSW 2090
PHONE: (02) 9953 7902
FAX: (02) 9953 5775
CONTACT NAME: Ian Lawrence

Independent Software Duplication
Compact Disc
Replication-CD-R
22/7 Packard Ave CASTLE HILL NSW 2154
PHONE: (02) 9899 4044
FAX: (02) 9899 4085
EMAIL:
100253.30@compuserve.com
CONTACT NAME: Vaughan Hillier. CD Replication from CD's, DAT, Tape masters Insert colour printing CD screen printing.

Island Films
Post-production facility
Level 2, 22 Bridge Road,
GLEBE NSW 2037
PHONE: (02) 9660 4999
FAX: (02) 9660 4900
CONTACT NAME: Simon Dibbs

Island View Recording Studio
Digital MIDI Analogue Jingles
12A Split Solitary Road
COFFS HARBOUR NSW 2450
PHONE: (02) 6653 6848
FAX: (02) 6653 6848
CONTACT NAME: Rob Robertson Jingles production for TV and radio Song production demos automated mixing with full midi facilities.

Jingle Makers
Original Music for
Radio,TV,Film
37 Kennedy Street, LIVERPOOL NSW 2170
PHONE: (02) 9822 4035
FAX: (02) 9601 6159
CONTACT NAME: Dave Hallard. Original music created just for you. Fully digital studio, song writing assistance and album production available.

JMC Academy Pty Ltd
T/as Tracking Station Studios
Recording Studio
41 Holt Street, SURRY HILLS NSW 2010
PHONE: (02) 9281 8899
FAX: (02) 9212 4801
EMAIL: enquiries@jmc.net.au
CONTACT NAME: Jennifer Dean One 16 Track Analogue, One 16 Track Digital, One 24 Track Analogue Dolby SR.

JMC Pty Ltd
t/as JMC Sales,
Audio Sales.
Level 3, 25 Cooper Street,
SURRY HILLS NSW 2010
PHONE: (02) 9281 2444
FAX: (02) 9281 2400
CONTACT NAME: Mark Setchfield. CD and Cassette duplication, including art work. Quantity of 500+ for CD and 100+ cassettes.

JMF Recording Studio
Recording, Production,
Rehearsal
53 Meredith Street,
BANKSTOWN NSW 2200
PHONE: (02) 9790 4097
FAX: (02) 9793 9093
CONTACT NAME: Fran Esther. Mitsubishi 32 Track Digital. 24 Track ADAT, Grand Piano, Valve solid state effects, CD-R, Rehearsal.

John Roy's Recording Studios
Digital Studio and Mastering
PO Box 245 MANNERING PARK NSW 2259
PHONE: (02) 4359 1418
FAX: (02) 4359 2822
EMAIL:
jrstudio@ozemail.com.au
CONTACT NAME: John Roy Jingles, Commercials, Albums, Soundtracks and Video Post Production. Winner 1997 ENTECH Award-Outstanding Music Technologist.

Jules Sound
Recording Studio
PHONE: 0411 199 292
CONTACT NAME:
Julian Ellingworth.

Keystone Recording Studio
Recording Production
Demos to CD
68 Taylor Street
ARMIDALE NSW 2350
PHONE: (02) 6772 1838

CONTACT NAME: Alan Heeneey. 16 Track Recording. DAT Mastering. Cassette Dubbing. Can record bands, duos, Soloists, choirs, ensembles etc

LA Studios
Rehearsal Studios
6/442 Victoria Street,
WETHERILL PARK NSW 2164
PHONE: (02) 9756 4953
FAX: (02) 9756 4953
EMAIL: stewart@mpx.com.au
CONTACT NAME: Stewart Williams. Professional Rehearsal complex with 5 Airconditioned Studios (6m x 6m), Catering for all band needs.

Lee Street Studios
16 Track Digital Recording.
118 Falls Road,
WENTWORTH FALLS NSW 2782
PHONE: (02) 4757 3723
CONTACT NAME: John Summers. Classical and Acoustic specialists, ADAT and Hard disk. CD Mastering. Completely mobile for live recording.

Lucinda Street Recording
78RPM to Compact Disc
Conversion
PO Box 285 WOLLONGONG EAST NSW 2520
PHONE: (02) 4225 2272
FAX: (02) 4225 2272
CONTACT NAME: Rick Mostyn Digital Mobile Recording Studio and Mastering Suite.

Main St Studios
Recording Studio
40 Princess Hwy CORRIMAL, NSW 2518.
PHONE: (02) 4283 4515


FAX: (02) 4283 5668
CONTACT NAME: Robbie Specogna Fully Automated 16Track Analogue and Digital Studio, Excellent New Live Rooms. Call in and see.

Megaphon Acoustic Design Pty.Ltd.
Sound Studio Acoustic Design
PO Box 3040
MARRICKVILLE NSW 2204.
PHONE: (02) 9557 2008
FAX: (02) 9550 4320
EMAIL:
shanemad@one.net.au
CONTACT NAME: Shane Fahey. Acoustic Design and specifications, soundproofing, noise control, professional music studio and control room design.

Megaphon Sound Recording Studios
24 Trk Analogue or Digital Recordings
PO Box 3040
MARRICKVILLE NSW 2044.
PHONE: (02) 9550 6576
FAX: (02) 9550 4320
EMAIL:
shanemad@one.net.au
CONTACT NAME: Guy Dickerson. Large recording rooms, great for live set ups, ISDN, concert piano. Long list of credits

Mirage Studios
Mixdown and Recording
68-72 Wentworth Ave SURRY HILLS NSW 2010
PHONE: (02) 9211 3915
FAX: (02) 9211 3308
CONTACT NAME: Gerry Nixon Sydney's premier mixing facility. Neve console, Studer multitracks, Lexicon and TC effects, total recall automation.

Megaphon



studioTime Now
\$550
/day

24 trk Analogue and DA88 digital recording NO JOB TOO BIG

Telephone (02) 9550 6576

PROTALK

We polled Studio Owners about the song. Specifically, one which they felt is the all time BEST SOUNDING SONG, and why. We also asked about their favourite tune which they, themselves recorded. Compiled by Julius Grafton

Shane Hughes from Domenic Sound likes Bon Jovi's "You Give Love A Bad Name", because "it captured the true spirit and essence of Rock & Roll. An exciting performance and huge production which launched the band to "Superstardom". It also made such impact that many bands tried to emulate the style-right through the 80's & into the 90's, it kicks ass!

It was produced by the legendary Bruce Fairbairn & Bob Rock Combo, and Recorded at Little Mountain Studios in Canada".

Adam Calaitzis from Toyland: "My favourite is 'Rachel's Song' which is track 4 off the Blade Runner sound track by Vangelis. This song has the most beautiful ambience helped along by a rather large helping of Lexicon 224x reverb, which made me buy one.

The first time I heard it I was 60 Floors above the City looking out at the lights and the sound seemed so appropriate, it was produced by Vanjelis at his London Studio.

The best recording I've done was for one of my own songs, it was sung by Mia Stone and expertly mastered by Don Bantley at 301.

Jeff Cripps from A# Sharp: "Then He Kissed Me" by The Crystals, the producer was Phil Spector in 1963. It's a great song- A life story in three verses, and a bridge - you try and do it, it's not so easy!

The track has everything in it, including a 20 piece band, but the main thing is it sounds good- it does it's job. It's a passionate pop song- no one talks about songs any more, everyone talks about a new bass drum pre-amp or a mic extender. But me? I just like a good song!

Guy Dickerson from Megaphon echos what our informal office poll also finds: his favourite is from YES, 'Owner of a Lonely Heart'. It was produced by Trevor Horne. "It has incredible dynamics and friendly sounds and it still sounds fresh after all these years.

Ike Brunt from Darling Harbour Studios likes 'All Along The Watch-Tower' by Hendrix. "The reverb on the guitar is enormous, it's gigantic. The Producer was Eddie Kramer at Electric lady Land. My own recorded favourite? Skam with Mike Stavrou.

Andrew McCulloch from Doghouse Recording and Production votes for a home grown choice, NOISEWORKS, 'No Lies'. " It produces and displays the true sound of mAustralian rock sound. It's not too congested (as American styles can become), but has space, and yet still maintains strong rhythm and drive.

My own favourite? A local concert band recorded in large Studio. The piece was recorded, they were just playing for fun as they couldn't get it right in pre-

vious practices. However I hit the record and got it all, this time they made no mistakes and the conductor gave this great yell at the end, he threw his baton into the air and it hit the floor perfectly in time with the music!"

Also choosing home grown, **Jon Robertson** from Feral Studio likes 'Magic' by Matt Finish.

Reason? "Great use of dynamics, uncluttered but huge sound using simplistic approach with instruments. it was produced by Peter Dawkins at Giant Studios.

My own favourite track comes from an unsigned band "Exhibit A" from their Debut album Stepping Stone the track is called 'Jack comes Running' - it's not the best job I have done but the band and the song carry it".

Marshall Cullen from Damien Gerrard nominates anything on the Sgt Peppers album by the Beatles, recorded at Abbey Road Studios London 1967 and of course produced by George Martin.

"It's the absolute audio/engineering/production benchmark. It has great diversity of music, production techniques, sounds and sound fx. Everything from indian tablas to orchestral pieces to circus backgrounds to full on rock n roll and physchedelica.

It's got tape loops, phasing, board distortion, close compressed micing to distant ambient micing, weird edits that worked, out-there vocal fx, great

performaces captured in their freshness".

More classics, **Barrie Clissold** from Wombat Road Studio likes 'Rosanna' and 'Africa' by Toto, produced by the band at Sunset Sound. "Locally I think John Farnham's 'Whispering Jack' (produced by Ross Fraser at AAV) is quite a fine example of the art of production!

Our own favourites include tracks by Noelene Legge, who was nominated at Tamworth."

Rick Mostyn from Lucinda Street Recordings says he has changed favourites several times, as we all probably have! Just now, it's 'My Friends' by the Red Hot Chilli Peppers. "I love its top end, crisp enough to fry an egg! I also love the way it seamlessly changes from acoustic to electric guitar on the solo!

It was produced by Rick Rubin".

Norman James from Cest Ca says you can't go past anything by The Beatles. But also, check out 'Roxanne', 'Message in a bottle' and 'Walking on the moon' by Police. Also, 'Slave to the rhythm (Grace Jones) and 'Love is the drug (Roxy Music).

Dave Tozer from Crystal Clear Studios gives us an Aussie alternative, 'My Favourite Room' by The Lime Spiders - recorded at Paradise and mixed at EMI by David Price. "The track is just a

(please turn to page 19)



Paul Bryant

M A S T E R I N G

- audio mastering
- editing
- compilations

• phone: (02) 9748 0222. fax: (02) 9748 6152

21 YEARS OF PROFESSIONAL AUDIO ENGINEERING FROM AC DC TO ZAPPA.

DIRECTORY

Morrison Studios

Mastering,
PO Box 1404, CROWS NEST
NSW 2065
PHONE: (02) 9901 4414
FAX: (02) 9901 4486
EMAIL:
whippoorwill@no1.com.au
CONTACT NAME: John
Morrison. Producer John
Morrison provides 24 bit
mastering for Jazz and
Acoustic needs. Ring for
details.

Nightlight Music Group

Recording Studio
PO Box 166, Lvl 1, 56 The
Entrance Road, THE EN-
TRANCE NSW 2261
PHONE: (02) 4334 4155
FAX: (02) 4334 4151
CONTACT NAME: Peter
Beveridge

Noise Gate Studios

Recording and Rehearsal
Studios.
B6/2A Victoria Ave CASTLE
HILL NSW 2154
PHONE: (02) 9680 3919
FAX: (02) 9899 2279
CONTACT NAME: Ian
Pritchett. 4 Rehearsal Rooms.
Live to DAT or Multitrack
Recording.

North Sydney Sound Studios

Recording Studio, Film Mixing
Ground Floor, Suite 3, 29
Berry Street, NORTH SYD-
NEY NSW 2060
PHONE: (02) 9922 1000
FAX: (02) 9922 1609
CONTACT NAME: Sandra
Rowe, Maurie Wilmore, Leslie
Landsdown.

Nutown Studios

Sound Recording and Produc-
tion
1/18 King Street, NEWTOWN
NSW 2042
PHONE: (02) 9516 3306
FAX: (02) 9516 3306
EMAIL: nutown@yahoo.com
CONTACT NAME: Greg
Hopping. Highly motivated
recording, production,
engineering, programming
services. Experienced person-
nel. Digital/Analogue equip-
ment. Creative relaxed
atmosphere.

Oak Tree Studio

Audio Recording and
Production
18 Oak Tree Drive

ARMIDALE NSW 2350
PHONE: (02) 6772 6221
CONTACT NAME: Colin
Bale. 16 Track Digital Record-
ing plus Music master Soft-
ware.

Omnicom

Post-production facility
22-24 Albany Street, CROWS
NEST NSW 2065
PHONE: (02) 9439 6600
FAX: (02) 9438 4050
CONTACT NAME: Warren
Lynch

Outer Space Productions Pty Ltd

Post-production facility
205 Old Canterbury Road,
DULWICH HILL NSW 2203
PHONE: (02) 9560 1766
FAX: (02) 9560 1766
CONTACT NAME: Matthew
Tucker

Pacific Mirror Image

(Sydney)
2A Woodcock Place LANE
COVE NSW 2066
PHONE: (02) 9418 3044
FAX: (02) 9418 3175.
CONTACT: Graham Durkin.
CD and CD-R Manufacturer.

Paradise Studios

High Quality mixing and
recording
70 Judge Street,
WOOLLOOMOOLOO
2011 NSW
PHONE: (02) 9357 1599
FAX: (02) 9357 1841
CONTACT NAME: Jason
Lea. Valve/Solid State
custom mixer, Uptown
moving fader automation,
video sync. Huge range of
Vintage & class A outboard
gear, Neve, Jensen, Avalon
& Telefunken. Excellent
Mics & Variable Acoustics.
5 Separate Recording
Areas. Recorders: MC1 &
Studer A800 24-Trks, 2"
analogue. 1/2" MC1 &
Tascam 2trks. DAT 2 Trks
etc. Monitors: Tad/JBL
Grunberg main, Yamaha
NS-10s, AR-18s &
Aurotone. 20 years in
Business. Fully World
Class, Professional
facilities at affordable
rates.

Paul Bryant Mastering

CD Mastering Suite
PO Box 6339 SILVERWATER
NSW 2128
PHONE: (02) 9748 0222
FAX: (02) 9748 6152
CONTACT NAME: Paul
Bryant CD Mastering specialist
Since 1989 New Facility caters
for independent CDs and Small
label projects.

Phil Snow Sound Design

Post-production facility
Top Floor, 72 Queen Street,
WOOLLAHRA NSW 2025
PHONE: (02) 9362 4415
FAX: (02) 9362 1019
CONTACT NAME: Philip
Snow.

PhilmSound Pty Ltd

Post-production facility, Film
Mixing
PO Box 224 AVALON
BEACH NSW 2107
101 Eton Road, LINFIELD
NSW 2070
PHONE: (02) 9413 8737
FAX: (02) 9973 1955
CONTACT NAME: Phil Judd,
Nicki Roller

Powerhouse Studios

24 Track 2" Analogue CD
Recording.
26A Bowen Street, ALEXAN-
DRIA NSW 2015
PHONE: (02) 9318 1220
FAX: (02) 9318 1219
CONTACT NAME: Doug
Henderson 32 Input Neve
Console Studer Recorder 2
Large Balanced Live Rooms
Quality Mic's and Effects.

Q Recording

High Quality Audio Recording
Cnr Waive and Riley Streets,
SURREY HILLS NSW 2010
PHONE: (02) 9212 4851
FAX: (02) 9211 2627
CONTACT NAME: Richard
Muecke. State of the art
recording rooms run by audio
professionals for project
tracking and mixing.

Quantegy International Inc.

Main Service Office: Profes-
sional Recording Media
104/51 Rawson Street,
EPPING NSW 2121
PHONE: (02) 9869 0600
FAX: (02) 9868 5775
EMAIL:
peterhutt@quantegy.com.au.
Manufacturers of Ampex,
Quantegy Professional

Recording media, Digital and
Analogue audio and video
media products.

R & R Recording

Onhold Telephone Message
Experts
14B Newton Road,
BLACKTOWN NSW 2148
PHONE: (02) 9672 4494
FAX: (02) 9622 1294
CONTACT NAME: Robert
Zimola. Professional Studios
for Corporate Communications
and Country Music Specialist.
Analogue and Digital Record-
ing catered.

Rainbow Studio

Professional Recording Studio
19-25 Beeson Street,
LEICHHARDT NSW 2040
PHONE: (02) 9550 9313
FAX: (02) 9550 9313
CONTACT NAME: Mr. Kerry
Leigh. 2 inch mci 24 Track, 28
channel mci console. Master-
ing monitors Requested Profes-
sional Studio

Ramrod Studios

Recording Studios
84 Old Pittwater Road,
BROOKVALE NSW 2100
PHONE: (02) 9939 6651
FAX: (02) 9938 3829
CONTACT NAME: Herman
Kovac

Raw Demos Studios

Digital Recording and
Production
77 Dollys Flat Road
WINGHAM NSW 2429
PHONE: (02) 6557 0667
FAX: (02) 6557 0667
EMAIL:
rawdemos@midcoast.com.au
CONTACT NAME: Kev.
Marshalls on 11 or the swing
of Country. Session musicians
available. 8 or 16 track.

Really Really BIG Produc- tions

Recording, Post-prod facility,
Film Mixing
Suite 606, 64 Kippax Street,
SURREY HILLS NSW 2010
PHONE: (02) 9212 3476
FAX: (02) 9212 3472
CONTACT NAME: Sandra
Morrison, Philip Muscatello.

Ridgi Didge Sound

Post-production facility
Streamline Bulding, 13 Gibbes
Street, CHATSWOOD NSW
2067

**We Built It From Materials Like Carbon Fiber,
Neodymium and Kevlar To Maximize Its Performance.**

**We Engineered It To Be The Most Accurate Way
To Reproduce Sound In A Modern Studio Environment.**

Introducing The Breakthrough JBL LSR32 Studio Monitor.

Find Out Why There's No Other Speaker Like It In The World.



Distributed in Australia by:
JANDS Electronics Pty Ltd ACN 001 187 852
40 Kent Road Mascot NSW 2020
Phone: (C2) 9582 0909
Fax: (C2) 9582 0999
Internet: <http://www.jands.com.au>



H A Harman International Company
© 1997 JBL Professional

Write in Reader Service Number: 117

DIRECTORY

PHONE: (02) 9417 8232
FAX: (02) 9417 8343
CONTACT NAME: Martin Harrington.

Roam Around Sound
Mobile Recording Studios
1/5 Davidson Street
BALMAIN NSW 2041
PHONE: (02) 9810 8121
FAX: (02) 9810 8131
EMAIL: gusk@matra.com.au
CONTACT NAME: Angus Kingston. High quality cost effective recordings. Live location. All music types, theatre, film, Sydney and Country.

Rockinghorse Recording Co.
Neve/Sturder 24 Trk& Digital Suite.
PO Box 597 BYRON BAY NSW 2480
PHONE: (02) 6685 6500
FAX: (02) 6685 7400
EMAIL: rockinh@om.com.au
CONTACT NAME: Grant Hilton. On-site accommodation situated Byron Bay Hills, Coorabell. House Engineers: Zubin Henner and Michael Worthington.

Shire Media Studios
Recording and Video Studios
7 Stapleton Ave SUTHERLAND NSW 2232.
PHONE: (02) 9521 8435
FAX: (02) 9542 3212 Contact Name; Peter Courvaras Please call for a quote and more information.

Shoestring Sounds
Budget Audio Recording
Humpty Back Road
LISMORE, NSW 2480
PHONE: (02) 6628 5752
Contact: Paul Shaw Specialises in high - quality audio recording at a budget price ADAT-Analogue, 16-track with MIDI.

Silver & Ballard Pty Ltd

CD-R & Cassette Duplication
3/43 Herbert Street,
ARTARMON NSW 2064
PHONE: (02) 9439 5355
FAX: (02) 9436 2705
EMAIL:
dhagen@silverballard.com.au
CONTACT NAME: David Hagen & Mark Negus. We now have expanded our audio cassette and duplication facility to include CD-

R Replication for up to 500 CD-Rs run overnight. Print, Packaging, - the complete service can be handled in-house. Cassette duplication can be done on high quality ferric and chrome tape. Call or Email for a competitive quote. Use our freecall number 1-800 670 792 if Interstate.

Simply Sound

Post-production facility
PO Box 434, DEE WHY NSW 2099

101 Eton Road, LINDFIELD NSW 2070
PHONE: (02) 9413 8790
FAX: (02) 9981 2296
CONTACT NAME: Lynne Anderson, Les Fiddles.

Skylab Studio.

Live Band Recording 32&24 Tracks.
56 Cooper Lane, SURRY HILLS, NSW, 2010
PHONE: (02) 9310 4774
FAX: (02) 9310 5775
CONTACT NAME: David Russell. Release Quality Audio Guaranteed. Live Band Recording Specialists. Large Live Rooms and Highly Experienced Engineers.

Sony Music Entertainment (Aust) Ltd

CD Manufacturing
60 Huntingwood Drive
HUNTINGWOOD NSW 2148
PHONE: (02) 9839 0222
FAX: (02) 9839 0397
EMAIL: ops@sonymusic.com
CONTACT NAME: Gerard Andrew. The complete CD manufacturing Solution, Including Audio/CD-Rom Mastering, Replication, Graphic/Multimedia Design, Printing & Packaging.

Sony Music Studio

24Trk Recording,
CD Replication.
11 Hargrave Street, EAST SYDNEY NSW 2000
EMAIL:
ross_a'hearn@sonymusic.com
CONTACT NAME: Ross A'hearn. Multitrack recording, 24 track and protocols, CD pre-mastering and replication, AVID online video editing.

Sound Level Recording & Rehearsal Studios

Rehearsal and Recording Studios
Unit FSA Fig Street (off Wattle Street) ULTIMO NSW 2007
PHONE: (02) 9552 3200
FAX: (02) 9692 9552
EMAIL: johnd@eagles.com.au
CONTACT NAME: John Spane, John David. Five Rehearsal rooms, 16 Track digital recording, Yamaha drum sales, equipment hire, music retail, eftpos.

Soundfirm

Film Mixing Studio
101 Eton Road, LINDFIELD, NSW 2070
PHONE: (02) 9416 9533
FAX: (02) 9416 9560
Contact: Liz Wright

Sounds Unreal

Post-production facility
4 Marshall Ave, ST LEONARDS NSW 2065
PHONE: (02) 9436 1970
FAX: (02) 9436 4980
CONTACT NAME: David Perry.

Soundscape Studios

24Trk Digital Studio DAT Master.
60 Monash Parade, DEE WHY NSW 2099
PHONE: (02) 9984 7262
CONTACT NAME: Sally Corbett. Experienced creative engineer/producer. Beautiful 7'4" Yamaha Grand Piano. We produce music with taste.

Soundwarp CD Bureau

Mastering, Restoration, Editing
13/505 Pittwater Road
BROOKVALE NSW 2100.
PHONE: (02) 9905 7144
FAX: (02) 9939 1943
EMAIL:
sndwarp@enternet.com.au
CONTACT NAME: Bill Syrratt, Meredith Brooks
Mastering for CD, Cassette and Vinyl. Realistic rates- best quality. Restoration, Editing, Compilation, Transfers, Clones.

Southern Star Duplitek

CD, CD ROM, DVD, Video Replication.
122 Euston Road ALEXANDRIA NSW 2015.
PHONE: (02) 9519 2677
FAX: (02) 9517 2530
EMAIL: info@duplitek.com.au / www.southern-star.com.au
Offering full range of services

Authoring, Mastering Replication Packaging, assembly and distribution established twenty five years.

Spectrum Films Pty Ltd

Post-production facility, Film Mixing
141 Penshurst Street,
WILLOUGHBY NSW 2068
PHONE: (02) 9412 4055
FAX: (02) 9419 8807
CONTACT NAMES: Rose Dority, Rick Lilse, Wayne Pashley, Hans Pomeranz, Lee Smith, Peter Towend, Libby Villa.

Stage Door Productions.

Rehearsal Studios.
Unit 7/33 Maddox Street,
ALEXANDRIA NSW 2015.
PHONE: (02) 9656 1123
FAX: (02) 9565 1173
CONTACT NAME: Shaughan Pringle. Clean, spacious, professionally equipped studios. Competent courteous staff, Retail Sales, food, storage, hire services available.

Stellar Studios.

Post Production Sound Design.
52-60 Francis Street, GLEBE, NSW, 2037.
PHONE: (02) 9692 8877
FAX: (02) 9692 0249
EMAIL:
sound@stellargroup.com.
CONTACT NAME: Bradley Power. Sydney's Leading post production facility. Sound design for Radio and Television. Digital Editing and Mixing.

Summit Technology Australia Pty Ltd.

Unit 2, 904 Bourke Street,
WATERLOO NSW 2017
Phone: (02) 9318 2088
Fax: (02) 9319 0887 CD Manufacturer

Sun Studios

Recording Studio
8th Floor, 8-24 Kippax Street,
SURRY HILLS NSW 2010
PHONE: (02) 9212 3933
CONTACT NAME: Peter/Tessa Contini.

TDK (Australia) Pty Ltd

Blank Video Tapes, CDR, CDRW & DAT
22 Lambs Road Artarmon NSW 2064.
PHONE: (02) 9437 5100
FAX: (02) 9439 7151

DIRECTORY

EMAIL:
BCampb@ozemail.com.au
CONTACT NAME: Brett
Campbell. Worlds leading
supplier of blank audio and
video tapes. Also CDR, CDRW
and DAT Tapes.

Tiger Recording
Recording Studio
35 Mitchell Street,
McMAHONS POINT NSW
2060
PHONE: (02) 9922 4700
FAX: (02) 9922 3604
CONTACT NAME: Greg/
Jenny Devine.

Total Sound
Recording and CD Mastering
44 Chesterfield Road,
PENRITH NSW 2750
PHONE: (02) 4736 4097
FAX: (02) 4736 8128
EMAIL:
total_sound@man.com
CONTACT NAME: Geoff.
Experienced engineer pro-
ducer. Singles, Demo's,
arrangements, video clips and
CD Recording.

Trackdown Digital Pty Ltd.
Audio Recording
62 Church Street,
CAMPERDOWN NSW 2050.
PHONE: (02) 9550 6890
FAX: (02) 9519 1258
EMAIL:
tdmail@ozemail.com.au
CONTACT NAME: Simon
Leadley. Two to thirty-two
track recording fully digital,
fully automated music film/TV
multimedia not problem.

**Tracks Australia Sound
Production Pty Ltd**
Sound Post Production, TV &
Film
46 Albany Street, CROWS
NEST NSW 2065

PHONE: (02) 9906 2960
FAX: (02) 9906 4128
Film and TV sound editing and
mixing. Fairlight and Avid
audiovision. Surround Sound.
Digital Betacam.

Troy Horse Studios
PO Box 7, ALEXANDRIA
NSW 2015
Phone: (02) 9319 1799
Fax: (02) 9698 9494
Contact Kitty Blackman
Michael Levis, and Chris
McBurnie. CD Manufacturer,
realtime cassette duplication
artwork and printing and
mastering, also recording and
rehearsal studios. "Your one
Stop Rock Shop"

Try Studios
Highest quality demo Record-
ing
309 Forest Road, BEXLEY
NSW 2207
PHONE: (02) 9567 5155
FAX: (02) 9567 5155
EMAIL:
michael.kaine@mailexcite.com
CONTACT NAME: Michael
Kaine. Specialising in Demos
for solo artists and bands. Non
intimidatory environment.
Expert assistance in rate.

**Velvet Sound Recording
Studios**
Record Mix Edit Master CD-
Burns.
363 Pitt Street, SYDNEY
NSW 2000
PHONE: (02) 9283 5968
FAX: (02) 9264 3490
EMAIL: pcm@magna.com.au
CONTACT NAME: Dave
McCunn. 32 Channel 24 Track
2" Analogue and 32 channel
ProTools IV Digital. Profes-
sional Release Quality.

Vigil Soundworks
Post-production facility
Level 2, 22 Bridge Road,
GLEBE NSW 2037
PHONE: (02) 9660 8051
FAX: (02) 9692 9848
CONTACT NAME: Mark
Blackwell

Vision 21
Post-production facility
PO Box 31, Pearces Creek
Road, ALSTONVILLE NSW
2477
PHONE: (02) 6628 0987
FAX: (02) 6628 3908
CONTACT NAME: Jane
Munro, Richard Woolley.

Windwood Studios Ltd
Gospel Recording Service.
72 Queen Road, LAWSON
NSW 2783
PHONE: (02) 4759 1655
FAX: (02) 4759 2778
EMAIL:
winwood@datasonics.com.au
CONTACT NAME: Terry Cox
24 Track Digital Yamaha. 02R
Two live recording areas. Lots
of outboard gear and mics.

Wirra Willa Studios
Digital & Analogue Studios
PO Box 30 GLENFIELD NSW
2167
PHONE: (02) 9605 1203
FAX: (02) 9605 2177
EMAIL: tribal@zip.com.au
CONTACT NAME: Will Rout.
Recording and Mastering using
ProTools, tripleDAT, DM80,
MSR24, Cubase, Logic with
cassette and CD Duplication.

**Zen Rehearsals and Record-
ings Pty Ltd**
Cassette Duplication-Small
Runs
8/1-7 Unwins Bridge Road, ST
PETERS NSW 2044
PHONE: (02) 9550 3977

FAX: (02) 9516 2525
EMAIL: zenrec@geko.net.au.
CONTACT NAME: Alan
Scott. Real time cassette
duplication. Small runs of 1 to
200 a specialty.

NT

CAAMA Music
Aboriginal Music for the world
101 Todd Street, PO Box 2608,
ALICE SPRINGS NT 0871
PHONE: (08) 8952 9202
FAX: (08) 8952 9212
EMAIL:
caama1@ozemail.com.au
CONTACT NAME: Head of
Music. Richard Micallef.
Production, promotion and
distribution of traditional and
contemporary Aboriginal
music for the world arena.

Kakadu Studios
Recordings-Mobile 24 Track
Suite
PO Box 3400
DARWIN NT 0801
PHONE: (08) 8941 1344
FAX: (08) 8941 1448
EMAIL:
kakadu_studios@taunet.net.au
CONTACT NAME: Ken
Hutton. Kakadu Studios offers
a complete recording service
for commercial, field and
remote community needs.

**Masters Studio and
Production.**
Mobile & Studio Recording &
Producer
Unit 3 No.3 Minorelli Court
GRAY NT 0830
PHONE: (08) 8932 1754
FAX: (08) 8932 2068
CONTACT NAME: Lindsay
Masters Totally committed to
N.T. product for jingles, on
hold messages, original music.

Yamaha Music Studio
Music Sales and Teaching
Children
The Village Shopping Centre,
CASUARINA NT 0810
PHONE: (08) 8927 2759
FAX: (08) 8945 0418
CONTACT NAME: Glenda.
We cater mainly towards
educational supplies.

PROTALK

(continued from page 15)

big, fat, crisp guitar and drum driven track! I also like early Led Zeppelin recordings for the big room and real live sounding drums. Choir Boys 'Run to Paradise' is another standout local, produced by Peter Blyton".

Sofie Loizou from Nutwon Studio's nominates one we've never heard of.

It's 'On the Run' by YELLO, and it was produced by Boris Blank at Yello Studio. I'm all of the wall of sound approach to production and this track has to be one of the most expansive & well constructed pieces I have ever heard. It's sound is so vast while maintaining a clarity that allows individual instruments to shine through.

The all time fave sounding track I've recorded is: 'Born To Be Wild' by Navigator. Using a

similar approach in production Born To Be Wild manages to create the wall of sound with the added zest of Tina Harrod on Vocals .

Finally, **your editor** loves 'People Gotta Move' by Gino Vanelli (1974) and 'Come Said The Boy' by Mondo Rock!

Thanks to everyone who participated in Pro Talk - it was a lot of fun this month!

DIRECTORY

QLD

42 Pty Ltd.

(Trading as Oracle Records)
Compact Disc Duplication
PO Box 35 RED HILL
QLD 4059
PHONE: (07) 3856 2788
FAX: (07) 3856 2799
EMAIL:
oracle@powerup.com.au
CONTACT NAME: Andrew or
Kevin Quality CD Duplication
- Fast turnaround - cheapest
prices around - quality assured
by Australia's leading pressing
plants.

Audio Partners

Audio & CD Production
174 Wrecker Road,
MANSFIELD, QLD 3722
PHONE: (07) 3343 7444
FAX: (07) 3343 7900
EMAIL:
audpart@ozemail.com.au
CONTACT NAME: Graham
Jensen. Phone for free guide to
Compact Disc and Cassette
Duplication Digital Editing and
Remastering available.

Creative Vision & Audio

Post-production facility
PO Box 5956, GOLD COAST
MAIL CENTRE QLD 9726
95 Ashmore Road, BUNDALL
QLD 4217
PHONE: (07) 5526 9944
FAX: (07) 5526 9630
CONTACT NAME: Donna
Foster.

Domenic Sound Recording Studio

Digital 24 Trk-Music & Jingles
47 Northholm Crescent,
BUNDALL QLD 4217
PHONE: (07) 3216 5187
FAX: (07) 3265 5751
CONTACT NAME: Shane D.
Hughes. Singles, EP's,
Albums, Demos, Jingles,
Cover Art, Writing and
Production, 24 Trk ADAT \$50
per hour.

Gold Coast Recording Studios

Recording Studio
8 Kulan Court
MUDGEERABA QLD 4213
PHONE: (07) 5530 2778
FAX: (07) 5530 2778
CONTACT NAME: Vic
Kaspar

Global Television Pty Ltd

Post-production facility
73 Amelia Street, FORTI-
TUDE VALLEY QLD 4006
PHONE: (07) 3257 0440
FAX: (07) 3257 0441
CONTACT NAME: Grant
Hicks

Grevillea Recording Studios

Recording and Mastering
26 Wallace Street, ALBION
QLD 4010
PHONE: (07) 3262 8427
FAX: (07) 3862 1422
EMAIL:
info@grevillea.com.au
CONTACT NAME: Bruce
Jacobson. Professional Analog
and Digital Recording.
Compact Disc Mastering and
Cassette Duplicating.

Media Market

Jingle Production
2 Gibbons Road STAMFORD
QLD 4821
PHONE: (07) 3289 1744
FAX: (07) 3289 2010
CONTACT NAME: W.Mills
Media Market, one of the
major producer of client
Jingles for radio and television
in Australia.

OPM Studios

Recording Services
23 Deerhurst Road
BROOKFIELD QLD 4069
PHONE: (07) 3374 0066
FAX: (07) 3374 0066
EMAIL:
opmnet@ozemail.aom.au
CONTACT NAME: Daniel
Seymour 24 Track using Adats
Mackie Console. Large range
of quality microphones and
effect processors.

Palmer Entertainment

CD & Tape Manufacturing
Lot 16 Narrowleaf Road,
ADVANCETOWN QLD 4211
PHONE: (07) 5533 2481
FAX: (07) 5533 2481
EMAIL:
palmer@fan.net.au
CONTACT NAME:
Glen Palmer Retail ready
CD packages. Raw Disc,
Artwork, Film Separations,
Printing, Cases.
Fast turnaround- highest
quality.

Prodigious Audio

Music Recording and
Production.
2/24 Expo Court
SOUTHPORT QLD

4215
PHONE: (07) 5571 1400
FAX: (07) 5527 0733
EMAIL:
prodig@onthenet.com.au
CONTACT NAME: Richard
Hulston & Mark Munro. Film
and Video Post Sound Music to
Picture. Programming and
mixing of all music projects.

Scope Post Production

Post-production facility
3/134 Constance Street,
FORTITUDE VALLEY QLD
4006
PHONE: (07) 3257 0577
FAX: (07) 3216 0507
CONTACT NAME: Jane
Scragg

Soul Studio

Audio, Video, Multimedia,
Mastering
1 Fiesta Ave ISLE OF CAPRI
QLD 4217
PHONE: (07) 5592 2222
FAX: (07) 5592 2222
EMAIL:
soulstud@onthenet.com.au
CONTACT NAME: Daniel
Winter. Queensland's premier
digital recording facility
situated on the lovely Gold
Coast. Feature ProTools 24
recording/editing.

Sound Australia (QLD) Pty Ltd

Voice-over Recording Studios
Unit 16, Portman Place, Cnr
Boundary and Mein Streets,
SPRING HILL QLD 4004
PHONE: (07) 3831 8588
FAX: (07) 3839 3949
EMAIL: sound@mira.net
CONTACT NAME: Pete
Ferrier. Recording Studios for
production of Radio and
Television commercials and
programs, film and documen-

tary soundtracks.

Sound Barrier Audio

24trk Recording Location
Sound
29 Saw Street, MACHANS
BEACH QLD 4878.
PHONE: (070) 559 938
FAX: (070) 559 938
CONTACT NAME: Alan
Andrewartha Demos to CD,
Pre-Post production, time-code
locked vision, SFX creation,
Jingle Production, Field Sound
Recording.

Starsound Studios

Recording Studio
GPO Box 72, BRISBANE
QLD 4001
QTQ Channel 9, Sir Samuel
Griffith Drive, Mt COOT-THA
QLD 4000
PHONE: (07) 3214 9999
FAX: (07) 3368 3962
CONTACT NAME: Arthur
Gough

Suite 16 Audio Productions

Recording Studio
20 Mayneview Street MILTON
QLD 4064
PHONE: (07) 3369 8733
FAX: (07) 33969 8661
EMAIL:
suite16@thehub.com.au
CONTACT NAME: Murray
Lyons. 24trk Analogue, 8trk
Digital, Audio Visual Synchro-
nisation Lexicon grand Piano
programming Suite, ProTools
& more.

Sunshine Studios

Classic Neve 24 Trk
73 Amelia Street, FORTI-
TUDE VALLEY QLD 4006
PHONE: (07) 3844 6844
FAX: (07) 3245 7535
CONTACT NAME: Leon
Prescott. Classic Neve Console
with 1073 EQ, Pultec's valve



WE CAN DUPLICATE CD AUDIO, VIDEO AND ROM.

500 COPIES OF AN AUDIO CD WITH 2 COLOURS ON
THE DISC. FULL COLOUR 4 PAGE BOOKLET & INLAY.
JEWEL CASE & ASSEMBLY FOR UNDER \$1250.00
INCLUDING SALES TAX



PH (07) 38562788. FAX (07) 3856 2799 EMAIL oracle@powerup.com.au

Connections SHOP

SPECIAL

CONCERT LIGHTING NOW \$70



By James Moody. NEW 2nd Edition covers every aspect of rock & roll concert lighting equipment and techniques, including CAD, moving lights, hi-bred consoles, rigging safety and special effects. 279 pgs, 1998. WAS \$94

Sound & Music for Theatre

\$44



By Kaye & LeErecht. Traces the complete process of sound design from original concept through to the finished plan. Covers development, rehearsal, cues, recording and various techniques. 96 pgs, 1992.

OTHER TITLES:

EFFECTIVE AUDIO-VISUAL Robert Simpson \$65.00
LIGHTING AND SOUND Neil Fraser \$29.00

LIGHTING:

BASICS OF VIDEO LIGHTING Des Lyver/Graham Swainson \$25.00
BASIC STAGE LIGHTING Mark Carpenter \$17.00
ESTA ETHERNET GUIDE \$35.00
LIGHTING THE STAGE Francis Reid \$40.00
RECOMMENDED PRACTICE FOR DMX 512 Adam Bennette \$19.00
SET LIGHTING TECHNICIAN'S HANDBOOK Harry C. Box .. \$75.00
LIGHTING STENCILS (Set of 2) \$95.00

SOUND:

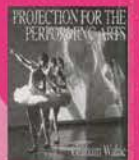
CONCERT SOUND Edited by David (Rudy) Trubitt \$48.00
ELECTRONIC PROJECTS FOR MUSICIANS Craig Anderton .. \$39.00
HJMS & BUZZES EXPLAINED Laurie Nethercote \$9.00
MAKING MUSIC WITH YOUR COMPUTER
Edited by David (Rudy) Trubitt \$39.00
MAKING THE ULTIMATE DEMO Edited by Michael Molenda \$49.00
MIX TEST CD \$70.00
MODULAR DIGITAL MULTITRACKS George Petersen \$49.00
MUSIC & TECHNOLOGY H.P. Newquist \$29.00
MUSIC BUSINESS Shane Simpson/Colin Seeger \$49.00
MUSIC PRODUCERS Edited by MIX Magazine \$39.00
SOUND FOR PICTURE Edited by MIX Magazine \$39.00
TECH TERMS George Petersen/Steve Oppenheimer \$19.00
THE AUDIO WORKSTATION HANDBOOK Francis Rumsey .. \$55.00
THE BEST OF CLANCY FRY \$12.00
YAMAHA SOUND REINFORCEMENT HANDBOOK
Gary Davis/Ralph Jones \$69.00

Live Sound Mixing

\$39



By Duncan Fry. NEW 3rd Edition addresses the basic principles of how a PA system works, and details on troubleshooting when it doesn't. Covers EQ, processing, mixing, sound-checks, effects, monitors, plus what each knob does, why and when to turn it. 176 pgs, 1997.



By Graham Waine. Gives a brief historical overview of early projection attempts, then looks at equipment and the planning and design of every kind of indoor and outdoor live performance. 139 pgs, 199E.

LEATHERMAN SUPERTOOL \$149



Strong, quality stainless steel and made in the USA.
• 22cm ruler • 3 screwdriver sizes • Electrical crimper
Needlenose pliers • Wire cutters • Clip-point knife
• Metal/wood file • Hard wire cutters • Can/bottle opener • Phillips screwdriver • Wire Stripper • Regular pliers • AWL/punch • Serrated knife • Wood saw • IS THERE ANYTHING THE SUPERTOOL CAN'T DO?

Concert Tour Production Management

\$39



By John Vasey. With the subtitle "How To Get Your Show On The Road", this book provides the basic information needed to manage the production of a touring concert: from start to finish in the most effective and efficient way possible. Discusses the different types of venues, who's who on the road, crew management, riders, contracts, and even electrical formulae! 135 pgs, 1998.

MIDI Systems & Control

\$55



By Francis Rumsey. 2nd Edition. Provides a comprehensive coverage of MIDI control principles and how it can be implemented in practical systems. Deals with MIDI in studio, musical and lighting equipment, mixer automation plus information on the latest additions to the MIDI spec. 202 pgs, 1994.

Professional LX Handbook

\$105



By Verne & Sylvia E. Carlson. Details technical foundations, equipment and methods of lighting for film and video producers. Packed with practical insights, tips and troubleshooting techniques useful on the set. 224 pgs, 1991.

Tom's Studio Videos \$59.50 each

OR BUY ANY 3 for \$168 (save \$10) BUY ALL 5 for \$269 (save \$28)



HOW can you make your recordings sound more like a record? How can you get your sound the way you want it? SHAPING YOUR SOUND, hosted by producer and engineer Tom Lubin, is a series of videos that bring pro-recording studio techniques to musos, engineers and home recordists. Each tape is packed with demonstrations, computer graphics and live musical examples. SHAPING YOUR SOUND is a complete course as well as an ongoing reference tool. All with our 7 day money back guarantee.

TITLES: Shaping Your Sound With Mixers & Mixing;
Shaping Your Sound With Multitrack Recording;
Shaping Your Sound With Microphones;
Shaping Your Sound With Reverb & Delay;
Shaping Your Sound With Equaliser, Compressors & Gates.

Practical Studio Techniques

\$40



By Tom Misner. For anyone interested in studio audio. Includes a bonus CD, a practical demonstration of a complete mixdown session including setting up effects, use of the compressor, gating of sound, various types of equalisation, selecting reverb settings & more. 102 pgs, 1994.

Modern Recording Techniques

\$65



By Huber & Runstein. Addresses the area of project studio recording, the new base of home music production, using multitrack, Hard Disk and MIDI technologies. Easy-to-understand descriptions of the toys, tools and day-to-day practices of music recording and production. 4th ed. 400 pgs, 1995.

STAGE:

STAGECRAFT Trevor R. Griffiths \$39.00
STAGE DESIGN & PROPERTIES Michael Holt \$29.00
STAGE MAKEUP Herman Buchman \$34.00
STAGE MANAGEMENT & THEATRE ADMINISTRATION
Pauline Meneau/Terry Hawkins \$29.00

T-SHIRTS:

Black cotton t-shirts all printed with Connections Logo on rear, from Bang & Print Works. All XL size, one size fits all.
Titles: I am NOT the DRUMMER
NOTHING YOU DO will get you BACKSTAGE. (BUT TRY ANYWAY!)
Equipment Relocation ENGINEER
Sensitive LIGHTING Person* *Oxymoron?
LONG SLEEVE \$19.00
SHORT SLEEVE \$14.00

CALL 1 - 800 - 635 - 514 TO ORDER
OR FAX +61 2 9876-5715

We take Dinners, Amex, Visa or Mastercard. Payment by cheque, postal order or international draft or TT in SAUD only.

Connections Publishing P/L (ACN 058443182) PO Box 439 Epping NSW 2121

• Freight: within Australia FLAT \$5 for any order

Covers overnight Australia Post delivery (to available postcodes). Overseas: cheapest available air mail charged to your credit card only.

• Subscriber discount: Take 10% OFF your order, then add on the \$5 shipping cost. IE: Order value \$100, (less \$10) = \$90 + \$5 shipping; send \$95. (Current subscribers only). You can SUBSCRIBE when you order (currently \$33.50 1 year, Australia) and then get the 10% discount on your order with the same call!

DIRECTORY

Mic's, Valve Preamplifiers,
Great sounding rooms.

T.A.P.

Digital Production Studio
Level 1, 10 Aerodrome Road
MAROOCHYDORE
QLD 4550
PHONE: (07) 5479 2277
FAX: (07) 5479 2166

EMAIL:

duncan@beachaccess.com.au
All Projects from corporate to
Album Video and Audio
Production

Taramalin Sound

Multitrack Recording CD
Printing.
31 Bellatrix Drive KENSING-
TON QLD 4114
PHONE: (07) 3208 9736
FAX: (07) 3208 9736
EMAIL:
taramalin@ozemail.com.au
CONTACT NAME: Alan
Lahey Relaxed environment.
Drum Booth. Main Studio and
Listening lounge. CD Printer.
DAT Mastering. Dynaudio
Monitors.

The Refinery Mastering

Unit 3, 21 Enogera Terrace
RED HILL QLD 4059
Phone: (07) 3367 3777
Fax: (07) 3367 3777
Email:
100242.1542@compuserve.com.
Contact David Neil, Wes
McGregor. Full mastering
services, audio restoration and
digital editing.

SA

Agro Fish Studios

Recording Studio
7-11 Moger Lane ADELAIDE
SA 5000
PHONE: (08) 8223 7211
FAX: (08) 8223 7665
EMAIL:
agrofiah@camtech.net.au
CONTACT NAME: Andrew
Bayfield or Julie Raynes 20Trk
video sync. HD recording
sequencing & tape sync. to
audio. Computer mixdown &
large performance area.

ATD Manufacturers and Distributors

265 Sturt Street ADELAIDE
SA 5000
Phone: (08) 8212 7111
Fax: (08) 8212 7228
Email: alatad@senet.com.au.

Contacts: Al Sankauskas.,
Algis Karazija, Sue Muller.
Digital sound suite caters for
pre-mastering soundscape hard
disk recorder/editor. One-off
CDs. CD runs 500, 1000, 5000,
10,000, Realtime Cassette
duplication, fast speed
duplication.

Disk-edits

Audio & Mastering Services
60 Orsmond Street
HINDMARSH SA 5007
PHONE: (08) 8340 1377
FAX: (08) 8346 3081
EMAIL: nclark@disc-
edits.com.au
CONTACT NAME: Neville
Clark. Specialising in Audio
Pre-Mastering for CD. Voice
recording, SFX Editing. Post
Production for film. Video. CD
Replication. Approved service
centre for Pacific Mirror
Image.

Globe Recording Studio

Digital Multitrack Studio.
2 Goss Road ABERFOYLE
PARK SA 5159
PHONE: (08) 8370 6211
FAX: (08) 8370 4277
EMAIL:
globe@pasteur.dialix.com.au
CONTACT NAME: David
Grice. Attractive hourly rates
with a wide variety of pack-
ages available including CD or
DAT Master.

Husky CD Services

CD Mastering/Replication &
Labels
48 Maluka Drive, HAPPY
VALLEY SA 5159
PHONE: 014 472 084
FAX: (08) 8322 5366
EMAIL:
info@huskycd.com.au
CONTACT NAME: Wayne/
Ursula
Custom Demo and Mass
Duplication of Audio CD-R.
One off 4 colour labels.
Remastering.

Kong Studios

24 Track 2" and 24 Track
Digital
37 Orsmond Street,
HINDMARSH SA 5007
PHONE: (08) 8346 5812
FAX: (08) 8346 3388 Stuart
McQueen Fully Automated
Console high quality micro-
phones, outboard, effects
include the TCM5000,
Mastering Service available

also.

Love Records

Audio Recording Filmclips
175-181 Waymouth Street,
ADELAIDE SA 5000
PHONE: (08) 8410 3044
FAX: (08) 8211 7738
EMAIL: http://
www.winterlink.net/~security/
JohnReynolds
CONTACT NAME: Nick Love
Love Records committed to
discovering hidden Australian
original talent and exposing
globally. Accepts unsolicited
material.

Serotone

Live & Studio
Audio Production
1 Everard Street, GLEN
OSMOND SA 5064
PHONE: (08) 8379 1563
FAX: (08) 8379 1563
EMAIL: veneitan@the.net.au
CONTACT NAME: Andrew
Wallace. Experienced in
variety of major Adelaide
studios and venues with rates
to suit any budget.

South Australian Film Corporation

Film Mixing Studios
3 Butler Drive, HENDON
COMMON, HENDON SA
5014
PHONE: (08) 8348 9300
FAX: (08) 8347 0385
CONTACT: Julia DeRoepner

"the fridge"

32 Trk Recording
Automated mixing.
37 Wright Street,
ADELAIDE SA 5000
PHONE: (08) 8231 3588
CONTACT NAME: Nigel
Sweeting. Digital and analogue
recording, specialising in
Acoustic, Ethnic and Folk
Music. Demo's/CD's/Sound-
tracks.

TAS

Doghouse Studio

12 Trk Ana/Digital Recording
17 Stevens Place, BURNIE
TAS 7320
PHONE: (03) 6433 3671
FAX: (03) 6433 3672
EMAIL:
amccullo@tassie.net.au
CONTACT NAME: Andrew
McCulloch. Advertisements to
Demo tapes & Albums. Master

to DAT, CD, Minidisc, Audio
cassettes, Studio or live.

Rattle 'N' Hum

Digital Multitrack Studio
40 George Street NORTH
HOBART TAS 7000
PHONE: (03) 6234 6687
FAX: (03) 6231 2578
EMAIL:
rattlenhum@southcom.com.au
CONTACT NAME: Eddie
Malovnek 16 Track Tascam
DA-88, Computer Editing, 24
Track Analogue, Practise
rooms available. CD Mastering
facilities. Demo rates.

Southern Cross Television

Post-production facility
Head Office: 36 Watchorn
Street, LAUNCESTON TAS
7250
PHONE: (03) 6344 0202
FAX: (03) 6343 0324
CONTACT NAME: Ren
Middleton.

Woodstock Recording

Recording Studio
Woodstock, 1629
Bishopsbourne Road,
LONGFORD TAS 7301
PHONE: (03) 6391 2277
FAX: (03) 6391 1900
CONTACT NAME:
Doug Kelly

VIC

Albatross Recording Studio

Live Music V/O
Audio for Video.
231 Christa Ave, EAST
BURWOOD VIC 3125
PHONE: (03) 9802 2068
FAX: (03) 9802 2068
CONTACT NAME: Stuart
Jackson. Quality Guaranteed.
Individual Attention. Digital
and Analogue. Catering for
Audio Post for Video, Small
Bands.

Allan Eaton Studio Pty Ltd

Recording, Film mixing
Studios
80-86 Inkerman Street, ST
KILDA VIC 3182
PHONE: (03) 9534 0752
FAX: (03) 9534 2317
CONTACT NAME: Robin
Gray, Leanne Morton

Apollo Sound Studios

Recording and Rehearsal
Studios
646-648 Sydney Road

DIRECTORY

COBURG VIC 3058
PHONE: (03) 9354 9058
FAX: (03) 9354 9058
CONTACT NAME: Ernie
Excellent 24-Track Recording
Facilities 3 Rehearsal Rooms.
Budget Rates. Ask about our
Package Deals.

**Back Beach Recording
Company**
24Trk 40Ch Desk Neve
Focusrite.
418 Sandu Road RYE VIC
3941
PHONE: (03) 5988 6948
FAX: (03) 5988 6948
CONTACT NAME: Mark
Rachelle Many Successful
releases including an ARIA
Award winner. Free accommo-
dation Great Gear and Awe-
some Value.

Bakehouse Studios
Rehearsal and Recording
Studios.
No.1 Bakehouse Lane,
FITZROY VIC 3065
PHONE: (03) 9482 5348
FAX: (03) 9482 6144
CONTACT NAME: Quincy
McClean 24 track ADAT Alan
Heaty Console, full automation
Live Location Recording,
Rehearsal rooms, Demo Rates.

**Baker Street Recordings Pty
Ltd**
Mutlitrack Recording/
Mastering
2A Florence Street,
BURWOOD VIC 3125
(03) 9888 8084
FAX: (03) 9888 7984
EMAIL: info@baker-
street.com.au
CONTACT NAME: Allan
Neuendorf/David Sanders.
Digital and Analogue
Multitracking, 2 isolation
rooms, Grand Piano, Hard-disk
editing, Excellent
Acoustics, Lounge facilities.

BASF - See EMTEC
Magnetics

Big Beat/Equinox Studios
Analogue-Digital-Midi-
Mastering
690 Whitehorse Road BOX
HILL VIC 3128
PHONE: (03) 9898 5815
FAX: (03) 9898 5815
EMAIL:
shadow@bigbeat_equinox.com.au
CONTACT NAME: John
"Shadow" Toth. Complete In-

house service from profes-
sional to Demo. Competitive
Rates with a friendly experi-
enced team.

**Broadcast Sound
(Studio) Pty Ltd**
Recording Studio
GPO Box 1100J,
MELBOURNE VIC 3001
First Floor, 87-93 Thistlewaite
Street, SOUTH MELBOURNE
VIC 3205
PHONE: (03) 9699 8288
FAX: (03) 9696 7275
CONTACT NAME: Claire
Thunder

**Bruce Adderly Sound
Studios Pty Ltd**
16&24 Track Albums Singles
Jingles.
PO Box 1294 SHEPPARTON
VIC 3630
PHONE: (03) 5827 1300
FAX: (03) 5827 1300
EMAIL:
bass@mail.sheppnews.com.au
CONTACT NAME: Bruce
Adderly Professional Record-
ing Studios, Creative Jingle
Composition, Conference
Sound, Theatre Sound Eeco
Post Production Facilities.

C'est Ca Recording
CD & Realtime Cassette
Manufact.
PO Box 319 FITZROY
VIC 3065
PHONE: (03) 9419 1506
FAX: (03) 9419 8770
CONTACT NAME: Norman
James McCourt Established 18
Years, Music VO's Mastering
digital analogue Hire Valve,
State of Art. Every Need.

CD Duplicating Centre P/L
CD Duplicating.
283-285 Glenhantly Road
ELSTERNWICK VIC 3185
PHONE: (03) 9532 8710
FAX: (03) 9532 8712
CONTACT NAME: Ganis
Stevens. CD Manufatring 1 to
1000's. Australias home of
multi image 3D Packaging.

CD Laboratories Pty Ltd
Audio Duplication-CD, CD-R,
ROM, Cassette
Unit 7, 14 Garden Blvd,
DINGLEY VIC 3172
PHONE: (03) 9558 1137
FAX: (03) 9558 1139
EMAIL: info@chapple.com.au
CONTACT NAME: Peter/
Yolande. 500+ CD Replica-

tions with packaging. CD-R
replications with disc printing.
Cassette duplication plus DTC
Printing.

Choice Sounds Pty Ltd
Post-production facility, Film
Mixing
PO Box 138, GARDENVALE
VIC 3186
112 Centre Road, EAST
BRIGHTON, VIC 3187
PHONE: (03) 9553 8884
FAX: (03) 9553 8884
CONTACT NAME: Greg
Cheeseman, Carol Rivera.

Chris Wilson Recordings
Recording of CD's and Demos
43 Manton Road, CLAYTON
VIC 3168
PHONE: (03) 9544 7026
FAX: (03) 9544 7026
CONTACT NAME: Chris
Wilson. Sixteen track digital
recording of any music
projects, produced for bands or
solo artists.

Cloudburst Studio

Digital Recording/
Production Studio
187 Kerr Street, FITZROY
VIC 3065
PHONE: (03) 9416 1038
FAX: (03) 9416 1866
EMAIL:
clburstz@alphalink.com.au
CONTACT NAME
Manager: Bruce Jacques,
House Engineer: Dale
Warren. 24 Track Digital
featuring Tascam DA88's
Pro-Tools/Logic Audio/
Cubase Audio and serious
MIDI Capability. CD
Album work for independ-
ent artists through to a
range of record companies
Australia wide. Experi-
enced voice over/digital
editing and audio enhance-
ment also. The fully
equipped project studio in
the centre of Melbourne.
We have a core group of
experienced Audio
Engineers and welcome
freelance inquiries a.so.

Complete Post Pty Ltd
Post-production facility
12 Thistlewaite Street, SOUTH
MELBOURNE VIC 3205
PHONE: (03) 9699 4633
FAX: (03) 9699 3226
CONTACT NAME: Chris/

Kerri Schwarze.

Corduroy Records
Vinyl Record Manufacturers
Factory 4/20 Advantage Road
HIGHTT VIC 3190
PHONE: (03) 9553 5063
FAX: (03) 9553 5063.
Australia's only vinyl record
manufacturer small or large
quantities. 7" or 12" Records.

Crawfords Australia
Post-production facility
259 Middleborough Road,
BOX HILL VIC 3128
PHONE: (03) 9895 2211
FAX: (03) 9890 5732
CONTACT NAME: Chris
Page

Crystal Mastering
CD Mastering/hard disc editing
140b Epsom Road, ASCOT
VALE VIC 3032
PHONE: (03) 9326 2318
FAX: (03) 9372 0992
CONTACT NAME: Joseph
Carra. 24 Bit Mastering, Sonic
Solutions, Apogee UV-22,
Time Alligned Monitoring,
over 10 years experience.

Dex Mastering
Professional Mastering
393 Macaulay Road KEN-
SINGTON VIC 3031
PHONE: (03) 9372 2266
FAX: (03) 9376 5118
CONTACT NAME: Adam
Dempsey. Melbourne's
premiere mastering service.
Two suites. All formats.
Analogue and Digital. Sonic
Solutions. Free Quotes!

Dex Audio

CD & Cassette Duplication
393-399 Macaulay Road,
KENSINGTON VIC 3031
PHONE: (03) 9372 2266
FAX: (03) 9376 5118
CONTACT NAME: Wes
Bell. Dex Audio was voted
Australia's "Best Duplica-
tion House" at the EnTech
Awards in 1997. Cassettes:
Dex Audio has been
supplying the highest
quality blank and dupli-
cated cassettes to clients,
large and small since 1980.
Compact Discs: Since
1986. Dex Audio offers a
complete in house CD
production service
including recording,
mastering with full Sonic
Solutions™, CD Manufac-

DIRECTORY

ture, full graphic design, printing and packaging.

Edensound Productions.

Audio Mastering, Post Production.
180 Bank Street, SOUTH MELBOURNE VIC 3205.
PHONE: (03) 9682 9066
FAX: (03) 9696 2895
EMAIL: Mart@c032.aone.net.au
CONTACT NAME: Martin.
Top quality audio mastering and post production in the re-opened Metropolis Studio one control room.

Empire Distribution

CD Manufacturing & Distribution.
23-25A Johnston Street, COLLINGWOOD VIC 3066
PHONE: (03) 9417 7707
FAX: (03) 9417 5294
EMAIL: kool@c031.aone.net.au
CONTACT NAME: Paul Higgins. CD Mastering, Manufacture, Artwork and Distribution, super competitive pricing. Free Delivery to all capital cities.

EMTEC Magnetics

BASF Studio & Duplication Range
Level 4, 700 Springvale Road MULGRAVE VIC 3170
PHONE: 1800 805 691
FAX: (03) 9562 2190
CONTACT NAME: Yuri Schwatschiko. Supply of: bulk Audio/Video Tape pancake; studio and broadcast audio/video products.

Fishtank Recording Studio

Main Studio Offered:
823 Cole Street BRIGHTON VIC 3186 Phone (03) 9596 5941
FAX: (03) 9530 6837
EMAIL: fishtank@mira.net
CONTACT NAME: Josh Abrahams. Full range of analogue and digital key-boards. Multitrack hard disk recording. Producer included in the price.

Flagstaff Studios

Recording Studio
PO Box 296 SOUTH MELBOURNE VIC 3205
PHONE: (03) 9251 1852
FAX: (03) 9690 3734

CONTACT NAME: Ceri Davies

Flesh & Spirit Studios

Digital Mixing Mastering
PO Box 1010, CARLTON VIC 3053
PHONE: (03) 9349 2824
FAX: (03) 9349 2824
EMAIL: lbucklan@eisa.net.au
CONTACT NAME: Lindsay Buckland
ProTools24, 32 Track Neve drawmer compressors, EQs, Lexicon reverbs, Neuman mics, music for film advertising jingles.

Fortissimo Recording Studios

24 Trk Analog Recording Studio
145 Dorcas Street, SOUTH MELBOURNE VIC 3206
PHONE: (03) 9699 5811
FAX: (03) 9696 4047
EMAIL: fortiss@webtime.com.au
CONTACT NAME: Andy or Siiri. 24 Track 2 " 40 Channel Automated Harrison console includes ProTools. Many effects mics etc.

Global Television Holdings

Post-production facility
PO Box 188, NUNAWADING VIC 3131
PHONE: (03) 9881 1000
FAX: (03) 9887 8963
CONTACT NAME: Paul Hardie.

Gotham Labs

Total Multimedia Product Service
Suite One, 663 Victoria Street ABBOTSFORD VIC 3067
PHONE: (03) 9428 0400
FAX: (03) 9428 4188
EMAIL: gotham@world.net
CONTACT NAME: Tom Kehoe. Complete production service at in house, cost effective facility. Film video, audio, interactive media production.

Icon Digital Post

Post-production facility
PO Box 74, PORT MELBOURNE VIC 3207
235 Normanby Road, SOUTH MELBOURNE VIC 3205
PHONE: (03) 9646 6755
FAX: (03) 9646 6845
CONTACT NAME: Tim Barnett

Jam Hut Rehearsal &

Recording Studios

Rehearsal and Recording
571 High Street, PRESTON VIC 3072
PHONE: (03) 9417 1023
CONTACT NAME: Mendo Kundevski. Jam Hut offers quality rehearsals recording and equipment hire at affordable rates with great service.

Jam Tin Rehearsal Studios

Rehearsal Studios
3 Barlow Ave CHELTENHAM VIC 3192
PHONE: (03) 9583 2341
CONTACT NAME: Aneta McCormack. 8 Rehearsal Rooms. Very helpful & Friendly Service. Good quality PA's. Very cheap rates.

Jets Studios

Rehearsal & Recording.
2/24 The Concord BUNDOORA VIC 3083
PHONE: (03) 9467 7152
FAX: (03) 9466 9192
CONTACT NAME: Mark Hobbs. Rehearsal rooms \$20. 16 track digital recording. Training opportunities available. Live gig opportunities.

Kinesound

Recording Studio
10 Moubay Street, ALBERT PARK VIC 3206
PHONE: (03) 9696 5754
FAX: (03) 9699 6761
CONTACT NAME: Yuri Worontschak.

LabSonics

Recording, Post-production facility
72 Tope Street, SOUTH MELBOURNE VIC 3205
PHONE: (03) 9690 4199
FAX: (03) 9696 3135
CONTACT NAME: Ian McWilliams.

Lone Arranger

Music Composition & Production
6 Camden Road HAWTHORN VIC 3122
PHONE: (03) 9818 6920
FAX: (03) 9819 3420
EMAIL: kcmoove@ausom.net.au
CONTACT NAME: Keith Moore Original Music Composition Recording and Sound Design for film, television and multi-media.

Metropolis Audio

Film Mixing Studio
PO Box 296, 180 Bank Street, SOUTH MELBOURNE VIC 3205
PHONE: (03) 9696 2111
FAX: (03) 9696 2895
CONTACT: Ern Rose

Move Records

Recording Studio
PO Box 266, CARLTON SOUTH VIC 3084
10 Glen Drive, EAGLEMONT VIC 3084
PHONE: (03) 9497 3105
FAX: (03) 9497 4426
CONTACT NAME: Martin Wright

Music & Effects

Film Mixing Studio
1 Yarra Street, SOUTH YARRA VIC 3141
PHONE: (03) 9827 3348
FAX: (03) 9827 1109
CONTACT NAME: Victor De Koster, Doron Kipen

Music Homestead Studios (Recording Studio)

Recording of Music
c/o Mortlake PO VIC 3272
PHONE: (03) 5599 2894
CONTACT NAME: Ray Anderson. 24 Track analogue, large selection of out board gear and microphones and GML Neve Preamps.

Newmarket Studios.

87-91 Arden Street, NORTH MELBOURNE VIC 3051
PHONE: (03) 9329 2877
FAX: (03) 9326 5282
CONTACT NAME: Ben Hurt. 24 and 16 Track Studios valve microphones. Vintage outboard equipment, Automated Consoles, Experienced Musical Engineers.

Pacific Mirror Image.

9 DeHavilland Road BRAESIDE VIC 3195
Phone: (03) 9587 2633
Fax: (03) 9587 2901
CD and CD-R Manufacturer.

Pan Studios

Recording & Rehearsal Studios
17 Rutland Street, NEWTOWN VIC 3220
PHONE: (03) 5222 5099
FAX: (03) 5222 5099
CONTACT NAME: Sally Laver. 16 Track/24 channel DAT facilities NS10 & JBL Monitors, Rode Classic

DIRECTORY

Microphone, Mobile Recordings Available.

Periscope Studio

Recording Studio
195 Hawthorn Road,
CAULFIELD VIC 3162
PHONE: (03) 9523 7400
FAX: (03) 9523 7400
CONTACT NAME: Jane
Whiffeld Analogue 32 Track
Recording facility Beautiful
Private Art Deco Ambiance.
Very Competitive Rates.

Petrophonic Productions

Recording Studio/Midi Suite
CHELTENHAM VIC 3192
PHONE: (03) 9553 0176
FAX: (03) 9553 0176
EMAIL:
emmaline.marketing@bigpond.com
CONTACT NAME: Petros
Georgiades Digital Recording
Studio-Midi Suite- complete
song writing sequencing
production-full CD Recording
and Production.

Planet X Studios

Film & Video Post Production.
Suite 1, 450 Chapel Street,
SOUTH YARRA VIC 3141
PHONE: (03) 9826 3744
FAX: (03) 9826 3755
EMAIL:
dodgers@planetx.com.au
CONTACT NAME: Ross
Egerton. Music Videos,
animation, post production,
special effects, print production
facilities, full film and video
services.

Power Music Studios

Recordings Rehearsals PA Hire
2/55 Malvern Street
BAYSWATER VIC 3153
PHONE: (03) 9720 4581
FAX: (03) 9720 4581
CONTACT NAME: Darren.
Professional rehearsals,
Recordings, PA Hire, In a
friendly relaxed environment.

RB-X (Australia) Pty Ltd

Recording Studio
356 Swan Street, RICHMOND
VIC 3121
PHONE: (03) 9429 6199
FAX: (03) 9427 9107
CONTACT NAME: Steve
Morgan

Regency Recording

CD and Cassette
Replicators
1/11 Urban Street,
BRAESIDE VIC 3195

PHONE: (03) 9587 1956
FAX: (03) 9587 2384
CONTACT NAME: Tim
Armstrong. Regency
Recording's is the only
wholly owned Australian
Manufacturer and
replicator of CD's and
Audio cassette in the
country. We do everything
under one roof, including
mastering, printing and
assembly. We can also do
any design work you may
require. (So) work with the
only independent that the
independents like to work
with in Australia.

Rowland Productions

Recording Studio-Audio Post
333 Clarendon Street, SOUTH
MELBOURNE VIC 3205
PHONE: (03) 9699 8399
FAX: (03) 9696 1480
EMAIL:
rowland@rowlands.com.au
CONTACT NAME: John
Rowland Full Sound Produc-
tion, Sweetening, Three
Studios, Fairlight, Dolby
surround, ISDN, Good Service,
Nice People.

Saffron Audio

24 Track Digital Studio Hire
HALLAM VIC 3803
PHONE: (03) 9702 3366
CONTACT NAME: Hubie
Savanah. Digital editing and
Mastering CD Manufacturing,
Engineering and Producing
jingles and composing
services, excellent rates.

Sing Sing

Pro Recording, Mixing and
Mastering.
1-9 Gordon Street
RICHMOND VIC 3121
PHONE: (03) 9428 4622
FAX: (03) 9428 6204
EMAIL:
singsing@ozemail.com.au
CONTACT NAME: Phil or
Kaj. 48 Track Neve recording
and SSL mixing with new
professional mastering suite.
Lots of room!!

Song Zu Melbourne

Film Mixing Studio
Basement, 180 Bank Street,
SOUTH MELBOURNE VIC
3205
PHONE: (03) 9686 6662

FAX: (03) 9686 6665
CONTACT NAME: Liz
Haussegger

Soundfirm

Film Mixing Studio
PO Box 585, 35 Crockford
Street, PORT MELBOURNE
VIC 3207
PHONE: (03) 9645 4522
FAX: (03) 9646 8422
CONTACT NAME: Roger
Savage

Soundwaves (Aust) Pty Ltd

Film Mixing Studio
165 Bank Street, SOUTH
MELBOURNE VIC 3205
PHONE: (03) 9690 8022
FAX: (03) 9690 8033
CONTACT: Heather/Peter
Walker

Soundworks Australia

Recording, Post-prod facility,
Film Mixing
157 Eastern Road, SOUTH
MELBOURNE VIC 3205
PHONE: (03) 9690 4222
FAX: (03) 9690 0744
CONTACT NAMES: Jeremy
Shaw, Neil McGrath

Spring Studio

Editing and Recording Facility
PO Box 2237 ST KILDA
WEST VIC 3182
PHONE: (03) 9529 7779
FAX: (03) 9529 7789
EMAIL:
evolving@ozemail.com.au
CONTACT NAME: Harry
Williamson. Cheapest and most
expert hard disk editing in
Melbourne. Fully equipped
digital studio.

St Andrews Recording Studios

Recording Studios
C/- 20 Cavendish Drive
HEATHERTON VIC 3202
PHONE: (03) 9558 2139
FAX: (03) 9558 2916
EMAIL: bubblex@msn.com
CONTACT NAME: Mark
McCormack 24 and 16 track
studios, big rooms, great
sounds, very friendly and
helpful service.

Studio 44.1 Pty Ltd.

Recording & Rehearsal
Facilities.
9/189 Cheltenham Road
KEYSBOROUGH VIC 3173.
PHONE: (03) 9701 5737
Mobile: 0419 441 441
EMAIL:

studio44.1@bigpond.com
CONTACT NAME: Mark
Fenner. 16 Track Digital &
Midi, Rehearsals, Sales, Hire,
Backing tracks, Storage,
Entertainment and Refresh-
ments.

Studio 52

Complete CD Packages.
23-25A Johnston Street,
COLLINGWOOD VIC 3066
PHONE: (03) 9417 7707
FAX: (03) 9417 5294
EMAIL:
kool@co31.aone.net.au
CONTACT NAME: Paul
Higgins. 24+32 Track Record-
ing Studios. Graphic Art and
Multimedia Production. CD
Manufacturing and Distribu-
tion. Competitive Pricing.

Studio International

Digital Recording & Mastering
166 York Street, SOUTH
MELBOURNE VIC 3205
PHONE: (03) 9696 7066
FAX: (03) 9696 1577
EMAIL:
jdbond@ozemail.com.au.
CONTACT NAME: Jason
Bond 48 Track ProTools Suite
Post Production Mastering
Specialist Voiceovers
DanceMix Specialists with lots
of toys.

Technical Revolution of Sound Pty Ltd.

Hard-disk Recording &
Mastering.
8/20 Docker Street RICH-
MOND VIC 3121.
PHONE: (03) 9429 3569
FAX: (03) 9429 3569 Contact
Name; Don Steele. Complete
digital studio for mastering,
production, post-production,
jingles, editing, web
soundnotes, artwork, multime-
dia.

The Edit Shop

Post-production facility
24 Armstrong Street, MIDDLE
PARK VIC 3206
PHONE: (03) 9699 1777
FAX: (03) 9696 4420
CONTACT NAME: Paul
Drane, Frank Nicolaci, Max
Shayler.

The Music & Motion Studio

Digital Post Production.
14 Jedan Court ROWEVILLE
VIC 3178
PHONE: (03) 9755 5711
FAX: (03) 9755 5722

Music & Effects

New kid on the block challenges majors

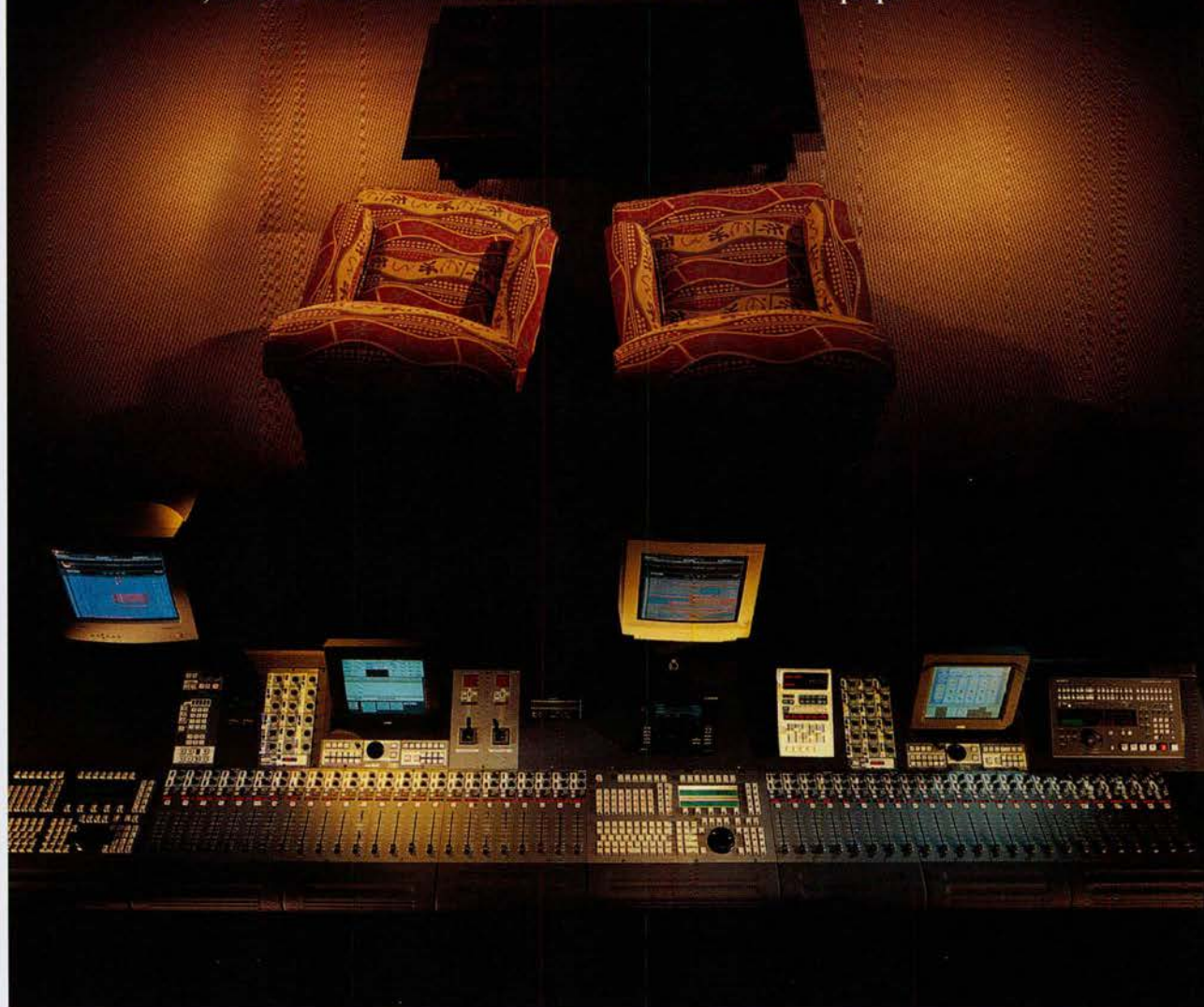
by Julius Grafton

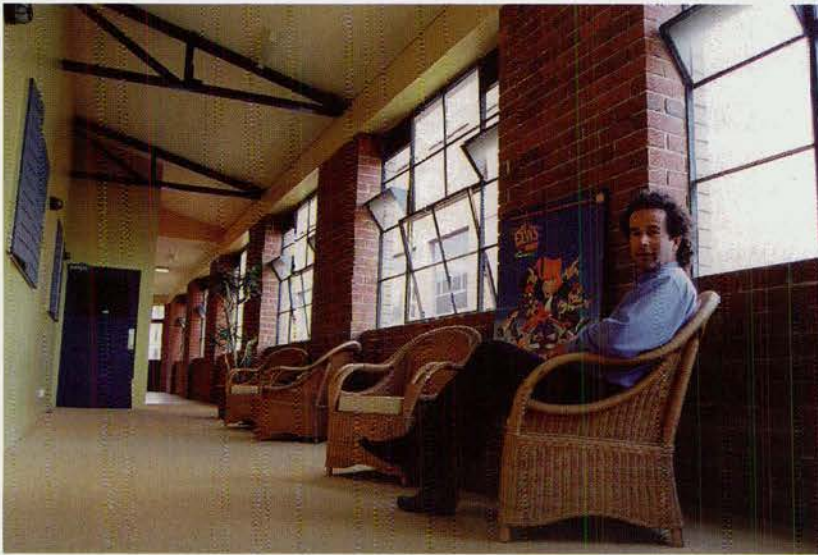
Australia is home to more audio post studios than the local film industry needs, yet audio post is a fast growing and lucrative industry. Why is this?

Looking at the pecking order, the largest and most famous post house is Soundfirm, located in both Melbourne and Sydney. They post an increasing number of international productions, which is where the Australian industry looks for growth. With other major facilities including Atlab and the South Australian Film Commission, new players face stiff competition.

There are then over a dozen smaller players who work every kind of project imaginable, TV, film, TVC and audio visual - on anything from ProTools to DA-88's. They all aspire to do surround format mixing on major release movies. But they lack The Theatre.

Music and Effects in Melbourne have recently moved up into major league by adding a purpose designed theatre mixing space. Founder Doron Kipen told Connections that the theatre is a good representation of what is available in Australia. "It measures 14.5 metres by 10.5 metres, and if we took the console out of the middle it would seat 250 people".





General manager Victor de Koster left, and Doron Kipen at the FAME, below.
(picture by Louise Laurie)

Comfort and space were high on the list when the theatre design was envisaged. Doron had problems with the original architect, who failed to grasp the essentials of the project - which is a reasonably unique space. It was the usual complaint one hears about our friends in the building design trade when confronted by anything different: "He had no reality about the money available" says Doron.

The acoustical consultants were Carr Marshall Day, who achieved what was required - "They had a really good sense on how to achieve the best acoustical result and were very creative". That's how it should be, too.

With a room fast taking shape, bricks and mortar all in place, the technicals were coming together. When the Theatre opened, it had what was then and still is today, the largest Fairlight FAME system in the world. Why Fairlight?

"Primarily we wanted a digital system, and one that would have a long life expectancy because of the rate of change of technology", said Doron. "Then the issue was that a lot of the really primo mixers are older, often in their 50's or even 60's. They are used to working on analogue mixing consoles, and I didn't want something that was confronting. It had to be relatively simple and accessible".

The FAME system allowed a bonus, it could be configured as a two operator system which Music and Effects have done, for 72 inputs. The biggest asset is that all audio remains in the digital realm. Doron explains: "With the alternatives, which were at the time all analogue mixing consoles, the audio would go into and out of Tascam DA-88 (MDM's) via those analogue to digital converters. By the nature of film, by the time you finished you may have gone through four or five generations of converters. There IS an audio limitation!" The only time audio leaves the digital domain at Music and Effects is when it is run through Dolby mastering systems.

While Soundfirm, ATLAB and SAFC all use Harrison consoles, (ATLAB have just ordered a Harrison Series 12). Doron feels his facility is better thanks to the FAME.

His customers agree too. "Mixing at Music and Effects was a joy", said David Parker from Cascade Films. Parker recently completed 'AMY', a feature film. "The room is brilliant", he enthused, "it's the first fully digital studio we've worked in, and it worked wonderfully! The atmosphere is conducive to creating a really first class soundtrack and that's what we've got. The personal service, the focus on



handy to shopping and eating - Music and Effects also have undercover reserved car parking.

Typically the work handled by Music and Effects is feature films and documentaries, according to general manager Victor de Koster. But they have just completed a 26 episode animated series, called 'Lil' Elvis and the Truck Stoppers'. "We effectively operated as their sound department, we recorded every bit of audio here - the atmospherics, music - every bit of noise. The project has run on and off for three years".

Aside from The Theatre, Music and Effects have other recording, edit and mixing facilities, with two other studios offering Fairlight MFX systems.

Back when Doron started his studio in 1982 the business was a little different. He had worked for Roger Savage (Soundfirm), in 1978 when they were both at AAV. He attributes as one the greats. "There aren't many individuals who can rise to his level". It's rare to hear a competitor praise another!

Music and Effects are on the way, the Theatre was completed 18 months ago and had an intentionally soft start, but in recent months has been fully booked. Most of the work through the facility ends up sold on the international market, as Australia is a major producer of film and television content. Music and Effects aspire to do international work too, reasoning that others in Australia attract work from LA to Asia on the basis it is more cost effective in Australia. So they can too! Recently Victor has had some negotiations with prospective clients in Asia, but the current economic uncertainties there probably preclude much business coming to Music and Effects - for now.

HOW TO DO IT

PRACTICAL STUDIO TECHNIQUES - THE HUMAN EAR

Tom Misner takes you through Recording and Mixdown. *Part 2*

PSYCHOACOUSTICS

Of great interest to the audio engineer is not only how the ear works, but what forces shape the sound we hear and change it along the way. As we know, frequency is a physical force which the ear translates into nerve impulses.

So why don't we all perceive the same sound in the same way? To begin with, consider the outer ear and the auditory canal. Both of these hearing components defy mathematical definition due to their total irregularity. The auditory canal changes the frequency components of the music signal enough to give each person a partially different perception of the same sound.

Temporal Fusion Effect

This is also known as the Haas effect. When we hear sound in an enclosed space, the first sound we hear is the direct sound, which travels directly from the sound source to our ears. We then hear later arriving sounds which are reflections from the walls, floor and ceiling.

The ear has the ability to combine a set of similar sounds and hear them as though they were a single entity, provided each sound arrives within 30 ms of the previous sound. Sounds arriving later than 30 ms are often interpreted as coming from discrete sound sources, although this is also dependent of the type of sound.

Temporal fusion merges all the later arriving sounds together with the first sound, creating a louder and fuller sound. It is this effect that keeps the direct sound, early reflections and reverb together as one pleasing sound.

Precedence Effect

We know that in an enclosed space, we hear the direct sound followed by reflections off the room's surfaces. Although each of these sounds comes from a different direction, we can usually tell where the sound source is located due to the precedence effect.

When the time between the direct sound and those that follow it is sufficiently short (e.g. within 40 ms), the hearing centre in our brain uses the first sound as its reference to locate the direction of the sound source.

Major points about the precedence effect:

1. Directional information is transmitted to us via the first sound, which we use to localise the sound source.
2. The time interval for the precedence effect is dependent on the type of sounds. For transient percussive sounds, the upper time limit may be as short as 5 ms. For long duration sounds such as speech or music, the upper limit may be as long as 40 ms.
3. The precedence effect exists even when the later arriving sounds are louder than the first sound, provided they are no more than 12 dB louder.

Perception of Direction

Our ability to determine the direction of sound is due to the fact that we have two ears, which respond to the same sound source but from two different positions. Because of this, there will be slight amplitude and timing differences between the sounds received by each ear, and therefore between the signals each one sends to the brain. By comparing these differences the hearing centre in our brain can determine the direction of the sound. This can be referred to as "Intelligent Hearing", and is usually supported by optical information. For example: when a number of conversations are occurring simultaneously in the same room, the ear can (within its physical limitations) focus on one conversation and suppress the others. Our directional hearing ability is based upon two main factors:

1. Amplitude differences, known as Interaural Amplitude Differences.

2. Time differences, known as Interaural Time Differences.

Remember, though, that our directional hearing mechanisms work on the direct sound, and especially on its transient aspects. We can localise the sound source using the direct sound only, even though it is followed within milliseconds by multiple reflections from different directions, and by reverberation echoes so closely spaced in time and so scattered in space as to be completely unlocalisable.

In summary, the directional ability of human hearing is a complex process of selection; low frequencies reach the far ear by bending around the head; there will be a higher high frequency component at the ear closer to the sound source; high frequency sound is located more by intensity, low frequency sound by phase; music is located by a combination of intensity, time, and timbre differences.

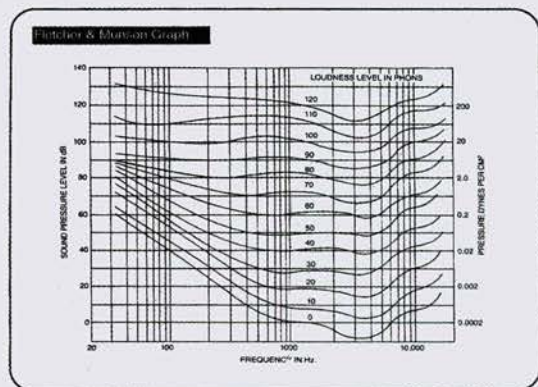
EQUAL LOUDNESS CONTOURS

The ear's sensitivity is dependent on the frequency and amplitude of the sound it hears. Many years ago researchers Fletcher and Munson developed a set of graphs which illustrated the ear's changing sensitivity. The graphs were developed by playing a series of tones to a listener, and adjusting the volume of each individual tone to match it with the volume of the other tones. These graphs became known as Equal Loudness Contours, and show how loud each individual tone must be in order to be heard at the same volume of the other tones. For example, a 40 Hz tone must measure approximately 77 dB (SPL) to sound as loud as a 400 Hz tone at 50 dB (SPL).

The unit of loudness is called the 'phon'. Phons are equal to dB (SPL) at 1 kHz and at other frequencies are related to the equal loudness contour curves. Eg. 40 phons at 1 kHz require 40 dB (SPL), while 40 phons at 10 kHz requires 52 dB (SPL).

Fletcher and Munson established that the ear is most sensitive to frequencies between 1 kHz and 4 kHz. For a sound to be perceived equally as loud at frequencies outside the 1 kHz to 4 kHz band, it must be several dB higher in level than frequencies within the 1 kHz to 4 kHz band. They also established that the Equal Loudness Contour became more pronounced at lower volumes - as the volume decreases, the ear becomes less and less sensitive to high and low frequencies relative to mid frequencies. For this reason, Equal Loudness Contours contain graphs at many different volumes.

The 'loudness' switch on home stereo amplifiers is designed to compensate for the ear's decreasing high and low frequency sensitivity at lower volumes - it boost the level of the high and low frequencies, relative to the mid frequencies.



This is extracted from the top selling book: PRACTICAL STUDIO TECHNIQUES, by Tom Misner. ©Tom Misner 1988. ISBN0 646 16704 9 Retail: \$40.00. Available from book stores and music shops everywhere, also through the Connections Shop, call 1-800-635-514. Tom Misner is the owner of SAE International.

DIRECTORY

EMAIL: mms@wire.net.au
CONTACT NAME: Sakis
Digital Audio Post Production
at it's best. Sound Restoration,
CD Pre-mastering, one off
CD's.

The Ranch

CD & Cassette Duplication
ranch
Kangaroo Ground VIC
PHONE: (03) 9712 0136
FAX: (03) 9712 0105
EMAIL: Stay Tuned
CONTACT NAME: Tex Mex.
24 Track and Mastering
facility. Digital, Valve state of
the art. Plus pool, horses and
Accommodation.

The Sound Vault

Recording Studio
230 Roden Street, WEST
MELBOURNE, VIC 3003
PHONE: (03) 9326 9795
FAX: (03) 9326 9686
CONTACT NAME: Adam
Johnston

Toyland Recording Studio

Recording Studio
37 Cunningham Street,
NORTHCOTE VIC 3070
PHONE: (03) 9482 2111
Mobile: 0412 060 664
EMAIL:
adamcal@ozemail.com.au
CONTACT NAME: Adam
Calaitzis. Toyland has 24
track analogue recording
and logic audio for digital
recording and editing.
Automated mixing and
digital mastering to DAT,
CD or minidisc. Classic
outboard like Neve prism.
Lexicon 224X, Urei 1178,
1176 LA-4 and Micro-
phones like U87A1 C414.
KM84 etc. Digital sam-
plers, keyboards and
analog keyboards are
included. We have a large
comfortable control room
and we do music CDs,
Demos and Voice overs.
For details call Adam.

True Form Music Services

Recording Rehearsal Hire
Sales
10/59 Hudson Road,
SPOTSWOOD VIC 3015
PHONE: (03) 9391 0907
FAX: (03) 9391 0907

CONTACT NAME: Neil Gray
Professional 24trk Recording
Classic English Console, Five
large Rehearsal rooms
Established ten years. Personal
Service.

Wombat Rd. Recording Studio

32 Track Digital and CD
Mastering
RMB 6696 BOISDALE VIC
3860
PHONE: (03) 5145 4204
FAX: (03) 5145 4204
CONTACT NAME: Barrie
Clissold. In house cassette
duplication and custom CD
manufacture specialising in
band demo and commercial
releases.

Xtek Studios

Recording and Rehearsal
Studios
47 Johnston Street PORT
MELBOURNE VIC 3207
PHONE: (03) 9646 8833
FAX: (03) 9645 3748
EMAIL: xtek@tpgi.com.au
CONTACT NAME: Nic
Moore. Ampex 2" 24 Track,
MCI Console, cubase audio,
one off CDs, two large
Rehearsal rooms, great vibe.

WA

Bonsai Recording Studio

Analogue&Digital Recording/
CD-Demo
2 Timor Street, DUNCRAIG
WA 6023
PHONE: (08) 9246 4408
FAX: (08) 9246 4406
CONTACT NAME: Tom
Thorpe Analogue Multitrack
good Live Room mix automa-
tion, CD Burner, Excellent
Midi Suite for Jingle work.

Greg Keamy Productions Pty Ltd

Recording Studio
137 The Boulevard, FLOREAT
PARK WA 6014
PHONE: (08) 9387 7566
FAX: (08) 9387 5726
CONTACT NAME: Greg
Keamy

Masterdisc Disc Duplication

Unit 3/71 Dover Road,
SCARBOROUGH WA 6019
PHONE: (08) 9245 4391
EMAIL:
mastdisc@networx.net.au

CONTACT NAME: Nick
Hassall. Anything from one off
Cd's and Mastering to Produc-
tion runs. Competitive Rates
Guaranteed.

Paramount Media.

Sound Recording.
23 Franklin Road,
WANNEROO WA 6065.
PHONE: (08) 9405 3788
FAX: (08) 9306 2177
CONTACT NAME: Andy
Priest. 32 Track Sound Studio,
Digital Editing Tape Duplica-
tion.

Pet Rock Recording Studios

Analogue and Digital Record-
ings
4/8 James Street,
BAYSWATER WA 6053
PHONE: (08) 9370 4590
FAX: (08) 9370 4990
EMAIL:
petrock@wantree.com.au
CONTACT NAME: Toni
Italiano
Any audio recordings-digital
editing-CD Burning-Produc-
ing-Live to DAT and
multitrack.

Poon Head

Recording Production:
Mastering
238 Canning Hwy EAST
FREEMANTLE WA 6154
PHONE: (08) 9339 4791
FAX: (08) 9339 4791
CONTACT NAME: Sam. 2
inch analogue, adats, hard disk
48x16 console, automation,
valve, and classic outboard,
microphone, instruments,
amplifiers.

Pro-Copy

Suite 3, 10-12 Dewar Street,
MORELEY WA 6062
Phone: (08) 9375 3902
Fax: (08) 9375 3903 Email:
Procop@msn.com.
Contact: Mark Whitehouse or
Jo Wilkie. High quality audio
cassette duplication, artwork
preparation, on-cassette
printing, CD packages and
Sonic Solutions mastering and
CD-R Replication. State
distributor for BASF.

SAE Technology College

Audio - Multimedia Education.
9th Floor, 231 Adelaide
Terrace, PERTH WA 6000
PHONE: (08) 9325 4533
FAX: (08) 9221 4401

EMAIL:
saeperth@networx.net.
Contact: Dean Pearson. SAE
holds full and part time courses
which are Govt. and Interna-
tionally recognised.

Sound Images

Post-production facilities
PO Box 25, TUART HILL WA
6060
PHONE: (08) 9381 7788
FAX: (08) 9388 1854
CONTACT NAME: Melissa
Roosendaal, Renato Fiore

Studio: Music Centre

Rehearsal Studios
9/87 Hector Street (west)
OSBORNE PARK WA 6017
PHONE: (08) 9446 2033
FAX: (08) 9244 7706
CONTACT NAME: Rowan
Goss Established 1978, now
right rooms equipment hire
drinks etc.

Troppo Sound

PA Hire Recording/Rehearsal
Room
66 Hunter Street, BROOME
WA 6725
PHONE: (08) 9192 2394
FAX: (08) 9193 569/0
CONTACT NAME: Mick
Connolly Festival Production
mobile Stage PA Lights
backline personnel inclusive,
recording studio 24 Track
Dolby's CD+DAT Mastering.

Witzend

Recording Studio
21 Chamberlain Street
O'CONNOR WA 6163
PHONE: (08) 9331 1818
FAX: (08) 9331 1818
CONTACT NAME: Alan
Dawson. 16 Track, Tascam
MSRIGS Recorder. Tascam
3700 automated console,
instruments available, SMPTE
MIDI equipped.

Not
Listed?

Is your facility
a SECRET?

See back page



BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT	ARTIST	PRODUCER	ENGINEER	PROJECT
--------	----------	----------	---------	--------	----------	----------	---------

New South Wales

301 Mastering Jacqui Espie (02) 9211 7301. CD Mastering Facility

Cruel Sea Daniel Denholm Don Bartley Single

Lee Kernaghan Garth Porter Steve Smart New Album

Paradise Motel Victor VanVught Oscar Gaona New Album

Primary Nick Launay Steve Smart Single

Chris Abrahams/Melanie Oxley Jeremy Allom Don Bartley New Album

Rani Tony Espie Don Bartley Single

Sharp Recording Studio Jeff Cripps (02) 9153 9988. 24 Track 1"

Slide McBride Jeff Cripps Jeff Cripps CD

Jose Cruz Jeff Cripps Jeff Cripps Latin CD

Mamma Green Jeff Cripps Jeff Cripps CD

Peter DaCosta Jeff Cripps Jeff Cripps Jazz CD

Albatross Sound Peter Pagac (02) 9310 7448 24 Trk Digital with Visio lock

Wednesday Kennedy Peter Pagac Peter Pagac Album

Veren Grigonov Peter Pagac Peter Pagac Film Soundtrack

Veren Grigonov Peter Pagac Peter Pagac Short Film Recordings

Charing Cross Studio David Sykes (02) 9387 8362. Classic Neve Console-Vintage Outboard-Automation

Church Tim Powels Tim Powels/Chris Campbell Album Mixing

Nic Dalton Nic Dalton/Peter Jones Peter Jones Mixing

Webster Wayne Connelly Wayne Connelly EP-Track & Mix

Fur Paul Mc Kercher Paul Mc Kercher Single Mixing

Leonardo's Bride Ben Moor/Band Ben Moor Tracking

Bean Martin White Martin White Album Track & Mix

Crystal Clear Studios Dave Tozer (02) 9684 1152 or 015 106 776 24 Trk (ADATS) Amek Big 3ch Console

Radical Youth Services Dave/Band Dave Tozer EP

Sandlebutt Dave/Band Dave Tozer EP

Thami Dave/Band Dave Tozer Demos

Mine Dave/Band Dave Tozer Demos

Jar Dave/Band Dave Tozer EP

I.O.U. Dave/Band Dave Tozer Demos

Darling Harbour Studios Ike (02) 9211 1474. 32 ch. SW Desk, 24 trk MCI 2". Tracking Mainly.

Up Band Sucka Fish Demo's

Black Light Andrew Sucka Fish Semo's

Eye to Eye Band Adam Mulquin Demo's

Cactus Child Band Sucka Fish Demo's

Dave Wilkins Dave Sucka Fish Demo

Northern Composure Ike Sucka Fish/Adam Mulquin CD Compilation

Feral Studios Jon Robertson (02) 6299 3224 Multi Track & CD Mastering

Exhibit A Jon Robertson Jon Robertson Album

Healers Jon Robertson Jon Robertson Demo's

JD Brothers Jon Robertson Jon Robertson Demo's

The Rue Jon Robertson Jon Robertson Demo's

The Fen Jon Robertson Jon Robertson Demo's

Kandi Doz it Jon Robertson Jon Robertson Album Tracking

Igloo Recording Studios David Carter (02) 4962 1855 16 Trks Analogue, 8 Trk H.Disk Midi Equipped

Mother Popcorn Dave Cater/Bo Corbett Dave Carter Album

Newcastle Entertainment Centre Dave Carter TV/Radio Bed & Jingles

Guy DeVille Bob Corbett Bob Corbett Demos

Mischling Band Craig Foster Demos

JMF Recording Studio Fran Esther (02) 9790 4097. Mitsubishi Digital, 24Trk ADAT

Mahogany Alan McCrin Guy Saminaden CD Single

Shareth Productions Warren Barnett Guy Saminaden Tracking

Bombshell Band Ralph Esther Demo

Schooner Band Mike Ward Demo

Atomic Sween Band Ralph Esther Demo

Lucinda St. Recording Rick Mostyn (02) 4229 1169.

Semar Pegulingan Rick Mostyn Rick Mostyn CD

Ancient Music of Bali Rick Mostyn Rick Mostyn CD

Gamelan Music from Java Rick Mostyn Rick Mostyn CD

Flute & Gamelan - West Java Rick Mostyn Rick Mostyn CD

Megaphon Guy Dickerson (02) 9550 6576 24 Trk Zinch and DA88's

Stevie Wishart Chris Abrahams/Shane Fahey Shane Fahey Album

Alien Christ Band/Guy Guy Dickerson 2SER Live Show

Egg Band/Guy 2SER Live Show

Relish Band/Guy 2SER Live Show

The Umbrellas Artist Guy Dickerson Album Rec.

Chad Wackerman Artist Guy Dickerson Album

Notown Studios Greg Hopping (02) 9516 3306 Multiple Samplers, Synths & Effects, 16trk ana, Cubase

V3.02 Mac 32:16:2 Tac blue series, Console.

Navigator Hoppin/Agrillo Hopping/Loizou Album

Daydream Band Hopping Single

Pascal Copping/Shave Justin Shave Album

Improzac Pickering Hopping/Loizou Album

Telemaniacs Pickering/Hopping Hopping Album

Paul Bryant Mastering Paul Bryant (02) 9748 0222. Mastering Suite

Cool Calm Collective Jeff Cripps Paul Bryant CD Master

Rubysting Dan Pritchard Paul Bryant CD Master

Ragged Band Carl Myriad Paul Bryant CD Master

Silvia Entcheva Trio Lew Kiek Paul Bryant CD Master

Short & Horny Rob Specogna Paul Bryant CD Master

Jeannie Kelso Robert Goode Paul Bryant CD Master

R & R Recording Robert Zimola (02) 9672 4494 16Trk, 1"

The 'Q' Sticks Rob Zimola Demos

Simply Tina & Friends J.Vanderberg Rob Zimola Compilation

Jargon Rob Zimola Demo's

Peter Adam & Co. Rob Zimola Corporate

Burston, Roberts & Cole Rob Zimola Corporate

Sound Level John Soane (02) 9552 3200 16Trk Digital

Helen Carter Stephen Phillips Jason Blackwell Album

Sliver Justin Fox John Soane Demo

Gina Jeffreys Jordan Brebach Demo

Julian Ardas Jordan Brebach Demo

Dave Stein Dave Stein Dave Stein Demo

Soundwarp-CD Bureau Meredith Brooks (02) 9905 7144 Mastering

Various-"North Core" Greg Jones Meredith Brooks Compilation Album

Millenium Band Meredith Brooks Album

Kelp Band Meredith Brooks EP

Lovecraft Brendan Meredith Brooks EP

Midnight Oil Jon Moginie Meredith Brooks Album Tracks

"X" Mat Dickson Meredith Brooks Album

Studios 301 Fiona Simpson (02) 9211 7301

Lee Kernaghan Garth Porter David Hemming Album Mixes

Rani Kmahl Artist/Tony Espie Tony Espie Album Mixes

Fini Scad Rick Will/Mark Opitz Rick Will Album Mixes

Primary Nick Launay Nick Launay Single Mix

Velvet Sound Recording Studios Dave McCunn (02) 9264 3420. 32Ch Automated, 24Trk 2" + 32 Ch

ProTools IV

Fur Paul Mc Kercher Paul Mc Kercher Singles

Holly Go Lightly Craig/Darren Fenton Craig Portells EP

Alcotomic D.P. David Price EP

The Lab Band Tony Wall/Paul Chisel Re-Mix

The Infidels Band Adrian Grigorieff Single

Dopamine Tony/Band Tony Wall Tracking

Queensland

Domenic Sound Shane Hughes (07) 3216 5187 Digital 24 Trk - ADAT

'Zack' Shane Hughes/Band Shane Hughes EP

Jenny Balmer Shane Hughes Shane Hughes Album

Pat O'Shea Shane Hughes Shane Hughes Album

Shane Hughes Shane Hughes Shane Hughes Album

Prime TV-Canberra Shane Hughes Shane Hughes Jingle Production

Radio 4LM Mt Isa Old Shane Hughes Shane Hughes Jingle Production

Greenville Recording Studio Malcolm Jacobson (07) 3262 8422 Analog & Digital Recording & Mastering

Tales of the South Seas Garry McDonald/Laurie Stone Bruce Jacobson TV Underscore

Billy Ebeling Mike Wilde Malcolm Jacobson CD Mastering

Satori Band Phil Ross CD EP

Neville Jones Artist Malcolm Jacobson CD Mastering

Brown Sugar Band Malcolm Jacobson Demos

OPM Studios Daniel (07) 3374 0066

Thanks Beatrice Daniel/Pat Flynn Daniel Demo's

PS War Sux Daniel Daniel Album

Rare Daniel Daniel Album

Water Tower Band Daniel Single

Alchemy Craig Tompson Daniel Album

Rim Band Daniel Demo's

Vandersound Studios Eric Vandersande (07) 5546 8100. All Digital & Valve, HDR, ADAT/XT, O2R, CDR

Ian Francis Eric Vandersande Eric Vandersande Album Tracking

Crush Eric and Band Eric Vandersande Edit, Mix and Master

Crumpet Eric Eric Vandersande EP Tracking

Gypsy Eric & Lenny Eric Vandersande Album Tracking

Defiled Eric Eric Vandersande EP Tracking

Synergy Eric Eric Vandersande EP Tracking

South Australia

Agro Fish Studios Julie Raynes (08) 8223 7211. 20 Tk. Video Sync, HD Recording, Sequencing

Humphrey Bear Wilson Main Andrew Bayfield TV Show

Creative Forrest Prod'ns Mike Forrest Andrew Bayfield Jingle

Omeगतrends Rob Pippin Andrew Bayfield Anthem

Hitmen Audio Productions Tim Jones Andrew Bayfield Jingle

ATD Master Suite Al Sankauskas (08) 8212 7111 Mastering Facility

LFG Richard/Al Al CD Album

Rusty the Superdog Simon/Al Al CD Single

Stilson Toby Al CD Album

Lucien by Fieldt Artist/Al Al CD Album

Hydrphonic Jesse/Al Al CD Compilation

Spiral Dance Richard/Al Al CD Album

Globe Recording Studio Dave Grice 0414 884 410 Digital Multitrack Studio

Blackwood Church of Christ Mark Drilling David Grice Album

The Strangers Band David Grice Album

Various Andrew Cooper David Grice Album

The Fab Four Band David Grice Single

City Dub City Dub David Grice Documentary Soundtrack

Jason Kennedy Artist David Grice Album

Mixmasters Productions Mick Wordley (08) 8278 8506. 24Trk Analogue 2"

Liconice Gate Mick Wordley Mick Wordley Album

Lazaro's Dog S.Fieldhouse S.Fieldhouse EP

Borderers J.Patterson C.Dickie/Mick Wordley Live Album Mix

Waifs C.Dickie/Band C.Dickie Album

Ronnie Taheny Mick Wordley Mick Wordley Album Tracks

Allen Mick Wordley Mick Wordley EP

SA Recording Rino Cufone (08) 8281 9900 24 Trk ADAT 02R Mixing Console

Damir Damir/Louis Panayloton Louis Panayloton Album

Push Button Sun Band/Ross Candidio Ross Candidio Single

Cruel Game Band/Brendon Whiting Brendon Whiting Album

Lethal Dose Band/Brendon Whiting Grant Sullivan/Brendon Whiting Album

Diana AhNaid Buzz Grant Sullivan/Brendon Whiting Audio for Video

Monophonic Monophonic/Martin Croffty Grant Sullivan/Martin Croffty EP

"The Fridge" Nigel Sweeting (08) 8231 3588. 16Trk Non-linear Digital; 16Trk 2" Analogue & Auto Mix

Tim Gibuma Tim/Julian Nigel Demo

Amada Band Nigel Demo

Indulgence Nigel Nigel CD Pre-production

Nigel Davidson Nigel Nigel CD

Dya Singh Nigel/Dya Nigel CD Tracking



BASF YOUR MUSIC IS SAFE WITH US



BASF National Tracking Guide

ARTIST	PRODUCER	ENGINEER	PROJECT	ARTIST	PRODUCER	ENGINEER	PROJECT
--------	----------	----------	---------	--------	----------	----------	---------

Victoria

Big Beat/Equinox John "Shadow" Toth Fax (03) 9898 5815. 16 Trk. Analog, 8 Digital, Midi/Mastering

Streetmix 'Shadow' Toth Ben Williams, David Borgeest Mixes

C.O.D. Band/'Shadow' Williams Demo

Serenade Band Dave Borgeest Demo

DJ Kut Artist Dave Borgeest Demo

East 88 FM David Bartnik Borgeest/Williams Radio Spots

Jeans West Denis Campbell Dave Borgeest In House Promo

C'est Ca A/V Norman McCourt (03) 9419 1506. Automated Digital 24 Tracks

Bushfire Press Kevin O'Mara Gena Coath Kids Albu

Free Reign Tony Leonard Norman McCout CD

Misguided Angles Scott Lacey Norman McCout CD/EP

Passi Joe Passi Joe Norman McCout CD

Shane Benning Shane Benning Genn Coath CD

Cloudburst Studio Bruce Jacques (03) 9416 1038 24 Trk Digital, DA88/ProTools

Sally Boyden Gumpy/S. Boyden Dale Warren Album

Robert Slaney Jeremy Allsop Dale Warren Album

Leona Cuisala Dale Warren Album

Curicus Yellow Bruce Jacques Demo's

Jocuum Schubert Dale Warren Album

Crystal Mastering John Ruberto (03) 9326 2318. CD Mastering/Sonic Solutions

Cordrazine Band/N.Derricks John Ruberto Album Mastering

The Angels John Ruberto Single Mastering

Swerve Driver Band John Ruberto EP Mastering

Snout John Ruberto EP Mastering

John Saffran Artist John Ruberto Single Mastering

RED Zebebel Band/T.Jewel John Ruberto Album Mastering

Dex Mastering Adam Dempsey (03) 9372 2266. 2 Suites, All Formats, Est. 19 years.

Elysium Records Leighton Anderson Adam Dempsey NZ Compilation

Fiona Anderson Artsit Ben Hurt Album

Tamara Volskaya John Rabbitt/Tamara Adam Dempsey Album

The Detonators Ray Tully/Paul Bignell Adam Dempsey Album

Loungecraft Alistair Craig Adam Dempsey 7 Track Album

Caama Music Adam Dempsey Album

Edensound Mastering Martin (03) 9682 9066 CD Mastering

The Black Sorrows Joe Camilleri Martin Pullan Album Master

James Reyne Mick Letho Robbie Adams Single Mastering

Blackfire Paul Hester Martin Pullan Album Master

Goanna Shane Howard/Nick Letho Martin Pullan Single Master

The Onya's Band Robbie Adams Album Master

Wonder from a Quarter Acre Martin Pullan Album Master

Flesh & Spirit Studios Lindsay Buckland (03) 9349 2824 32 Trk ProTools, 24 bit

Lindsay Buckland Artist Brett Taylor Album

Fortissimo Andy/Siiri (03) 9699 5811 24 Track Automated

The Hooligans Frank Cleary Album

The Jaynes Paul McCurtcher Paul McCurtcher Single Mixes

The Dissappointments Kiernan Box Andy Parsons Album Mixes

JoJo Leslie Artist Andy Parsons Demos

Pheasant Pluckers Matt Campbell Siiri Metsar Album

Large No. 12s Andy Parsons Tracks for EP

Newmarket Studios Ben Hurt (03) 9329 2877 24Trk, 2 " Analogue

Ralph Carapa Ben Hurt Hip-Hop Demo Mix

Louisiana Shakers RBD Rob Dillon New Orleans Jazz Album

Aaron Tenenbaum Quartet Ben Hurt Jazz Album

Ian Gawler Ban & Ian Voice & Harp Album

Luxum Kit Ben Hurt Album Rehearsals

Pan Studios Sally Laver (03) 5222 5099 16 Trk 1/2"/24 Channel

Green Room Band/Sally Laver Sally Laver CD

Grizzley Bros Band/Sally Laver Sally Laver CD

Irish Murphy's Session Ade Kelly/Sally Laver Sally Laver CD

Milk Sally Laver Sally Laver CD

Mongolian Fish Mongers Ada Burke/Sally Laver Sally Laver/Adam Burke CD

Tiffany Echardt Tiffany Echardt Mark D CD

Petrophonic Productions Petros Georgiades (03) 9553 0176. 16 Trk. Digital Recording/Midi Suite

Mark Joseph Petros Petros CD

Glen Craven Petros Backing CD

Greg Carrick Petros Voice Overs

Mandy & Jeff Ferdinez Petros Petros CD

Wayne Berry Artist Petros Seminar Tapes

Fling Petros Petros CD

SAE Technology College Bruce McDonald (03) 9534 4403. 24 Trk Analogue + Pro Tools

Karl Wesols Ben Hollar Andrew Broadhead CD EP

Hinge Bruce & Band Bruce McDonald CD EP

Sing Sing Kaj/Phil (03) 9428 4622 48 Analogue, 48 Digital Neve/SSC

Paradise Motel Victor VanVought VVV Album

TISM McGoo/Band McGoo Album

Paul Kelly Mark Opitz Mark Opitz/Stuart Day Album

Cat Power Matt Voigt Album

Cordrazine Nigel Nigel Album

Monique Brumy Adam Rhodes

Sound Around Trevor Cronin (03) 9531 3891 Mobile Recording Studio

Died Pretty Band Trevor Cronin Live Recording

Chris Wilson Espy Trevor Cronin Live Album

Things of Stone and Wood Espy Dorian West Live Album

"M" Project Dorian West Trevor Cronin Demo

Studio 52 Paul Higgins (03) 9417 7707. Studio A: 32 Trk, B: 24 Trk ADAT

Snug Band Rowan Jarl Demo

Swai Band Rowan Jarl Demo

Braybrook S.C. Band Rowan Jarl Demo

Miray Trevor Carter Trevor Carter CD Mastering

Still Trevor Carter Trevor Carter CD Mastering

Carols by Candlelight Trevor Carter Paul Higgins/T. Carter Live at Myer Music Bowl

The Ranch Tex Mex (03) 9712 0136 Country Retreat (everything)

Various N.James Various Australian Music Broad Anthology

Cobbers Band N.James Anthology

Footscray/Yarraville City Band Neil McPherson N.James Trilogy CDs

Toyland Adam Calaitzis (03) 9482 2111 24 Trk Analogue/Logic Audio

Dern Rutledge Doug Saunders Adam Calaitzis Demo

XLR Darren Glen Adam Calaitzis Vocal Recording

Image Link Adam Calaitzis Voice-over

Peter Meeham Adam Calaitzis Adam Calaitzis CD

Val Calacerinos Adam Calaitzis Adam Calaitzis Demo

True Form Music Services Neil Gray (03) 9391 0907. 24 Trk Digital, 12 Trk. Analogue

Just Add Water Glenn Lewis/Band Glenn Lewis Pre-Production

Framing Watson Peter Farman Peter Farman Single

Stoney Creek Backwash Band Neil Gray EP

Big Charlie Band Brett King Mix Demos

Thimblege Band/Ross Ross O'Driscoll EP

Snarl Band Neil Gray Demo

Wombat Rd Recording Studio Barrie Clissold (03) 5145 4204. 32 Trk. Digital, 16 Trk. Analogue

Noelene Legge C.Dedic Barrie Clissold Mixing (Demo Tracks)

B.C.M.C. Gary Bantock Barrie Clissold Album Tracking

Gary Berryman Artist Barrie Clissold Demo Tracks

Father Loui N.Carrington Barrie Clissold Demo Tracks

Longford in Harmony J.Meehan Barrie Clissold Demo Tracks

John Couzens Barrie Clissold Barrie Clissold Backing Tracks

XTEK Studios Nic Moore (03) 9646 8833. 24 Trk Analogue/24 Digital

Spare Band Nic Moore Nic Moore EP

Roadblock Band Nic Moore Nic Moore Album

Western Australia

Bonsai Recording Studio Tom Thorpe (08) 9246 4408. 24 Track

Nova Kill Tom Thorpe Tom Thorpe Album

Kay-Redman Tom Thorpe Tom Thorpe Jingles

Music Crew Tom Thorpe Tom Thorpe Demo's

Redgate Tom Thorpe Tom Thorpe Single

Matt Williams Tom Thorpe Tom Thorpe Demo

John Meyer Tom Thorpe Tom Thorpe Album

Planet John Villani (08) 9382 2211 48 Dig Q 32Dig & 24 Trk Analogue/SSLX

Mike Vdelli Planet Productions J.V./L. Williams Album

Exteria J.V./Seeing Ear Prod John Villani Album

Muzik "Italy" Nunzio Mondia/P.Prod L.W/J.V. Album

Flanders Wayne Connolly John Villani EP

John Crooks J.C./J.V. Les Williams Album

Desert Child Band/J.V. John Villani Album

Poons Head Rob, Sam, Bush (08) 9339 4791. 32+Track

Lime Rob Grant/Band Rob Grant Album

Berbermerkin Rob Grant Rob Grant Album

Seahorse Radio Rob Grant Rob Grant Album

Penelope Rob Grant Rob Grant EP

Cowboy John Rob Grant Rob Grant Single

Kristina Olsen Rob Grant Rob Grant Single

Satellite Recording Studio Darren Halifax (08) 9470 4003. ProTools

Smirk Band Darren Halifax Demo

Resolution Band Darren Halifax Demo

Left Nut Band Nick Hassall Demo

Fuddle Band Darren Halifax Demo

Howard Dawson Howard Dawson/Darren Halifax Darren Halifax EP

Tom Badoley T.Badoley/D.Halifax Darren Halifax EP

Tasmania

Doghouse Recording & Production Andrew McCulloch (03) 6433 3671 12 Ana/Digital Trks, Master to CD.

Dat, Minidisc.

Len Clark Artist/Andrew McCulloch Andrew McCulloch CD

Wayne Clarke Artist/Andrew McCulloch Andrew McCulloch CD

YOUR BASF TRADE SALES OUTLETS:

- NSW:** Audio Visual Designs (02) 9281-2444, Silver & Ballard (02) 9439-5355, Independent Tape Services (02) 9436-0666
- VIC:** CATS (03) 9529-3177, Chapple Tape (03) 9580-6620, DEX Audio (03) 9372-2266, MTA & Assoc. (03) 9819-6455
- SA:** Adelaide Tape Duplicators (08) 8212-7111, Pro Media (08) 8276-6793
- WA:** Ausmag (09)314-1953, Pro Copy (09)375-3902
- QLD:** Musiclab (07) 3862-1633, Tek (07) 3239-4000



BASF YOUR MUSIC IS SAFE WITH US

FREE LISTINGS

NEXT STUDIO AND REPLICATION DIRECTORY PUBLISHED IN NOVEMBER. **DEADLINE: SEPT. 15th**

FREE BASIC LISTING

Facility name _____

Main service offered (32 characters) _____

Address _____

City _____

State _____

Post Code _____

Phone _____

Fax _____

Email _____

Company Principal _____

15 words about your firm: _____

ENHANCED LISTING

You get 55 extra words of text, and your company name in big bold colour. Cost invoiced to you is \$145

YES, I WANT THE ENHANCED LISTING!

* Send your 55 words on a separate sheet, or email them to us at mail@conpub.com.au.

ADVERTISING

Our rates for display advertising within the Directory are:

3 x 6 (90mm wide x 60mm tall) \$216

QUARTER PAGE \$466, THIRD PAGE \$533

HALF PAGE \$950 FULL PAGE \$1582

• Spot and four colour extra

YES, I WANT AN ADVERT!

Caroline, please call me ASAP

Connections Publishing Pty Ltd,

PO Box 439

Epping NSW 2121 Australia.

Call +61 2 9876-3530 Fax +61 2 9876-5715

Email: mail@conpub.com.au Url: www.conpub.com.au

6th year! TRACKING GUIDE MONTHLY

Be in the national tracking guide every month in Connections! **DEADLINE: 7th of the month**

IT'S A FREE LISTING DUPLICATE THIS FORM

Facility name _____

Contact name _____

Contact phone _____

Brief description of facility - ie: "24 track analogue", or:-

"Protocols, Post" etc: _____

LISTINGS:

You are restricted to six listings per issue per month per entry.

1 Artist: _____

Producer: _____

Engineer/s: _____

Project: (Album, Post, Edit, Mastering, etc) _____

2 Artist: _____

Producer: _____

Engineer/s: _____

Project: (Album, Post, Edit, Mastering, etc) _____

3 Artist: _____

Producer: _____

Engineer/s: _____

Project: (Album, Post, Edit, Mastering, etc) _____

4 Artist: _____

Producer: _____

Engineer/s: _____

Project: (Album, Post, Edit, Mastering, etc) _____

5 Artist: _____

Producer: _____

Engineer/s: _____

Project: (Album, Post, Edit, Mastering, etc) _____

6 Artist: _____

Producer: _____

Engineer/s: _____

Project: (Album, Post, Edit, Mastering, etc) _____

Send to Connections,
PO Box 439 Epping NSW 2121 Australia.

Fax +61 2 9876-5715

Email: mail@conpub.com.au

THE RIGHT MIX

CX242 Zone Mixer

4 Stereo line inputs, 2 Microphone inputs, 2 independent stereo zones, Remote source select and level facility.



CX132 Zone Mixer

3 Stereo line inputs, 1 Microphone input, 2 independent stereo zones, Remote level facility.



CX233 Zone Mixer

3 Stereo line inputs, 2 Microphone inputs, 3 independent stereo zones, Remote level facility.



CX-A6 Multi-channel Amplifier



6 x 120W, Input routing switches on rear panel, Remote level option, 100/70V line transformers available.

CX-A4 Multi-channel Amplifier



4 x 120W, Input routing switches on rear panel, Remote level option, 100/70V line transformers available.

CX-A200 Multi-channel Amplifier



4 x 50W, Input routing jumpers, Remote level option, 100/70V line module available.

44/50 Four Zone Integrated Amplifier

4 line inputs, 2 Microphone inputs, 4 independent zones, 50 watts output per zone, Remote source select and level facility, 4 zone paging microphone available, 100/70V line module available.



& NO MIX-UPS

The Cloud range of mixers, zoners, signal processing and amplification is designed to provide all of the features and functions you want in the simplest, most user friendly way. Add to this our reputation for supreme reliability, outstanding value, and sheer sonic excellence, and the case for Cloud looks even more convincing.



Cloud

It's a unique mix, and the right one.

Cloud Electronics Ltd., 140 Staniforth Road, Sheffield, S9 3HF, England.

Telephone: +44 114 244 7051

Fax: +44 114 242 5462

Distributed in Australia by:

LIGHT MOVES
TECHNOLOGIES

631 Parramatta Rd, Leichhardt, NSW, 2040 Australia.

Telephone: (02) 9560 0000

Fax: (02) 9568 2333

On show at
Entech '98
Stand No. E13 - E16

THEATRE BACKSTAGE NEWS

Compiled by Jaqueline Molloy and Andy Ciddor

Welcome to the Theatre Backstage News Page where we will reveal all: about what shows you're doing, where you're doing them, who's doing them and what gear you're doing them with. This page is about what you're doing in the theatre so let us know what shows you've got opening, what shows are long running, what shows you're touring and where you're touring them to. We want to know if you've got a venue opening, being renovated or falling down. Let us know if you've just landed a contract to fit out a venue, or upgrade facilities.

Tell us of any awards you've won (don't be shy!) records you're breaking or great ideas you've come up with to solve unusual production problems. If you've found a useful book or discovered a great web site please pass it on. **Get faxing and emailing - fax information to +61 8 9227 8190 or email to News@kilowatt.com.au**

CLIPPINGS

◆ **Queensland Theatre Company** has recently opened its production of David Hare's play, *Amy's View* at the **Suncorp Theatre** in Brisbane. Directed by **Simon Phillips**, lit by **David Walters** and set design by **Dale Ferguson** expect to see it at the Victorian Arts Centre mid June.

◆ **System Sound** have been busy with musicals lately. They provided sound for the musical *Showboat* at the new **Star City Casino, Lyric Theatre**. **John Scandrett** has designed the sound for *The Boy from Oz*, the new musical based on the life of Peter Allen which is going on at **Her Majesty's Theatre, Sydney**. **Peter Grubb** has designed sound for *Into the Woods* with **Melbourne Theatre Company**. **System Sound** are still involved with the touring production of *The Phantom of the Opera* which is now in its seventh year.

◆ **Stomp**, the British percussion company (see picture at right) that uses more brooms than a cleaning company is on a Australasian tour that runs through until May. Sound manager is **Mike Roberts**, lighting designer is **Paul Emery**.

◆ **Entertainment Installations** have been busy around the Central Coast/Gosford/Newcastle area. They provided all lighting and sound equipment which included Martin and Mackie gear for *Great South Land* a production exploring white settlement and the issue of reconciliation at the **Dwyer Pavillion** in Gosford. They've also supplied lighting and sound gear for the new **4th Wall Theatre** in Erina, NSW.

◆ The upgrade to **Wagga's Civic Theatre**, part of the City Council's Civic Centre development, is expected to exceed the original estimate of \$1 million.

◆ **Perth Concert Hall** kicked off its 25th birthday celebrations by featuring in the Australia Day Skyshow. Pyrotechnics were set off from the rooftop and **Concert and Corporate Productions** provided lighting on the building's riverfront facade.

PEOPLE

◆ **Norma Hancock**, co-founder and reigning queen of lighting company **Three Arts Services** has retired.

◆ **Theatre Royal**, Hobart has recently hired **Moira Hay** as their

Technical Operations Manager. Hay, a NIDA graduate, is the first woman to hold this position.

◆ Lighting designer **Adam Howe** joins the **Melbourne International Festival** as project manager.

FESTIVALS

◆ The co-production between **Company B Belvoir** and **Black Swan Theatre Company** of *Cloudstreet*, based on Tim Winton's novel has been a hit at both Perth and Sydney festivals. Directed by **Neil Armfield** with lighting by **Mark Howett**, set by **Robert Cousins**, costumes by **Tess Schofield** and music by **Iain Grandage**.

◆ Perth festival goes nearly missed out on the amazing Canadian production, *The Seven Streams of the River Ota* when lighting director **Christian Gagnon** had the show discs stolen from his car several days before opening night. The discs were returned after an impassioned plea on local television, but unfortunately not the briefcase which contained other show documentation and a passport. The seven hour epic will also play at the Adelaide Festival



BOOKS

◆ **A great sound design primer.** *Sound and Music for the Theatre* is a very thorough and surprisingly deep introduction to the concepts, preparation,

documentation and execution of theatre sound design. The authors' clear understanding of their art is obvious from such gems as their discussions of the role of production politics in getting your design in front of the audience. *Sound and Music for the Theatre: the Art and Technique of Design*, Deena Kaye and James Lebrecht, 1992, Back Stage Books NY. ISBN 0-82320-7564-4. Available from the Connections Shop for \$44

◆ **A good place to start with PA.**

Whilst not specifically aimed at theatre sound, this book by ACT based musician and CSIRO research scientist Simon Kravis is a gentle, yet extremely practical introduction to the selection, transportation, set-up and operation of PA systems on a scale suitable for theatre sound. There are even instructions on how to roll audio cables to prevent them from tangling and kinking. The binding is a bit flimsy but still excellent value at \$18.95. *Using Small PA Systems*, Simon Kravis, 1997, Sound Decisions. Kaleer. ACT. ISBN 0-6464-31050-X. Available from Acoustic Experience PO Box 5, Lyons 2606 ACT (02) 6282 4402

STILL RUNNING

Les Miserables: 11yrs on Broadway, *Cats*: 15yrs on Broadway and 17yrs in the West End. And coming up on Broadway, yet another revival of the thriller *Wait Until Dark* featuring **Quinton Tarantino!** Meanwhile in Brazil: The musical *St Francis of Assisi* is playing the **Palace 1 Theatre** in San Paulo (6pm Fri-Sun).

TRIVIA

In the Broadway production of *Phantom of the Opera*, now in its 10th year, the Chandelier has travelled 1,600, 888 feet (488km).

Duncan Fry

The 'Leaky' Radiator



I always liked to buy trucks from farmers, because they had very little idea of what the things were actually worth. I mean they'd buy them tax exempt as primary producers, use them for about ten years, and then were happy to just get rid of them.

In short, they were bargains.

But they were only bargains if you knew how to fix them yourself. The upside of buying old trucks was that they were cheap, but the downside was that they had a reliability index calculated in minus numbers, and had a habit of breaking down at the most inopportune moments.

It was a quiet Friday afternoon back at the old factory. All the systems had gone out the door, and we were just sitting back telling tall tales, planning total world domination, when the phone rang.

"It's Jim and Chris on the phone for you Dunk?" calls out Col.

Uh oh. I'd just waved them and the truck goodbye half an hour previously. They were off to do a gig in Morwell - what had they forgotten this time?

"Where are you?" I asked

"Just past Dandenong," replied Jim

"So what's up then?"

"Dunk, it's the water pump on the engine," he explained.

"What about it?" I said

"Well...it's fallen off!"

I nearly fell off my stool. I mean Jeez, how could the water pump fall off - it's bolted to the engine with about ten high tensile steel bolts!

If I'd been a religious person I'd have sunk to my knees and cried "Aah, why me, God?"

(But I didn't just in case He answered "Because YOU SHIT me!")

I pumped them for more information (pun intended) and we ascertained that it was the end of the pump with the fan on it that had fallen off, and all the water had poured out of the front of it. The fan had luckily (I use the word in a relative sense) got stuck in the chassis rail so at least they hadn't lost it.

By a happy coincidence Col and Dave's Bedford (of which we have heard in an earlier story) wasn't being used, so after a hastily negotiated deal I jumped into it and headed off for Dandenong, making sure that my route would take me past a Toyota dealer so I could pick up a water pump.

They were about ten minutes out of Dandenong, and about forty minutes later I saw them parked off the road, sitting up against the wheels. I waved to them and backed the Bedford up to so that it's rear doors were opposite the Toyota's.

"OK, you'd better start transferring everything into the Bedford," I explained, "then you can head off to the gig while I fix this."

This was not the most popular course of action, but they knew that no gig = no pay, and a late start = less pay. We were all firm believers in where possible never letting anything happen that might give the band some kind of a lever or reason to pay you less! So I climbed into the capacious engine compartment of the Toyota, and beavered away with spanners and silicone while the boys cursed and loaded. With a final gush of water the old pump came off, and I started assembling the fan onto the new pump.

Jim tapped me on the shoulder.

"Well, we've finished, Dunk - we'll see you tomorrow."

"Bye," I said, and went back to work.

Uh oh - suddenly an urgent thought zapped into my head. I dropped what I was doing and ran after the Bedford as the boys drove off.

"Stop, stop!" I yelled, and caught up with them as they stopped for traffic. I banged on the doors. "Stop open up"

Jim leaned out

"What's the matter?" he asked.

"I'll need water for the engine." I replied

"Oh - well, we don't have any," he said

"What about the emergency container of water behind the driver's seat?"

"Er...we used that last week." He and Chris looked sheepish

"What, and you didn't refill it?" I yelled.

They looked at each other. "Er...no I didn't. Did you Chris...er no...er"

Their mumbles drifted off into silence

"Well you know what we'll have to do, don't you?" I asked.

"No, what?"

I walked over to the truck, found the empty container, brought it back and made an unzipping gesture.

"What - have a leak in it?" gasped Jim

"That's right" I said, "If I don't put something in the engine will seize."

"But I don't need to go yet," said Chris.

"Too bad," I said "We'll all have to try!"

So one by one we took the container into the bushes, and between the three of us managed to get a couple of litres of organic coolant.

Fully drained, I waved them on their way and went back to my spanners.

About an hour later I tightened the last bolt, checked the hose clamps and was ready to fill the radiator. I carefully opened the container and started to pour the contents in, watching carefully for any stray leaks (from the engine!). Jeez it smelled bad - as though we'd all been on a steady diet of asparagus and antibiotics for the past week.

There wasn't enough to come close to filling the radiator, but I figured that with an empty truck and a very light touch on the accelerator, the engine would stay under boiling point until I got to a service station.

And amazingly it did. Ten minutes later I coasted into the nearest B Pee and topped it up.

Of course, once the emergency was past I promptly forgot all about it, but a week later I got some gigs at the snow, so I dropped the truck off at the mechanics on the corner and told him to give it a bit of a check over.

"I don't want anything to go wrong up at the snow," I told him.

Later that afternoon I went to pick it up.

"Everything's pretty right," he said. "But since you're off to the snow I flushed out the radiator. You know, that was really bad anti freeze you had in there. It had gone right off -smelled like an outback dunny!"

I don't think he realised how close to the truth he was!

HOW TO DO IT

LIVE SOUND MIXING: BASIC PRINCIPLES

Duncan Fry takes you through the whole process! *Part 2*

A Typical Touring System

From this size of system we jump to one that many touring bands would use. It has a lot more in it than our previous system, for more volume and more control over the sound.

However, it still works on our basic 6 sound reinforcement principles: Band to Microphones to Mixer to Amplifiers to Speakers to Audience.

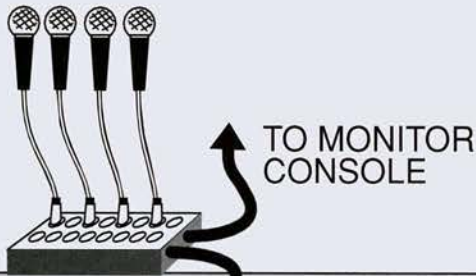
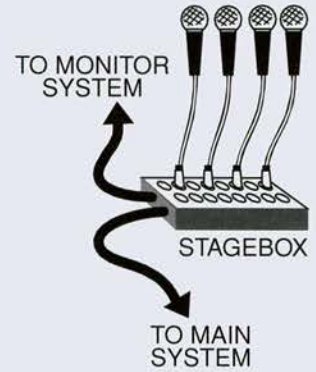
1. The mixing console has at least 24 channels, often up to 40, and it is frequently run in Stereo. There are no monitor controls on each channel, just a number of what are called Auxiliary sends. These send signals to various effects units - Delays, Reverbs - and these are housed in an Effects Rack next to the console. The EQ section is often much more comprehensive, with sweepable Low

Mids and High Mids, plus extra switches and controls.

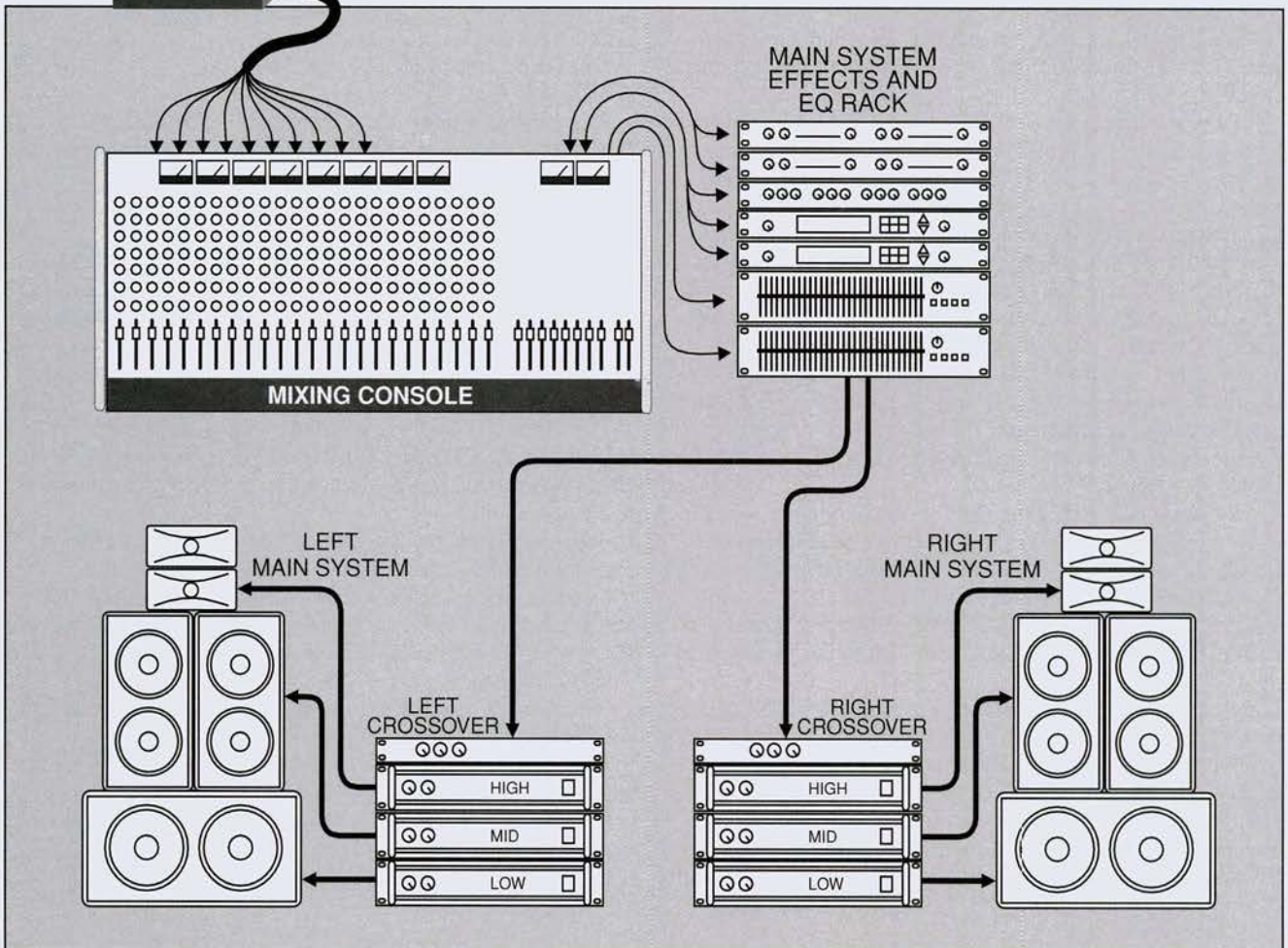
2. This effects rack will contain 2 Graphic Equalizers (remember we're in stereo now), multiple delays and reverbs, compressors, noise gates, Aural Exciters, all sorts of gadgets to give the sound engineer absolute control over the sound.

3. The monitors on stage are now run from a **separate** mixer at the side of the stage.

The multicore snake from the Stage Box is split so that one line runs to the Mixing console in the audience, the House mixer, and



Stage Side view of the monitor setup from the stage box



HOW TO DO IT

another runs across the stage to the Monitor mixer. This Monitor mixer can have from 6 to 16 outputs, and if necessary can send a different mix to each of the musicians on stage. Each of these outputs will run into its own Graphic Equalizer, for feedback control, and then to its own amplifier. Needless to say there is a monitor engineer to look after all this!

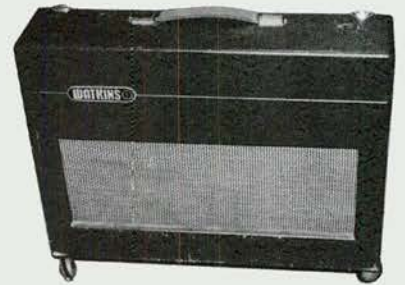
4. There will be multiple amp racks to drive a large number of speakers. The system may be run 3, 4 or even 5 way: Sub Bass, Low, Low Mid, High Mid, High.

As you can see, the principle remains the same in these 3 very different PA systems; only the amount of equipment changes. Our 6 basic functions of sound reinforcement still apply. A mixing console is still a mixing console, whether it has 4 channels or 40!

• Next time you complain about not having enough channels, here's a mid 60's Kustom (USA) console with a whopping 6 channels! Two way EQ and onboard 7 band Graphic EQ, Spring Reverb and a 2 way crossover. And about the size of a 24 channel 8 bus console of today! Thanks to Peter at Nova Sound for uncovering this for me. Yes, it still works!

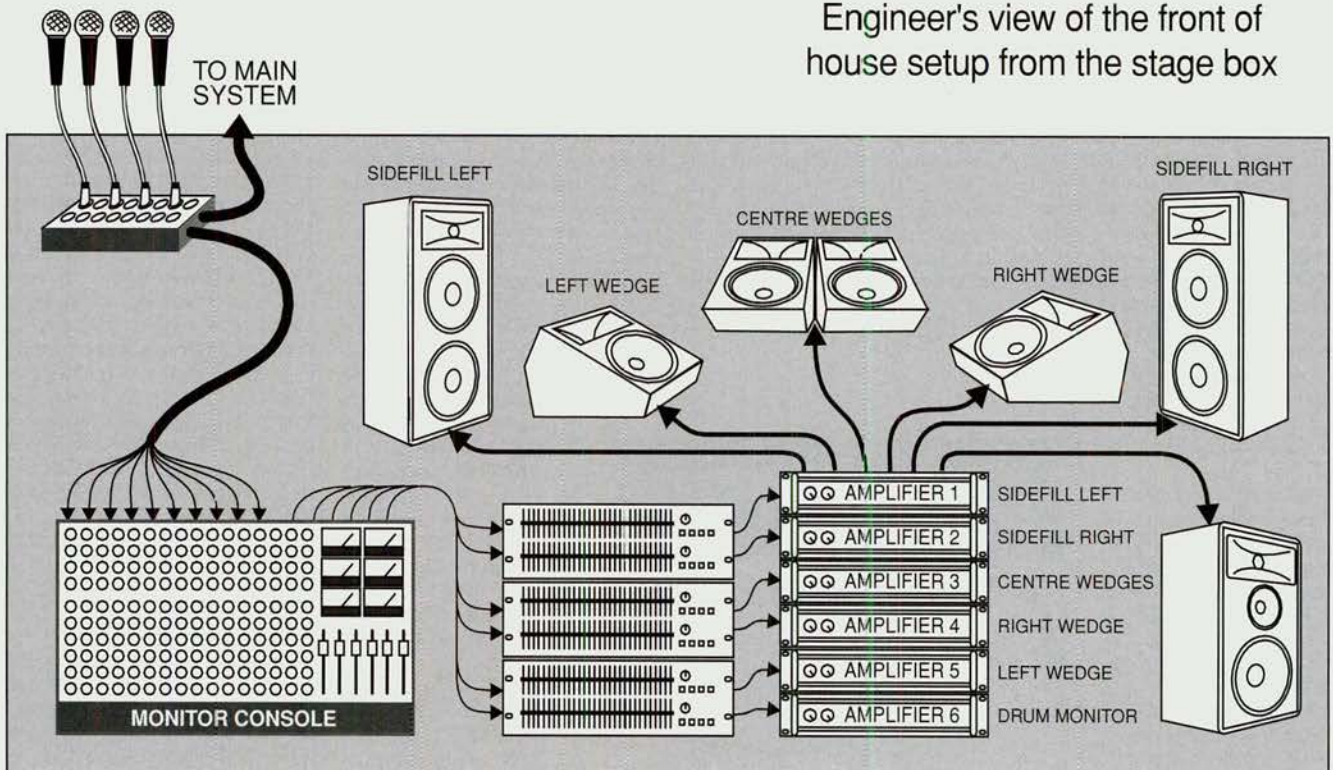


• If you thought that all in one systems like the JBL Eon were a new idea, think again. This Watkins (UK) unit from the early 60's is a complete system in one box. 3 microphone channels, plus tape delay, plus Front of House speakers and Stage Monitors! The open backed cabinet lets the vocals project backwards to the stage as well as out front! Special thanks to Brad Coates from Melbourne PA and Stage (www.melmusic.com.au) for digging out this classic for me!



This is extracted from the top selling book: LIVE SOUND MIXING, (third edition) by Duncan Fry. © D.R. Fry 1998. ISBN0 646 11235 X Retail: \$39.90. Available from book stores and music shops everywhere, also through the Connections Shop, call 1-800-635-514.

Engineer's view of the front of house setup from the stage box



BUYER'S GUIDE

wireless microphones

Prices INCLUDE sales tax and were correct on 15th February 1998. All care taken, no responsibility for errors. Four models only are shown in each category although these manufacturers have many more. Indicative only.

VHF MIC & SYSTEMS

AUDIO TECHNICA

Yamaha Music Australia (03) 9693 5164

ATW1127 true diversity system, 1 R/U, belt pack available in 6 frequencies, high and low impedance input, ground lift, squelch control, balanced and unbalanced outputs. \$699.

ATW1128 true diversity system, 1 R/U, hand held mic available in 6 frequencies, ground lift, squelch control, balanced and unbalanced outputs, hypercardioid, hi-energy mic. \$699.

AT831AW Lavalier mic terminated for wireless system, cardioid pattern condenser, also available as an omni (MT 830CW). \$199.

ATM75CW headset mic terminated for wireless system, cardioid condenser. Wireless sax mic also available (ATM35CW). \$199.

COMTEK

Audio Sound Centre (02) 9901 4455

M72 Kit pocket transmitter with neck mic, camera receiver with antenna, ideal handcam work and where small size is critical, battery op, portable. \$2745.

ECEN

ELSTA (02) 9568 2100

SR318A Very compact receiver (120mm x 40mm x 150mm), frequency range 178-222 MHz - quartz controlled, 20 PPM frequency stability, audio level control, 50m range in adverse conditions, over 100db dynamic audio range, hand held or lapel available. \$349.

SR628 Dual channel receiver system, quartz control, frequency range 178-222MHz, over 100 dB audio dynamic range, 20 PPM frequency stability, audio level control, hand held or lapel available. \$689.

DR718 True diversity single channel system, 1RU standard size receiver, 1178-222MHz frequency range, audio level adjustment, range 100m line of site, 50m adverse, hand held or body pack transmitter available. \$599.

SR758 Dual channel wireless microphone system, 1 receiver, 178-222 MHz frequency range, audio level adjustment for each channel, hand held or lapel available. \$699.

ELECTRO VOICE

EVI Audio (02) 9648 3455

RL 2 Diversity receiver one rack unit high with optional rack mount kit. Beltpack transmitter with fixed omni

directional capsule. \$859.

RH 2 Diversity receiver one rack unit high with optional rack mount kit. Hand held transmitter with N/D 157B capsule. \$1059.

MS2500H Diversity receiver one rack unit high with rack mount kit. Removable antennas, balanced out on XLR, line out on 6.5 RF and audio meters. Hand held transmitter with EV 757 capsule. Lapel/Headset options available. \$1699.

GEMINI

Disco World (03) 9735 0588

NX-201 150 ft range; 8 channels; volume control; auto mute; VHF high band receiver. \$469.

NX-210 VHF true diversity receiver; 300 ft range; 8 channels; volume control' audio frequency indicator; auto mute. \$569.

NX-220 VHF dual channel receiver; 150 ft range; 8 channels; dual volume control; auto mute. \$779.

LECTROSONICS

Audio Sound Centre (02) 9901 4455

CR187 compact receiver with belt pack transmitter includes neck mic - suits presenters and film + TV work, battery op, portable. \$3660.

MIPRO

Altronic Distributors (08) 9328 2199

C8300 1 RU VHF receiver, tone squelch 6.35 unbal or 3 pin XLR balanced outputs. Seven zoom Hz band freqs available. Front mounted level control + LED RF/AF indicators. BNC antennae, optional external discone sold separately. H/held + lav transmitters to suit. \$625.

C8600 portable wireless PA system.



Audio Telex RFX

Internal 20W RMS amp and receiver. Aux input. Includes 2.7Ah gel battery (8 hrs use time). Weighs 3kg with battery. Two freqs available 203.3, 220.6MHz. \$849.

C8302 hand held mic transmitter. Tone squelch, ret super cardioid electret insert. Rubber insert suspension and shock-proof capsule. Seven frequencies available. Suits C8300/8600. \$325.

C87001 RU VHF 16 channel freq. agile receiver. Tone squelch, 3 pin XLR balanced and 6.35mm unbalanced outputs, front mounted volume, AF/RF LEDs. H/held and lav transmitters available to suit. \$875.

RF-LINK

H + C Audio (03) 9876 2333

R.F Link wireless 2.4 GHz transmitter send any audio - video, data signal via 2.4 GHz transmission. \$600.

RFX

Audio Telex (02) 9647 1411

SDR616H half rack diversity VHF receiver with 16 user selectable channels. 56K deviation for natural audio. Packaged with a 16 channel hand-held microphone with Audio Technica capsule. \$1126.

SDR616M half rack diversity VHF receiver with 16 user selectable channels. 56K deviation for natural audio. Packaged with a 16 channel belt pack transmitter and lapel mic. \$1064.

SDR616G half rack diversity VHF receiver with 16 user selectable channels. 56K deviation for natural audio. Packaged with a 16 channel belt pack transmitter with guitar lead. \$1046.

SAMSON

Electric Factory (03) 9480 5988

VLX single diversity, available in hand held, lapel, instrument and

headset configurations. Rack adaptor also available. Microphone inserts include Audio Technica and Shure. \$499.

VLX-TD dual antenna, true diversity system, available in hand held, lapel, instrument and headset configurations. 13 different channels available. Built-in noise reduction. Microphone inserts include Audio Technica, EV and Shure. \$599.

Concert IV dual antenna, true diversity system, 9 channels available, balanced XLR and unbalanced 1/4" outputs. 100m overall range. Variable squelch and audio output controls. Microphone inserts include Audio Technica, EV and Shure. \$899.

SHURE BROTHERS INC

Jands Electronics Pty Ltd (02) 9582 0909

Shure "T" Series Shure's affordable, ruggedly built wireless systems that put Shure quality within everyone's reach. All Shure systems share an impressive number of valuable features, including:

Battery saver design that provides up to 18 hours of battery life.

Two LED indicators, one for Power On/Off and another to warn when battery life is low. From \$645.

Shure "LX" Series In addition to battery life of 18 to 20 hours, LX transmitters feature a three-segment LED power/battery fuel gauge to instantly indicate remaining battery life. LX4 benefits include all the above, plus: Dual and single rack mounting equipment

All metal chassis Five-segment level meters for A and B antennas Mic/line level switch. From \$1495.

Shure "SC" Series The SC Series Wireless Systems are feature-rich MARCAD® Diversity systems created with fixed installation sound requirements in mind. Digital frequency control provides greater freedom from RF interference and virtually "bulletproof" signal reliability. Three main features set the SC Wireless apart from all others in its category: Tone Key Squelch Battery Fuel Gauge-Multicolor, five LED indicator shows how much battery life remains Frequency Agility- eight frequencies available. From \$1965.

TELEX (USA)

Audio Telex (02) 9647 1411

FMR150/HT150-OM3 half rack diversity VHF receiver with 3 crystal controlled selectable channels. Packaged with a 3 channel hand-held mic with an Audix Om-3 capsule. \$3075.

ENG1/WT55-50 camera mounted VHF receiver with balanced line out



Shure

BUYER'S GUIDE

wireless microphones

and headphone socket. Non-diversity. Battery operated. Packaged with a Telex WT55 belt pack transmitter and WLM50 lapel microphone. \$1766.

VEGA

EVI Audio (02) 9648 3455

AXA/X 20 diversity rack mount receiver or non diversity camera mount receiver with Beltpack and Hand held transmitters with various capsule options. Receivers balanced out on XLR. \$3359.

UHF MIC & SYSTEMS

LECTROSONICS

Audio Sound Centre (02) 9901 4455

VCR190 pocket transmitter with neck mic, compact receiver, narrow band, ideal stage work and broadcast, battery operated, portable. \$6297.

VCR195 pocket transmitter, high gain receiver, narrow band, mic or line output, battery operated, portable, headphone output pilot tone squelch. \$7626.

VCR195D diversity portable version of 195 model, ideal for film and TV work. \$8741.

VD200B 256 channels frequency agile, half rack unit, built-in spectrum analyser, high gain receiver. \$13,366.

RFX

Audio Telex (02) 9647 1411

UDR900H half rack diversity UHF receiver with 16 user selectable channels. 56K deviation for natural audio. Packaged with a 16 channel hand-held microphone with Audio Technica capsule. \$1553

UDR900M half rack diversity UHF receiver with 16 user selectable channels. 56K deviation for natural audio. Packaged with a 16 channel belt pack transmitter and lapel mic. Guitar system also available. \$1473.

UDR900G half rack diversity UHF receiver with 16 user selectable channels. 56K deviation for natural audio. Packaged with a 16 channel belt pack transmitter with guitar lead. \$1455.

SAMSON

Electric Factory (03) 9480 5988

UHF Series 944-952 MHz reception, 6 available channels, dbx noise reduction, balanced XLR and unbalanced 1/4" outputs. Available in hand held, lapel, and headset configurations with a range of popular inserts.

UHF Synth Series 74 selectable frequencies, front panel LED display that detects RF interference to help you find the clearest available channels, dbx noise reduction, balanced XLR output. Available in hand held, lapel, and headset configurations.

Synth Six 101 selectable channels, computer control from remote locations of wireless systems, spectrum analyser, up to 96 systems can be used simultaneously in one venue, dbx noise reduction, balanced XLR

and unbalanced 1/4" outputs.

SENNHEISER

Syntec International (02) 9417 4700

Set 1081 radio microphone system consisting of a hand held transmitter, receiver and all necessary accessories for immediate use. Up to 16 switchable UHF frequencies make it ideal for mobile applications. \$2924.

Set 1083 radio microphone system consisting of a pocket transmitter, clip on mic, receiver and all necessary accessories for immediate use. Up to 16 switchable UHF frequencies make it ideal for mobile applications. \$2924.

SHURE BROTHERS INC

Jands Electronics Pty Ltd (02) 9582 0909

Shure "U" Series

Shure takes frequency-agility to new levels. While many systems offer you multiple channel options, Shure gives you an outstanding fully selectable, user programmable frequencies from which to choose. 188 frequencies available; remote battery readout on receiver; ability to lock out all settings, including transmitter power.

Shure UA888 Networking Interface

The UA888 is a computer interface accessory that allows Shure UHF wireless microphone users to monitor and control the functions of up to 32 receivers from a remote site using an IBM compatible PC computer. Full monitoring RF level, audio level, A/B antenna diversity and transmitter battery level. Monitoring and control capability of Group/Channel selection, frequency in MHz, user name, squelch, and lock/unlock status. RF plotter function identifies RF problem areas. Frequency scanner. Scene setup w/ password protection. From \$5495.

SONY

Sony Australia Limited (02) 9887 6666

WRT - 800A Wireless Handheld Microphone. Wide - Cardioid electret condenser. Up to 12 hour operation on 1 AA battery. Battery condition alarm. Helical Antenna. \$732.

WRT - 805A Body Pack Mic Transmitter. LCD Display. Up to 6 hour operation on 1 AA battery. Guitar/Mic and Phase Switches. Battery condition alarm. Helical Antenna. \$671.

WRR - 800A Half Rack Width Diversity Receiver. LCD Display. Transmitter battery condition indication. Output level control.

Front Mounted Antennas. \$1098.

WRR - 801A Base Unit Diversity Receiver. 19 inch Rack Mountable Modular design with up to 6 receivers

being accommodated. LCD Display. Transmitter battery condition indication. \$1830.

TELEX (USA)

Audio Telex (02) 9647 1411

FMR450/HT450-OM3 half rack UHF receiver suitable for any critical broadcast or production. Up to 50 systems in one venue. Packaged with a hand-held mic with Audix Om-3 capsule. Belt pack also available. \$4526.



Garwood TS System

ENG500/UT500 camera mounted 2 channel selectable UHF receiver with balanced line out and headphone socket. Diversity. Battery operated. Packaged with a UT500 transmitter that plugs directly into any dynamic hand-held mic. Broadcast spec. Tough, weather resistant chassis. \$9581.

VEGA

EVI Audio (02) 9648 3455

U2020 frequency agile UHF system with 100 frequency options on board. Receiver half rack with rack kit available featuring balanced output on XLR, Audio and RF metering. Beltpack transmitter with optional lapel and headset capsules. Hand held transmitter with optional 757 or 557 capsules. Four channel multicoupler available. \$2299.

R672 frequency agile UHF system with frequency splits from 519-868 meg. Half rack receiver with rack mount kit available. Frequency agile via PC interface with PC monitoring capability. Miniature belt pack transmitter for pro theatre use. Hand held transmitter with option of N/D, RE, SM or Beta capsules available. \$9500.

Q600 UHF/VHF full duplex radio communications system that can interface with Clearcom cabled intercom systems. Can be set up from 1 to 6 channels. Base station with belt pack remote units. \$17,000.

IN-EAR WIRELESS

COMTEK

Audio Sound Centre (02) 9901 4455

IR230 magnetic in ear pickup from neck loop worn and connected to per-

sonal receiver. \$427.

GARWOOD

Production Audio Services (03) 9415 1985

System 2 includes transmitter, receiver and Garwood IEM 11 ear pieces. Also available is the System 2 Plus 2 channels system \$3459.

Radio Station TS includes a 1RU, 16 channel freq. agile transmitter and a freq. agile receiver. \$8125.

IFB1624 has been designed for broadcast IFB applications. Feature separate receiver controls over level, along with 16ch freq. agility. \$7995.

Radio Station IDS features multi channel international operating system along with external transmitter. This allows the transmitter to be placed away from equipment racks. \$17,895.

SHURE BROTHERS INC

Jands Electronics Pty Ltd (02) 9582 0909

Shure PSM600 Series Personal Stereo Monitors

The PSMTM 600 features a signal-to-noise ratio is an impressive 80 dB. Combined with the system's on-board limiter, this means users can hear their mix clearly at lower volumes, so they can concentrate on their performance. Perhaps the most impressive PSMTM 600 feature is Shure's exclusive MixMode technology. MixMode is one of the system's three operational modes (along with stereo and mono) which allows the user to monitor two discrete signals at the same time. Each PSMTM 600 comes complete with a set of Shure E1 earpieces which combine the advantages of custom-molded and universal designs.

P6TRE1 Wireless Personal Stereo Monitors. 1/2 RU UHF transmitter with metering and choice of 2 frequencies per unit. Receiver beltpack features inbuilt defeatable limiters and a unique feature called mix mode, allowing the unit to work with a stereo mix or 2 mono mixes, panable from the beltpack. From \$3345.

P6HWE1 Wired Personal Stereo Monitors. Beltpack features inbuilt defeatable limiters, a 15dB pad, and a unique feature called mix mode, allowing the unit to work with a stereo mix or 2 mono mixes, panable from the beltpack. System comes with Shure E1 universal earpieces as standard and all necessary accessories. \$1995.

next month

SIGNAL
PROCESSORS

Connections TRADER

Your **NATIONAL** selling machine!

EMPLOYMENT:

AUDIO ENGINEER: Young enthusiastic audio engineer required for growing audio hire/sales business. Send C.V. to "Audio Link" P.O. Box 147, ASHBURTON, VIC 3147

STOLEN:

Substantial reward offered for information leading to the whereabouts of the following gear stolen from Manly area in February 1998. Cooper 8 channel mixing board. Yellow Pelican case containing 4 Lectrosonics radio mics. 1 soft grey lowepro camera bag containing audio cables plus connectors. 2 x linear phase speaker cabinets. Please phone Guntis 0417 251 273.

STUDIOS:

CAPTURE the magic of a live performance in an acoustically purpose built studio on the world leading hard disc recording system - "ProTools".

Satellite Recording Studio. Perth (08) 9470 4003.

ECLIPSE MUSIC STUDIOS PTY LTD hereby gives notice that recordings which were made at Eclipse Music Studios and are still in their possession will be disposed of after 14 days of this notice - to recover recordings please contact (02) 9729 0989.

FOR SALE:

4x Lightwave research cyberlights \$8,200.00 each. [hone Dave (07) 3341 7236 Mobile 018 885 490UVW100P Sony SP Betacam Camcorder. As new, very low hours, no lens, ideal for first camera \$12,100.00 ONO Call: 0417 903 270

AKG CK451 with CK1 cap \$300.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

ALESIS 3630 compressor \$350.00, ARX Sixgate \$350.00 ARX quadcomp \$375.00 Aphex TypeC \$200.00, HOF Automix 16 channel. Midi Controlled \$550.00. Phone: (03) 9888 8084.

ALLEN & HEATH GL4 40 channel 32 mono channels 8 stereo channels \$12,000.00 in roadcase. Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

AMP ZPE 500 \$500.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

ARX EQ 60 stereo \$1000.00 each. Cannon Sound Free Catalogue

Phone 1800 804 994 or (02) 9550 3828

BEYER M88 with New Capsule \$450.00 Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

BSS 340 4 way crossovers with limiters \$800.00 each (02) 9799 7219

BSS 360 crossovers \$1,000.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

BSS Crossover stereo 4 way with limiters and output meters. Fully protects your speaker system and increases the headroom. \$1,250.00 (02) 9698 3288. Revolver.

CARVER 1200 amps \$1,500.00 each Cannon

Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

CARVER PT 2400 amps \$2,200.00 each 1.5 amps \$1,250.00 each. Cannon Sound Free

Catalogue Phone 1800 804 994 or (02) 9550 3828

CCT minivette 650w fresnel profile spots \$120.00 each (02) 9799 7219



LIGHTING SALES

We are seeking an organised person for an internal Sales & Administration position within our Melbourne Distribution Operation. Theatrical or Film/T.V. Lighting experience is required and applicants should be computer literate.

Resumes should be faxed before

18th March, 1998, to:

Fax: 03 9587 5641

Attn: Shirley Jensen

Bytecraft Pty Ltd

23-31 Foncaea Street

MORDIALLOC VIC 3195

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.

NOTHING TO SELL.

THAT'S RIGHT! WE ONLY HIRE LIGHTS.

ELECTRIC SUNSHINE
(02) 9550 6000

SHY? FAX US ON (02) 9550 5500.

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
(03) 9531 1403 or 041 999 3966

www.bsosound.com.au
bsosound@ozemail.com.au

PJM

BRISBANE BACKLINE

"FOR ALL YOUR STAGE GEAR REQUIREMENTS IN BRISBANE"

PHONE OR FAX (07) 3344 7791
OR PHONE PETER 015 073 730*

CANNON SOUND

Huge catalogue of PA, Studio & Lighting equipment at www.cannonsound.ptme.com. "After any particular piece of equipment - let us know and we will do our utmost to find it at the right price."

PHONE: (02) 9550 3828

Email: cannon@ptme.com.au

P. Audio enquiries
Cannon Wholesale (02) 9948 4440



"YOUR COMPLETE STAGING SERVICE"

STAGING RENTALS (02) 9519 - 6300

- Concerts, Conferences, Catwalks.
- Productions, Exhibitions, Stages.
- Rental of Drapes, Risers, Flats.
- Delivery and Installation.

1 PYRMONT BRIDGE RD CAMPERDOWN NSW 2050
FAX (02) 9519 6489

DDA 500 crossovers \$600.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

DIGITEC harmoniser 2 effect unit \$400.00 (02) 9799 7219

DYNALIGHT Digital dimmers 12 channel \$1,200.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

DYNALIGHT dimmer racks, analogue, slim touring series style \$750.00 each (02) 9799 7219

EV DH1A drivers \$600.00 each EV HP64 horns. \$200.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

EV DLX18 speakers \$500.00 each Cannon Sound Free Catalogue

Phone 1800 804 994 or (02) 9550 3828

JANDS 920 amplifiers \$700.00 each (02) 9799 7219

JANDS Digital roadpacks \$1,200.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

JANDS GP Digital dimmer 12 channel. Mint \$1,800.00 Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

JANDS System 1400 boxes \$5,000.00 pair Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

JBL 2445 drivers \$600.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

JBL E151 18 speakers \$500.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

JBL soundpower cabinets 4755A, new, each 2x12 "plus 2" horn \$3,000.00 pair (02) 9799 7219

JBL System 80 subs with JBL 2241 Speakers \$3,200.00 pair. Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

JBL TR126 15 " - 1" speaker cabinets, new \$700.00 each (02) 9799 7219

KLARK technic twin half-octave equaliser \$600.00 (02) 9799 7219

LIGHTING DESK Jands Event Plus 2 as new in case \$6,000.00. Jands 12 Ch. dimmers

\$600.00. Tri Truss \$200.00/2 mtr. 18ft Winchups \$550.00 (02) 9698 3288. Revolver.

MACKIE SR 32-4-2 in roadcase \$2,600.00 Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

MACKIE SR 40-8-2 in roadcase \$12,000.00 Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

MARTIN Robo colour Pro 400s in roadcases \$1,200.00 each Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

MARTIN W 115 15inch Bass W's excellent condition \$400.00 (02) 9698 3288.

P.AUDIO 15" speakers \$440.00 each RRP. Trade enquiries welcome. Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

P.AUDIO 600W 18" speakers new RRP \$585.00 each trade enquiries welcome. Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

PCM8000 Sony 8 track digital recorder with RS422 Control Port. As new. low hours Replacement value \$12,000.00 available for \$6,500.00 ONO Call 0417 903 270

RADIO MIC Eleco Sm58 VHF system \$300.00. Nady VHF Guitar radio excellent unit \$500.00. (02) 9698 3288.

SHURE beta 58 wireless mic system \$1,200.00 (02) 9799 7219

SOUNDCRAFT 200B deluxe 20 mono, 4 stereo, 4 way EQ with dual mid sweeps, flightcased \$3,000.00 (02) 9799 7219

SOUNDCRAFT 600 Desk 24-8-2 \$3,500.00 Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

SOUNDCRAFT 800B 24-8-2 \$3,600.00 in roadcase Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

SOUNDCRAFT K3 48 Channel Theatre console in roadcase with additional power supplies, mint condition

McLean Audio Services
Ex Rental Equipment Sale

- Clair Bros R4 Series 1 Active 3 way Speaker Cabinets \$1,600 ea
- Yamaha MC2404 MkII Console Mint Cond \$4,500
- Yamaha M1516-16 Channel Console & Power Supply \$3,500
- Yamaha M916-16 Channel Console \$1,500
- Soundcraft Spirit 16/8 Monitor Console \$2,900
- JBL Modular W-Bins with 18" E155 at \$650 ea
- JBL Modular Mids with 12" E120 at \$400 ea
- JBL Modular Horns 2385A Flare & 2441/2445 Driver/Diaphragm at \$525 ea
- Yamaha Q1027 Graphic Equalisers at \$750 ea
- DBX 166 Comp/Limiter \$475
- Yamaha SPX-9011 Effects Unit at \$500 ea
- Yamaha D-1500 Delay Unit at \$500 ea
- Yamaha P-2200 Bi Amps at \$750 ea
- Yamaha P-2100 Amplifier \$450
- BGW 750B Amplifier \$650
- Jands JE-8 Noise Gate \$275
- ARX 6 Gate \$450
- Carver PM-1.5 Amplifiers at \$1,250 ea
- Sennheiser MD431 "Profi Power" Vocal Microphones at \$80 ea
- Deltalab ADM310 Digital Delay \$100
- Turbosound 24" Sub Woofers - 1 Loaded - 1 Unloaded the lot \$500
- Modular W Bins empty suit 18" at \$200 ea
- JBL 2441 Compression Drivers with 2445 Diaphragm at \$375 ea

Phone: (03) 9429 5381
Fax: (03) 9428 0156

RAMTEK
FOR
CUSTOM CASES
SPEAKER ENCLOSURES
Ph (02) 9153 9373
Fax (02) 9153 9329
RAMTEK INDUSTRIES PTY LTD
Unit 5, 15 Lorraine Street Peakhurst 2210

ACOUSTICS
• Manufacturers of high performance modular acoustic panels • Room design • Acoustic analysis



ARO TECHNOLOGY
PH: (08) 8346 4199

Nessel
SPEAKERS
Call Gary
0412 544 537

BURKINSHAW CONSULTANTS PTY LTD
METAL FABRICATORS

THE STAGING SPECIALISTS
STAGING HIRE
SALES & SERVICE
DELIVERY & INSTALLATION
Contact PHIL BURKINSHAW

Head Office: 12 Budgeree Place Hoppers Crossing Vic 3030 Australia
Mobile 0412 386 481
Pager 016 374 824
Office (03) 9748 6864
Fax (03) 9748 8193

\$38,000.00 Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828
 SOUNDCRAFT Spirit live 24-2 \$2,000.00 in roadcase. Spirit Live4 Mark1 \$2,500.00 in case. Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828
 SOUNDCRAFT venue 40/8/2, flightcased

\$9,000.00 (02) 9799 7219
 SOUNDTRAX M Series 32-8-2. Just Serviced, in roadcase. \$3,700.00 Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828
 THEATRELIGHT 36 channel lighting console with flightcase and demux unit \$1,200.00 (02) 9799 7219

YAMAHA 8 channel powered mixer (2x250w) \$800.00 (02) 9799 7219
 YAMAHA 916 16-4-2 \$1,000.00 in roadcase Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

YAMAHA 1027 PRO 1/3 EQ \$600.00 each (02) 9799 7219
 YAMAHA DMP7 8 channel keyboard/effects mixer with built in 2 x SPX90 effects, midi control and memory card \$1,250.00 (02) 9698 3288.

YAMAHA MC2404 in roadcase \$2,500.00 GC 2020 BII \$250.00 R1000 reverb \$200.00 dbx163 compressor \$100.00 Phone (07) 4775 6413

YAMAHA PM 1800 24-8-2 \$5,500.00 in roadcase Cannon Sound Free Catalogue Phone 1800 804 994 or (02) 9550 3828

Graftons Lighting & Sound

Professional Equipment & Service
**Hire, Sales, Installs
 Production & Design**

6/890 Bourke St, Waterloo NSW2017

Tel : (02) 9698 7777

Fax: (02) 9698 9999



**SOUND &
 LIGHTING**

Hire, Design, Sales
 Installations, Service

47 Auburn Street, Wollongong

Ph: (02) 4229 6010



**HirePoint
 Software**

See HirePoint98

For Windows95 & NT

at ENTECH98

Stand A20

It will exceed your expectations!

finalist - 1997 Small business show software awards.

Download a demo from the web now!

www.HireP.com

Phone (02) 9824 1105, Fax (02) 9824 0554

STOP that noise!

Hum Eliminator™
 We've all heard that buzz, that noise, that AC hum pouring through audio equipment. The Hum Eliminator breaks the groundloops safely, while leaving all signal grounds intact. No dangerous ground lifting. Works with balanced & unbalanced signals. Made in the USA. Full 2 year warranty.
2 Channel MiniBox \$169
8 Channel Single Rack Unit \$499

Line Level Shifter™
 Allows you to use equipment with different line level requirements. It converts back & forth between -10dBV and +4dBu. Contains EBTECH's Hum Eliminator technology.
2 Channel MiniBox \$199
8 Channel Single Rack Unit \$599

Australian Audio
 SUPPLIES
 Tel (043) 291 711 • Fax (043) 291 747

E
B
T
E
C
H

IN ~ EAR MONITOR SYSTEMS

THE RADIO STATION (Stereo UHF System)
 THE M-PACK (Stereo Hard-Wired System)

- High quality audio regardless of acoustic environment
- Reduces excessive stage volumes
- Eliminates possibility of feedback
- Reduces risk of hearing loss & vocal fatigue
- Allows better vocal pitching & freedom of movement
- Integrates into any monitor system
- Easily transported - 3RU Case & 22kg.



**FOR HIRE RATES
 & INFORMATION**
 PH: 02 9360 2200
 OR: 0417 929 700

ROCKARD PROTECTOR COAT

\$225.00



**18 Litres
 Delivered anywhere
 in Australia**
Ph: 0412 449 018
 Neil Smith

**"Become
 a Partner
 in Life."**

Anthony Warlow

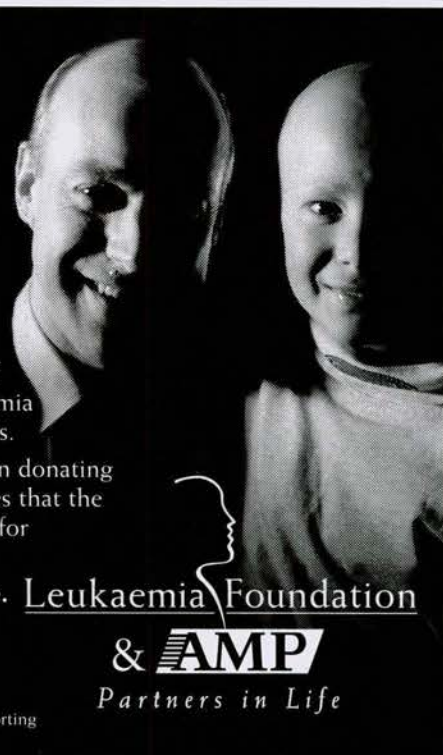
Your donation to the Leukaemia Foundation of Australia will help develop new treatments that will give a ray of hope to children battling leukaemia and other blood related disorders.

You can play an important role in donating funds to support the vital services that the Leukaemia Foundation provides for patients. Be a partner in life.

**Call our donation/info hotline. Leukaemia Foundation
 1800 620 420.**

Leukaemia. There is a cure.
 Help us find it.

AMP - Helping children with cancer by supporting the Leukaemia Foundation. 'Partners in Life'



& AMP
Partners in Life

ON TOUR

SAVAGE GARDEN

large local production takes to the road



FOH SOUND

One of sound engineer Colin Ellis' biggest problems is the screaming girls. Another is the design of the stage with its catwalk protruding into the audience. He readily admits that mixing this tour is the most challenging job he has had so far in his career.

"Darren spends a lot of time on the catwalk and, on top of that, there are hundreds of screaming girls within 3ft of him," lamented Colin. "I have trouble getting his voice over the screaming, all you do is amplify more screaming which makes it worse! With Darren, we've found the Iscomax headsets better than a radio mic, they seem to suit his voice better."

Colin was using the Turbosound Flashlight/Floodlight PA supplied by ACP. He's been using it for a couple of years with Midnight Oil but never in the amount seen at the Savage Garden tour.

"There are 32 Flashlight and 16 Floodlight as well as 32 sub-bass," said Colin. "The cabinets are small and easy to handle, they go for a narrow dispersion so they get high power out of them. It's a nineties designed system - the processor control, the Omnidrives which are really good crossovers. We also use six JBL Array

in fill boxes along the front of the stage. Because the band are all on in ear monitors there are very few wedges so if you're down the front, in front of the PA system, you can't hear any vocal at all so we used the JBL Array boxes."

Colin was using a PM4000 for mixing, mainly because a Midas XL4 was not available at the time.

"I would have had to have an XL3 which is a nice board but doesn't have enough channels - 44 as opposed to 48 on the Yamaha," said Colin. "Effects include a TCM5000, a TC2290, and two SPX990's as well as an SPX900."

"There's a lot of cueing with radio mics to headsets to acoustic sets and all that business. It's a fairly busy show."

MONITORS

Monitor engineer Grant Pucig was using the new Midas XL250 desk the only board he believes he could do this show with.

"It's designed around in-ear monitors," explained Grant. "I have my own business called 'In Your Ear' and I've supplied all the in-ear monitors. The board is supplied

by ACP. I'm using the new Garwood TS (Tertiary Standard) in-ear monitors which are frequency agile. Rather than having a crystal where you've only got two frequencies to chose from, you can actually chose from up to 16 frequencies. I've got five in-ear units run-

ning radio units and I've got one hard wired unit being run as well. If you have any problems with those frequencies you have up to 16 to go to. It's similar to the IDS system which Midnight Oil have been using."

Darren Hayes, Daniel Jones and the backing singers are on radio monitors whilst the drummer is hard wired. Grant



Colin Ellis at FOH

also carries a spare unit as back up wedges are not an option. The lead guitarist and bass player are on stereo wedges.

Although lead singer Darren Hayes has a great vocal range, his voice is not very strong causing problems for Colin but not so much Grant.

"With the in-ear monitors you can get at it so easily," said Grant. "The only problem is with the lack of level going into his mic, I'm getting a lot of spill particularly from the crowd when he's on the catwalk. When that happens, I'll just dial out a bit of the high end."

Vega 87 radio mics with Beta 87 capsules were used for most of the show.

Grant can only describe the Midas XL250 desk as 'fantastic'.

"It's totally designed around in-ear monitors although it can also adapt to sending conventional sends as well," he said. "It's got that perfect Midas sound to it and it's such a smooth desk to run. I'm using all 52 channels. It'll run to 20 sends and I'm

continued over



running to 17, 18 with the support. It's not at all difficult to operate and makes life a lot easier when using in-ears.

"We're running eight radio mic channels on the three back up singers and each of those want reverb as well on them. Each channel has a direct out, so from the direct out I'm going into an eight channel line mixer and then into three different reverb units, then returning to the desk. The desk has the versatility to do this."

LIGHTING

Lighting designer Sean Hackett - better known as Motley - has never worked with a band who have had so much to say about their set and lighting design. You get the impression that the lead singer, Darren, called all the shots and Motley admits that the set became known as "Darren's World".

However, that's not a negative observation for Darren certainly has an active and eclectic imagination.

"He wanted something that looked like

up with the idea of the two drops which originally were to have "Savage Garden" written in Japanese on them but Darren then added the idea of the dragons."

The backdrop was painted by Dave Tomas in Melbourne. Darren wanted bud lighting throughout the backdrop to give the impression of window lights turning on and off. However the bud lighting didn't turn out as random as the vision was because it would have cost too much and taken too much time to have single windows turning on and off. There is still a lot of movement in the backdrop which Motley describes as an 'acid star cloth'. The dragon's eyes have bud lights in them so they can glow red.

"The hexagon didn't work out as great as we had hoped," admitted Motley. "Originally it was going to be there all night but it looked too over-the-top so we got rid of it for half the show."



Tokyo and the city scape was based on Akira cartoons of Neo-Tokyo as well as incorporating a Blade Runner feel to it," said Motley. "The risers and the hexagon shape came from Star Wars. John Vasey had a lot to do with putting it all together."

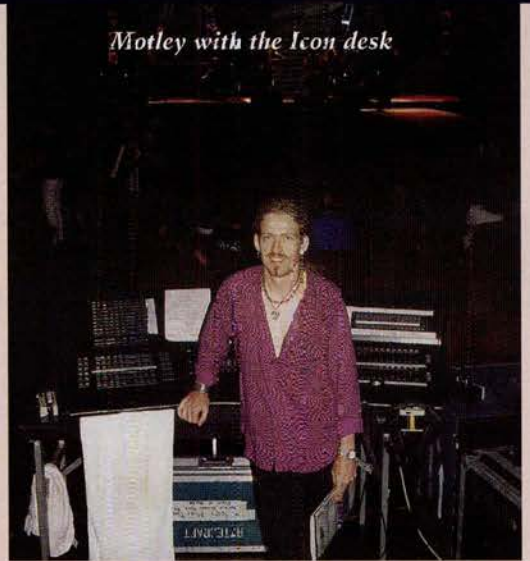
The band met Motley when he was touring the US with INXS late last year, they were one of the support bands on a festival show which turned out to be one of INXS's last gigs. It must have been fate which drew Motley's next major act to him on such an important date.

"When I got back to Australia I heard that they were planning this tour and after a couple of phone calls, it all starting rolling," said Motley. "Darren came up with the concepts and I drew the ideas. I came

mountain the rest of the country wants to knock you down so this show had to be spot on," said Motley. "I think it's incredible what these guys can do. They're professional, tight and put on, and I hate to say this, an 'over seas show'. In this country we have this classic 'you're too cool to be cool' attitude and people like to knock you down. Vision wise, these guys absolutely blow me away. It's not just a basic idea- it's "this is what I want". I'm happy working with somebody else's ideas because at the end of the day you're an employee and if I ever think I'm larger than the band, I should give my job up.

"If you want a show to work really well you've got to put your soul into it and do your thing but then you get everyone else

Motley with the Icon desk



to throw in ideas. I couldn't work out what colour to make the rope light around the set so I said to my fiancée and said "Pick a colour" and she said "Blue, what you talking about?". Blue it was and every said it looks great, really electrical. It's a team effort and sometimes even the sound guy will comment."

Lighting such a dominating set was approached in two ways by Motley. Firstly he lit the band, in this case he added a lot of par cans, then he lit the set with things like truss tones. Everything else is effects over the top.

"Because there was so much bud light in the backdrop, I decided to use strings of festoons because if I had the backdrop flashing on a fast random chase I could do the same with the festoon," said Motley. "I could do slow cross-fades where the bud light comes in and out and the same with the festooning. Because the bulbs are only 25w their reaction time is so quick you can programme a chase that looks like a strobe - they turn on and off so fast because the filaments are so small, the filament takes no time to heat up and no time to cool down, so you can have an instant on/off."

Motley spent three days at Bytcraft re-familiarising himself with the Icon desk, a product that reminded him of his days with INXS.

"I found it difficult to even look at the desk at first," he said. "But I was over it by rehearsals. There are two features of the desk which I really love "Execute Cue" and "Snap Masters"

"Whilst I was at Bytcraft I programmed all these different chases (colour chase, iris chase, strobe chases etc) in the Icon lights and all these different analogue chases like ACL's, backdrop. Then I write out big lists of what I've done and when it comes time to programme, I can point the lights at the mirrorball and hit "Execute Cue" to start the colour chase. I don't know how many chases you could run at



once on the desk, you could probably three different chases on each light and 100 lights all running at the same time!

"With desks like an Event or Avo, you can assign certain cues to certain faders, but with the Icon desk you can have a cue that will assign these cues for you. So when I hit Cue 101, that's song 1 and it will load song 1 in, then 101.1 is my first cue etc. So the whole thing will just load into the desk. To do a segue now you just hit one button and the whole next song comes up in front of you, it's so smooth going from one to another. I then put "Snap Masters" on so that when I hit the chorus, it automatically turns the verse off for me, or if I hit the last cue of the song it loads the next song in on top of it.

"I also like the fact that the desk is Mac based and the people who write the software are open to ideas. It's like a big, blank palette that can be added to. I'm using one Cyberlight in the show because of the hexagon and all I had to do was put overlays on all my palettes so I can run it just like the Icons. You can do the same with most moving lights - the Studio Colors on U2 are being run through an Icon console.

"During the first couple of shows I'd

edit the colours and the gobos, store over the cue, keep going and when I'd go back into the chorus my new look would come back in. It's such an easy desk to work around."

It was beginning to sound like Motley was more sold on the desk than the lights but he replied that he loved the lights except for their cumbersome and heavy size. However, the rotating gobo and zooming ability of them more than made up for their physique.

"The other thing that sells me on the lights is that they are a career move for me," Motley said frankly. "LSD have talked to me about working for them for a few years now. I'm not interested in going overseas just to be a crew chief. I'd rather do that in my home country. I want to be an operator, not necessarily always the lighting designer. In 1986 when I started with Jands, if you were a Vari*lite operator you were not business and you got a lot of work. Now they're circa a dozen and there are 30 different consoles that can run a Vari*lite. LSD supply the complete lighting package."

Motley didn't expect to land a band like Savage Garden straight after INXS. He had planned to take some time off and then wait for the right overseas tour for him to join, with help from Nick Jackson of LSD.

"I want to crack the world market," he stated. "I don't want to do this forever but certainly for the next five years.



new!

DATES of DISASTER

Sound engineer Darryl Lewis, currently working on *Steel City*, recalls *Tap Dogs* big opening night in Los Angeles....



"We had a Midas XL3 mixing console and during the day we had problems with the headphones," he told me. "We thought that maybe they were broken so we changed them twice and we checked that they were working before we put them into the console. We went away and on our return we could smell smoke. Further investigation led to smoke pouring out of the console, two hours before we were due to open. We did a quick test and found that the four groups that were running front-of-house were completely fried.

"We rang several audio companies within the LA basin and A1 Audio said they knew of a guy out in the village who might be able to help. We rang his mobile phone and found him on the beach. He had to ride his mountain bike 5 miles back to his shop and then, with one mate, load a Yamaha PM4000 into a truck - that's about 1000lbs to lift between two of them!!

"He couldn't promise that he would get the console there until 8.05pm and the show was due to go up at 8pm. Then because of traffic conditions, it took him even longer to get there. We had the Federal Police on the Wadsworth grounds to escort the truck in and then 20 men to race it off the truck. We put it up and then re-patched. Going from an XL3 to a PM4000, the gain structures were totally different. We were also using a XL88 as a matrix on the XL3. I'd used PM4000's many times in Australia - I was actually the first person to use them in Queensland. We threw it in and did the show without a sound check. We had no feedback, it was so loud but really clean. We got away with murder that night.

"The show started at 9.10pm and the audience were extremely happy. In fact we got the best reviews we had ever got on the complete tour since *Tap Dogs* started! The show could have made or broke us as this was our first US stop but in the end team work came together."

Dates with Disaster and Rough Riders will alternate in the On Tour section.



LIGHTING

March 1998

MONTHLY

Edited by Catriona Forcer

DLP Update

By Buck Freeman in Detroit

In December *Connections* revealed for the first time anywhere that moving light technology was headed for a major technology change.

Major manufacturers, amongst them: Martin, LSD, Vari*Lite, High End Systems and Clay Paky; are all deeply pursuing the Digital Mirror Device (DMD) technology owned by Texas Instruments. This involves a chip coated with tiny mirrors, each forming a pixel. The mirrors are switched up and down many times per second, synchronised with an RGB colour wheel.

Connections has since learnt that of all the manufacturers, LSD are closest to releasing their product, code named 'Medussa'. Initially the problem of controlling what is, in effect a DLP video projector, will see DMX commands triggering preset actions digitally stored at each fixture. The fixtures will resemble a DLP projector on a moving yoke.

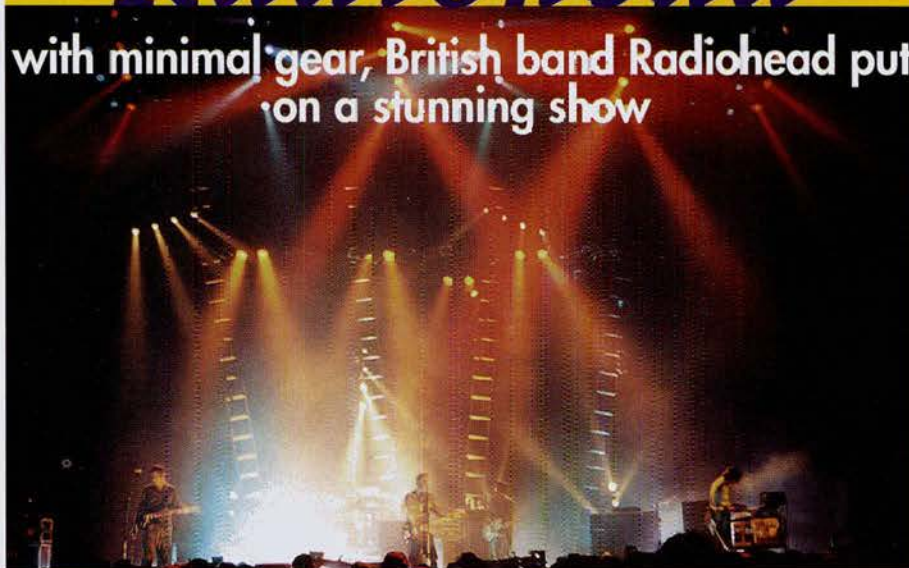
LSD are currently working on software to correct the obvious keystone problems which occur when a focused, projected image is moved off axis.

Ultimately we understand that raw video and effects generation will feed this next generation moving light, which of course has no gobo or colour wheels, indeed no moving internal parts.

For more information, visit the Texas Instruments web site at www.ti.com or see our original story on our site at www.conpub.com.au

Radiohead

with minimal gear, British band Radiohead put on a stunning show



Photos: Cat Forcer

Last month, British band Radiohead played one of the best gigs I've ever seen/heard at the Sydney Entertainment Centre. There were no moving lights, no pyros, no fancy video effects just pure talent. The night before Mariah Carey played the same venue with a totally over the top production incorporating a myriad of different moving lights, video walls, dancers etc. The usual over-choreographed American fodder for the masses. As Ms. Carey was due to play there a couple of nights after Radiohead, the massive rig was deemed to much to pull down and so Radiohead played on a stage built in front of her stage which was masked by a black curtain. Rather ironic.

Radiohead received rave reviews in the local press whilst Ms. Carey was described as having 'the stage appeal of a raw prawn'. You can't mask the live appeal of an artist by fancy production.

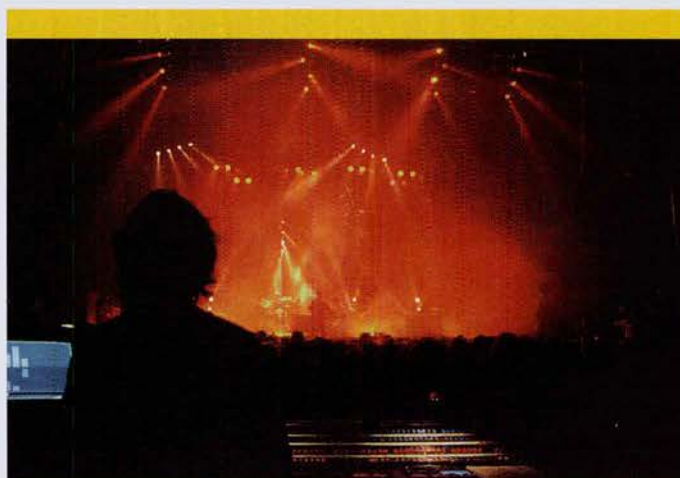
Radiohead's lighting designer, Andy Watson, has grown with the band, having been with them for nearly five years - in fact Radiohead have toured fairly solidly for the past four years. Before that Andy spent many years operating Vari*lites on ma-

jour tours such as The Cure and he now finds himself designing for the same size venues he used to operate Vari*lites in.

"Designing is much more fun though," he said. "This tour has been going since May last year and still has a couple of months to go. It seems that Radiohead can sell out 5000 seats virtually anywhere in the world - not bad for a band nobody had heard of a couple of years ago. They're very ordinary blokes, very nice to work for, they just let me get on with whatever I want. It's not that they don't have any input they're just happy with what I do."

The shows in Europe culminated with large arena shows incorporating 30 Icons and 18 V.6's although Andy frankly admits that he gets a bit fed up with moving lights having operated them for so many years.

"With the Japan, NZ and Australian tour





there were different variations to the rig in every territory with not enough time to program," said Andy. "Rather than come with a botched half-hearted attempt we went for the simpler option of this rig. Since I left Vari*lite, I've never felt the need to have moving lights just for themselves. There's a time and place like the arena tour. If I'd had the time I would have had moving lights on this but this is a good compromise. The band's music is very powerful and for these shows more simplistic but theatrical lighting works - it's more organic rather than having the hardness of moving lights."

The shows in Europe and the US also used ETC Source Fours with scrollers and gobos.

"I haven't got them for the Australian shows," said Andy. "I'm using Altman Shakespeares which don't seem to have the punch and intensity of the Source Fours. It was down to a promoter deal and various compromises had to be made. The Shakespeares are fine for some of the show but with the more saturated colours they don't cut enough. They don't seem to be able to deal with the faster chases I've programmed."

The 36 Shakespeares include twelve on the floor and four groups of six in the rig itself. The rig had a back and front truss and four ladder trusses as the only scenic element in the show. Two sets of six Shakespeares were at different heights on the ladder trusses whilst the other two 'pods' were in the rig.

Also used were six colour Par washes and ten single pars with scrollers to provide colours the washes don't. There were Par 36 ACL's, some in white on the band

and some in 22 and 141 on the audience for mild audience lighting. A few Red-heads were positioned on the floor behind the band members.

"It's not a huge rig but it's also not the simplest, it takes quite a while to take down," Andy said. "We're having a few problems at the moment with the Par 36 ACL bulbs which keep going bang but everything else has been fine so far."

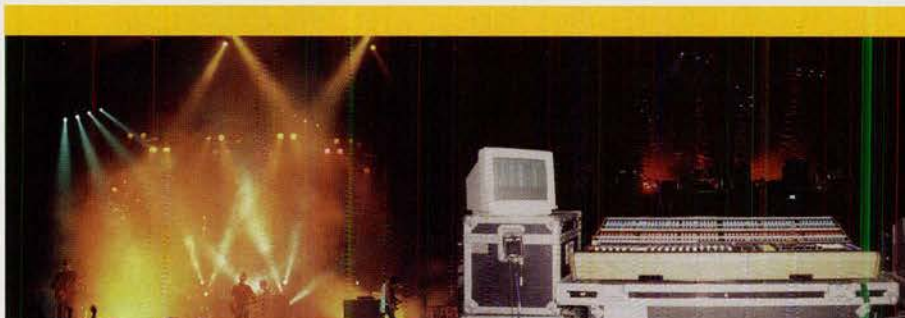
Lighting Designer Andy Watson



Andy was happy that Chameleon Touring Systems had shipped in an Avolites Diamond 111 control desk from Production Works in Hobart especially for him.

"I started the tour with my preferred desk a Celco Gold, then we went to two Celco Gold's slaved together but we had a few problems with that," Andy said. "Eventually we ended up with a Diamond 111 as an alternative but it worked out pretty well. For its size it does an awful lot. For this show I'm only using it for the conventionals, historically on this tour I've used Colormags so I've used a Colormag desk for them so none of the scrollers have run DMX off the desk. Here we've kept that same system with the colour scrollers run off a Jands Event."

● Cat Forcer



LXbizzBITS

NEWS

TECHNO RANGE HAS ARRIVED

Following upon initial showings and overwhelming response both at Plasa 97 and LDI 97 the new Techno range of Automated Luminaires from High End Systems & Lightwave Research commenced shipping from Austin Texas within February.

The Techno range of automated luminaires comprises four models being Technobeam, Technobeam with L.A.D, Technoray and Technopro.

Each model employs a lamp new to the Philips range, an MSD250-2 metal halide arc lamp with 2000 hour average lamp life and stable 6500 degree Kelvin colour temperature.

All models allow 8 scenes to be user programmed on board the fixture without the need for a controller which will be useful for stand alone architectural or retail display applications.

All models are also lightweight due to the extensive use of engineering thermoplastomers throughout. Technobeam weighs 16 Kg whilst the Technoray and Technopro weigh just 14 Kg.

One of the companies within Australia to purchase luminaires from the first delivery was Lighting Lab of Melbourne adding 24 Technobeam with L.A.D to their intensive inventory of Trackspot automated luminaires.

Call TechScape (07) 3358 5118

Base down axial profiles.

Active Heat

Management - AHM

Pacific

Cool light. Cool luminaire. The next generation

<http://www.selecon.co.nz/~selecon>

Flamenco Fresnels

Passionate Spanish lighting

Everyone seemed to agree that *Gypsy Passion* was a great show, in spite of its star. With his six profile positions, and corny Bogart hat routine, Joaquin Cortes came across as a poncing, pretentious prat. But the 13 musicians on stage, the plangent flamenco songs, and the other dancers were electrifying.

And the lighting, all 384 cues, was brilliant.

The curtain rose on a tableau of dancers, bathed in blue light and orange candlelight. "This beginning of the show is about the origin of the Gypsies, from India. The music, costumes and incense show that," Beloqui said.

Each number had distinct, strong lighting design. The LD, Juanjo Beloqui, used complementary contrasting colours well,

and strong light shafts with sharp edges made a stunning backdrop. Beloqui's lighting was very rhythmic, and worked dramatically with the music.

Dozens of light shafts on different dancers would revolve beautifully in one spot. Some pieces were starkly lit with white.

Beloqui worked for Vari*Lite in Spain for ten years, and used to design for rock and roll, but he has been with Cortes for two years. When I asked him if he had worked for any famous bands, he explained that, "Being Spanish, it's really difficult to do anything exciting. This job is the worst job for Spanish people, because foreign acts don't use Spanish lighting designers."

The *Gypsy Passion* set is basically a black box. In Sydney, there was a cyclorama, used well. "There is no colour on the sidelights, only cold and warm. I used no colour gels, only temperature corrector in the Fresnels and Pars. All the colour is made from the Vari*Lite's hung from the pipes. I have 18 VL5s and 9 VL6s, and 5s and 6s on the floor.



"Basically there is always changing ambience, from one big colour to another big colour. I used warm for the classical flamenco."

Another striking effect was cross hatched white bars of light on Cortes at the end of a dance.

Aussie lighting techs

Beloqui has toured Europe, as well as North and South America. "Australian techs are great! They work perfect, very serious, and quiet in the clearcom. We were in Brazil on the last tour, and it was completely different. People don't work as well. In South America and Spain, people chatter away in the clearcom all the time. It's funny, but it's horrible. Here the follow spot guys are really incredible."

The troupe are off to Japan, then Canada in the next few months. Being on tour means Beloqui has to think fast and be adaptable. In South America, he was faced with an alien lighting console. "I have to learn it," he shrugged.

• Madeleine Murray



Juanjo Beloqui

pirouette

from



- Familiar Theatre Lighting qualities
 - Precision remote control
- Use with 2500, 2000 or 1200W lamp
 - Unique suspension arrangement



available from

BYTECRAFT

PTY LTD ACN 006 348 054

23-27 Fonceca St, Mordialloc, Vic. 3195
Phone: 03 9587 2555 Fax: 03 9580 7690

5/31 Bridge Rd, Stanmore, NSW 2048
Phone: 02 9550 3955 Fax: 02 9519 3977

Write in Reader Service No: 101

SUPER
BRIGHT

HIGH-RES
IMAGE
PROJECTION

SPECIAL
EFFECTS

RICH
DICHROIC
COLORS

ON BOARD
8-SCENE MEMORY

AFFORDABLE

I SCREAM, YOU SCREAM,
WE ALL SCREAM FOR

TECHNOBEAM™

High End Systems first revolutionized the lighting industry almost a decade ago with the Intellibeam® 700HX. Next came Emulator®, Trackspot®, and in 1993, the extraordinary Cyberlight®. Not since the debut of the outstanding Studio Color® has there been this much TO SCREAM ABOUT.

High End Systems proudly presents the new Technobeam™ range of automated luminaires.

YOU'LL SCREAM FOR THE OPTICS

YOU'LL SCREAM FOR THE EFFECTS

YOU'LL SCREAM AT THE POTENTIAL

At High End Systems, we take great pride in our products and our reputation as the industry leader. We've heard your screams...

WE GUARANTEE TECHNOBEAM'S BEEN WORTH WAITING FOR.

& THE TECHNORANGE
FAMILY OF AUTOMATED
LUMINAIRES

TECHNOPRO™



TECHNOARY™



82 Arthur Street, Fortitude Valley,
Brisbane, Queensland, 4006, Australia
Tel: 61 7 3358 5118 Fax: 61 7 3358 6032
Toll Free: 1 800 773 187
Email: tscape@mpx.com.au

Write in Reader Service Number: 107

High End



SYSTEMS
LIGHTING • WORLD • WIDE

<http://www.highend.com>

HIGH END SYSTEMS, INC.:
2217 West Braker Lane, Austin, Texas 78758 USA
Tel: 512.836.2242 Fax: 512.837.5290

HIGH END SYSTEMS, WEST COAST:
8200 Haskell Avenue, Van Nuys, California, 91406 USA
Tel: 818.947.3588 Fax: 313.908.8975

HIGH END SYSTEMS SINGAPORE PTE. LTD.:
Cencon 1, 1 Telukroy Road 06-C5, Singapore 347719
Tel: 65 742 8266 Fax: 65 743 9322

HIGH END SYSTEMS GmbH:
Tel: 49 8122 3903-0 Fax: 49 8122 9903-33

CLAY PAKY MINI SCAN HPE

By Cat Forcer



Since it's arrival in Australia the demand for Clay Paky's MiniScan HPE intelligent moving mirror luminaire has been so great Show Lighting Australia (the Australian distributor) have, by all accounts, had trouble supplying the orders.

Probably the most impressive point about the MiniScan HPE is its size versus the features and this alone makes it very popular. It is an upgrade for the MiniScan 3 and is an indication of how far technology has progressed since it has the same features as the GS 111 but is only one third the size and weight.

Av Sound Productions, based in Sydney, are mainly known for their work within the club and dance market - productions and installation. The company were one of the first to use the Mini Scan 150 which proved to be a successful and popular light, in fact the company still have some running in clubs today. It was therefore natural for them to update to the Mini Scan 300 and then the MiniScan HPE. They now have nearly 70 MiniScan HPE's permanently installed in clubs.

I met Dave Coxon, Installation Sales Manager at Av Sound, at the SkyBar in Sydney's SkyGardens centre where six MiniScan HPE's are permanently installed. On Saturday nights the venue holds large dance parties and up to another ten MiniScan HPE's may be added.

Dave Coxon



SkyBar



promotion or a new

night. Gobos are relatively cheap so it's a cheap form of advertising.

"The stock gobos are very similar across the whole class of light, the difference is some lights have more and some have less. In reality, in a dance situation, the stock gobos are more than adequate. The mirror movement is nice and smooth."

The MiniScan HPE has a group of six rotating gobos which can spin in either direction at variable speed. Gobo rotation is indexed at 540° thereby allowing effects to be precisely recreated on any number of different projectors.

The mirror movement uses high-resolution microstepping motors and extends to 150° in tilt and 110° in pan for ample coverage.

LAMPS & LUMINOSITY

"I find the light is brighter - the lamp output is far greater than other lights including the old Mini Scan, even though it's got the same lamp it's more powerful," said Dave.

This is achieved by the lamp-optical system combination which provides almost double the luminous efficiency (+95%) of standard units. The MiniScan HPE uses a 300 watt Osram HTI 300 lamp with a luminous flux of 22000 lumen, an average life of 750 hours and a colour temperature of 6500° K. Dave told me that Osram are due to release a new 2000 hour lamp soon.

HEAT PROBLEMS IN CLUBS

"Lights like the Trackspot use a 24v lamp and so they don't tend to over-heat," Dave began. "There are certain clubs we do where the temperature gets ridiculous on the ceiling and when we were running the Mini Scan 300's we were encountering thermal problems that a Trackspot could deal with. However we would have to change their lamps every week. We have no more problems with the HPE's over-heating than any other lamp in the inner-city club but they can over-heat. Condensation isn't a problem because as the lamp gets so hot it burns the moisture away."

CONTROL

"We run either a Jands Event or the Elektralite

TEETHING PROBLEMS

"When they first came out we had a few teething problems with them," Dave admitted. "The lamps had a tendency to explode but the problem has been rectified. Apparently it was a problem with the lamp itself not the unit.* The only problems we encounter with the unit is that the gobo wheels occasionally stick but they can be reset from the controller by flicking the gobo fader up to maximum and then back down."

GOBOS

"I like the rotating gobos and the fact that you can interchange the gobos," said Dave. "We often get the venues' logo laser cut into a gobo or point of sale advertising which we insert into the unit. Because it's got the rotating gobo we can put it on the wall, get it up the right way and it will go back there every time. It's good for marketing, a special

Australia's Portable Stage Lighting Specialists

As industry leaders for over 20 years, CLS continue to specialise in the manufacture, supply and production of stage lighting, rigging & accessories for entertainment, exhibitions and displays throughout Australasia.

Need rigging, lighting, drapes, effects, control systems, fittings, installations or a specialised crew for touring, theatre or corporate events? CLS have all your stage lighting needs covered from start to finish.



Concert Lighting Systems (Australia) Pty Ltd
282 Normanby Road, Port Melbourne, Victoria 3207
Tel: 61 3 9646 8444 Fax: 61 3 9646 8555

Email: cls@enternet.com.au Internet: <http://people.enternet.com.au/~cls>

CP10 or CP10XT which are perfect for nightclubs," said Dave. "We have a guy who'll spend a day at the club after the install putting in dozens of programmes, then locks the controller out so it's "idiot-proof" operation."

Av Sound have many of these set ups throughout the Sydney club world with most DJ boxes set up the same way. As the DJ's tend to move around on the club circuit, this makes life easier for them.

"We try to keep the programmes similar, ie: if you have a strobe programme it's Chase no. X in every club," Dave said. "They have different programmes but similar patterns and things laid out in similar ways on the desk just to make it easier. A lot of the smaller clubs tend not to have a lighting operator so this is important as the DJ doesn't want to have to worry about the lighting. If you keep it similar at every venue, they quickly get the idea of it."

All functions are fully controlled from the lighting desk on seven channels using standard DMX and RS232 (PMX) digital signals.

COLOUR

"The colour system is very similar to other units - a disc with dichroic colours in it," said Dave. "The colours are fine, it's a subjective thing depending on what colours you want. On occasion there is a necessity to match a colour with, say, a par can. We tend to try match the par can rather than match the scan because getting new dichroics and gluing them is a little difficult. When we match a logo we use a glass gobo which has the colour put in it."

The MiniScan HPE has a second effects disc which can combine with the colour disc to obtain 36 different colour combinations. On the second effects wheel there are the 3200K and 6000K temperature correction filters (which assist in producing the 36 colours and for TV and film work), plus a cyan filter to assist with all those hard to obtain colours, plus a UV woods glass filter for UV type effects. The dichroic filters are interchangeable so that users can devise their own personalised palette. The rotation speed of the colour

Back of the MiniScan HPE



you've got it rotating it's a useful beam effect in that it opens the gobo pattern right up and as a tunnel effect it can look very spectacular.

"All these effects on their own are superb but combine them in a venue with a dozen lights all working in sequence and you get a marvellous effect that you can not achieve with any other light of that size."

DIMMING & STROBE

"The strobe is actually very effective, but because the lamp is so punchy if you have six units in the roof you don't need a strobe," said Dave. "By getting the units to go at different speeds you can create an incredibly bright and attacking strobe effect. To be honest, we never use the dimmer in most situations as we're looking for maximum light output. When you have a fairly vicious gobo like a cone and then a colour, you don't really want a dimmer because in a club you're competing with things like bar lights and exit lights."

The dimmer has linear adjustable movement from 0 to 100% and instantaneous beam blocking. The strobe effect can be adjusted from 1 to 11 flashes per second, with a black-out time of 40 milliseconds.

ELECTRONICS

"Pulsar electronics are absolutely fantastic and we have very little problems with them at all," said Dave. "In all are units, I

continued on next page

The Colour Wheel



SHOW TECH
R I G G I N G
Australia
 ACN 062 726 078

STAGING, RIGGING, ENTERTAINMENT TECHNICAL AND UNCOMMON SERVICES

23 CHESSELL ST, SOUTH MELBOURNE, VICTORIA, 3205

PH: 03 9682 2900 FAX: 03 9682 2100

EMAIL: showtech@iaccess.com.au

CLAY PAKY MINI SCAN HPE

continued from previous page

think we've only twice had an electronic fault. You do get IC's that blow up or one that doesn't quite meet spec but that to be expected. The Clay Paky equipment is great because it's designed to be fixed easily, if you do have a fault it's easy to find."

SIZE OF UNIT

The MiniScan HPE is a very compact unit 582 long x 238 wide x 300 high and it weighs 13kg. Size is important in the club world.

"We recently installed six into the Pavilion Hotel which has a very clean, tidy design and is aimed to the "suited" market," said Dave. "They didn't want black lighting fixtures hanging from the ceiling so we mounted the scans bottom up and cut them through the ceiling so that the only part of the scan showing is just the bottom ten inches. It looks very good and keeps the clean line. Also, roof cavities tend to be a lot cooler than the actual room itself so the lamps don't overheat. For maintenance I've designed a system of bolting which works well. They also tend not to get so much dust in them in the roof."

MAINTENANCE

"Maintenance is very easy," said Dave. "General maintenance can be done through an inspection port on the back which is just a single toggle bolt and half the back of the lamp comes off. If you want to do any major maintenance or change the gobos there are four screws across the back of the lamp which undo so you can split the lamp in half. To change a gobo in the unit, if you have it on a table in front of you, should take less than five minutes. The insides of the unit are modular so if you do have a problem, you can pull a whole module out and replace it. We've not actually had that happen yet."

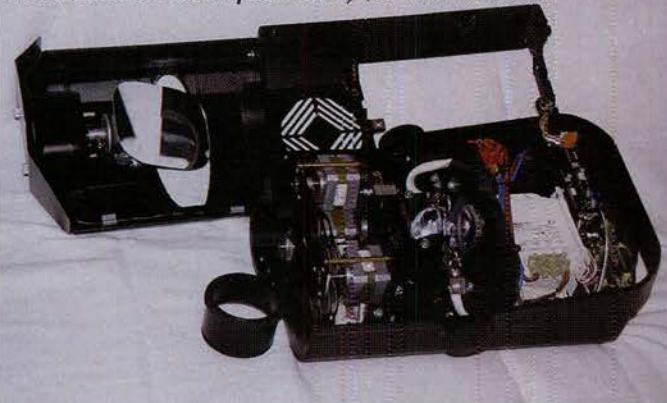
IMPROVEMENTS

"I'd like to see the price improved!" said Dave. "I don't think there are any sensible improvements that can be made. I don't want to say it's the best thing in the world but then I don't want to say it's not. For us it suits the market we're in, it works very well and they are proving to be quite reliable."

SERVICE

"Show Lighting Australia have fantastic back up," Dave said. "I think they had problems with supply of the HPE, they couldn't get enough of them. They seem to always have spare parts for everything in stock. We've never rung up and not been able to get a reflector or a lens or whatever."

The MiniScan HPE opens easily for maintenance



FINAL COMMENT

"It just gives you a brilliant, clean look," said Dave. "I think the HPE has left all of its competitors for dead in that it's a bright, feature packed, small unit. It's offering you features of the large fixtures which are often out of people's price range or are just physically too big to put in a venue. They are a very robust unit and we have very few problems.

"If you're going to spend money, don't skimp because it'll cost you in the end. We're running a hire company and I've been in the industry for ten years using all different types of moving lights. My honest opinion is that the MiniScan HPE, for our market, fulfils most of our needs. For us they've proved to be a very worthy light."

* Peter McKenzie of Show Lighting Australia replies: Yes, there has recently been some isolated problems with a batch of lamps (HTI 300), which coincided with the release of the MiniScan HPE. There was only a couple of dealers affected by this problem and faulty lamps were

supplied with either new VIP 300 Projector or MiniScan HPE luminaires. Both the old MiniScan HTI 300 and CombiColor HTI 300 utilise the exact same lamp as the new MiniScan HPE which has been released now for approximately 3-4 years and had no major failures.

Osram Australia has now pinpointed the batch of problem lamps and any lamps that have presented problems have been replaced by Osram free of charge. New batches of lamps released by Osram do not have any problems.

Unfortunately this small problem cannot be controlled by either Show Lighting or Clay Paky and is a common problem that can be experienced by any luminaire manufacturer who is

at the mercy of the lamp manufacturer.

Price: \$4589.35 ex tax. (All Clay Paky luminaires come with a 2 year warranty).

Manufactured by: Clay Paky +39 35 65 43 11

Good People to Know: Av Sound Productions +61 2 9948 2644

Australian Distributor: Show Lighting Australia +61 2 9898 1665

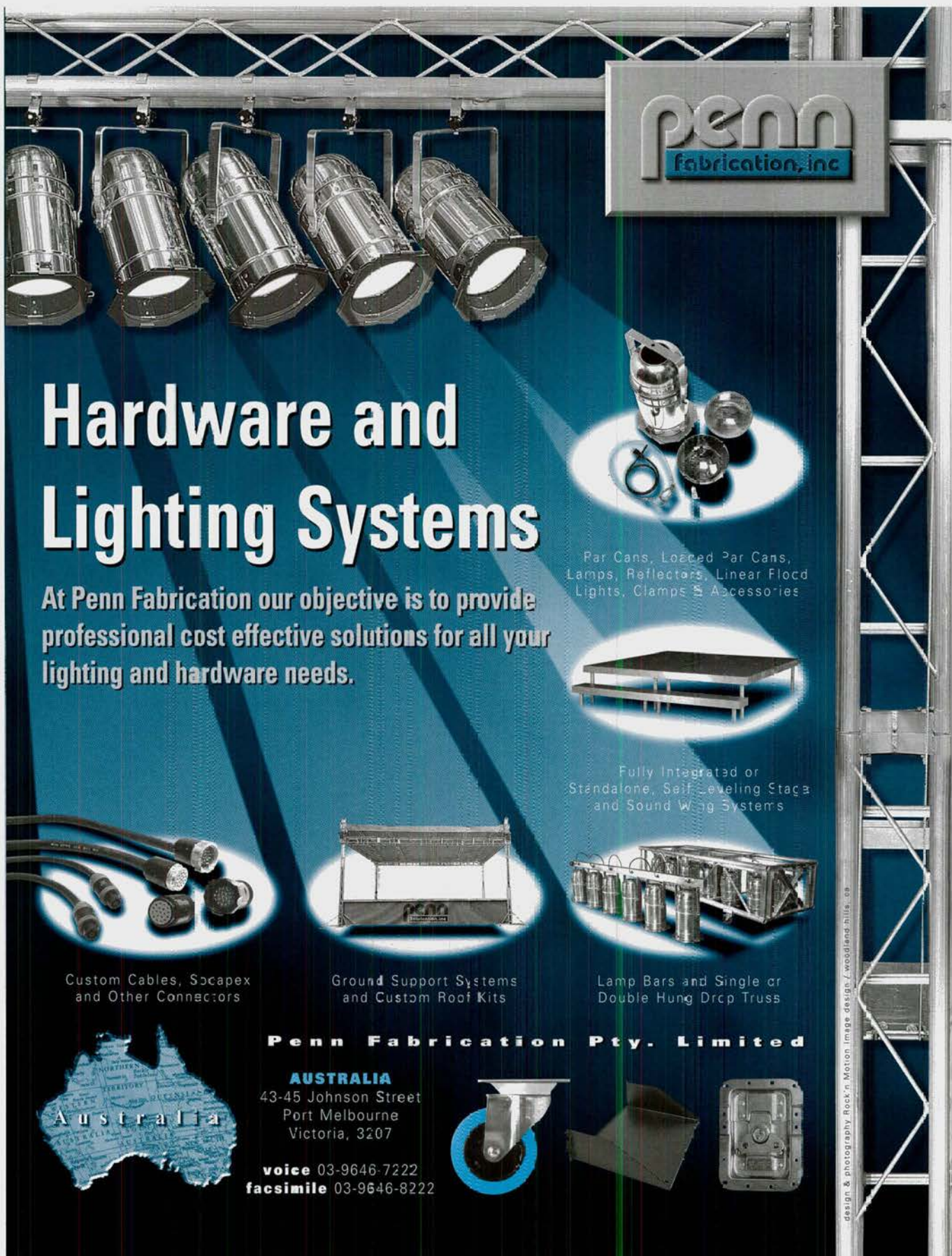
New Zealand Distributor: Show Lighting Australia +61 2 9893 1666

Singapore Distributor: Hawco Trading +65 287 0011

Hong Kong Distributor: A.C.E. International +852 2424 0387

Gobo Wheel



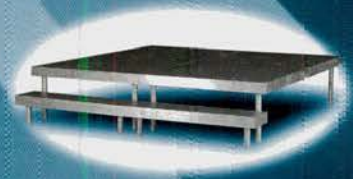


Hardware and Lighting Systems

At Penn Fabrication our objective is to provide professional cost effective solutions for all your lighting and hardware needs.



Par Cans, Loaded Par Cans, Lamps, Reflectors, Linear Flood Lights, Clamps & Accessories



Fully Integrated or Standalone, Self-Leveling Stage and Sound Wing Systems



Custom Cables, Scapex and Other Connectors



Ground Support Systems and Custom Roof Kits



Lamp Bars and Single or Double Hung Drp Truss



Penn Fabrication Pty. Limited

AUSTRALIA
43-45 Johnson Street
Port Melbourne
Victoria, 3207

voice 03-9646-7222
facsimile 03-9646-8222



design & photography: Rock'n' Moton image design / woodlawn hills, ca

Write in Reader Service Number: 161



A Tungsten Halogen lamp is basically no different to an ordinary tungsten 'incandescent' lamp; both use a tungsten filament and both can use an inert gas filling of mainly Argon gas. The only real difference is - **1:** The operating pressure of the lamp and - **2:** The volume of the capsule in relation to the filament size.

A 'CP' lamp with a correlated colour temperature of 3,400K, has a filament operating temperature of 3,3820C, (hot enough to melt asbestos) this is close to the melting temperature of tungsten at (around)3,3820C. At this temperature the filaments molecular structure is 'boiling,' just like water gives off steam, the tungsten slowly vaporises as tungsten mol-

to 3,1000C the glass can not be positioned close enough without softening. Second, the increase in pressure will fail the glass capsule. Increasing the glass wall thickness to compensate and the glass retains more heat so gets hotter, light transmission losses increase and the cost increases.

To overcome these problems Quartz is used instead of glass. Quartz is a very much more complicated material, it goes 'plastic' at temperatures in excess of 2,0000C. Does not melt, but, suddenly irretrievably changes into an opaque crystal structure.

Using quartz, we can now get the wall close enough to the point where there is no thermal convection currents flowing around the filament(s) (known as the

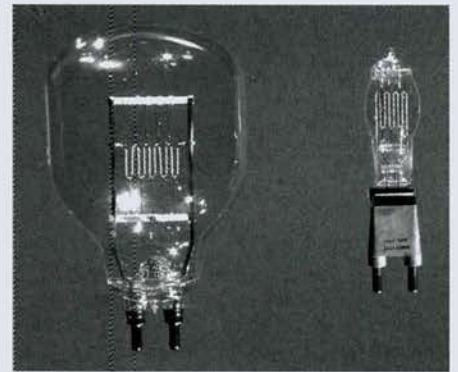


Fig 1 Shows a 5 kW conventional studio lamp against a 5 kW halogen lamp (circa 1967). Note: in the conventional lamp, tungsten granules (seen in-between the base of the supports) are added so that periodically (about every 2 weeks in the professional theatre) the lamp was removed and the granules 'swished around' the lamp wall to clean off the black tungsten deposit. Also note that the reason for the long base on the halogen lamp is simply to allow it to be retrofitted into the same lantern as the conventional lamp.

the MYSTERIES of the Tungsten Halogen Lamp

ecules are 'boiled' from the surface and drift by convection currents to the outer wall where they settle and cool back into solid tungsten particles. As a result, the lamps outer wall slowly goes black.

We can stop this tungsten evaporation in 2 ways.

1. Stop convection currents in the lamp which 'drag' the vaporised tungsten molecules from the filament and speed up the evaporation process (just like we do by blowing across a hot cup of coffee to cool it down)

2. Increasing the gas pressure will make it much harder for the tungsten molecules to 'boil' off and escape from the filament (same principal as a deep sea diver has increased difficulty in movement due to increased pressure)

Combining points 1 and 2 allows the lamp engineer to give the lamp either 40% more light out put, or, 400% more life, or, combination of the two - say twice the life and 20% increase on light output for the same wattage as a conventional incandescent lamp.

Note: Neither points 1 or 2 need 'halogen' to achieve these results, but; both these solutions have a problem using glass as the outer envelope. First, glass melts at 630 - 7750C (depending upon type) and can start to become pliable at temperatures as low as 2500C. To stop convection currents within the lamp the glass must be much nearer to the filament. As the filament is running close

Langmuir Layer). Here capsule wall temperatures can be 250 - 5500C and gas pressures can be up to 10 times that of the original incandescent lamp.

And that's the secret!



Fig 2 Shows a 1 kW GLS lamp compared with the equivalent halogen lamp this clearly shows the reduced volume of the halogen container when compared with the conventional lamp.

Now we have a new lamp with no convection currents to blow away the tungsten and the increased pressure makes it harder for the tungsten to escape from the filament. To achieve this, we end up with a container using quartz with an overall volume about 1% that of a conventional incandescent lamp. (See fig 1 & 2) What tungsten does escape will therefore coat the capsule at a rate of 100 times faster than conventional lamp.

Halogen to the rescue!

Whist avoiding a chemistry lesson, think of a halogen as a 'facilitator'. It is there to help other elements to do certain tasks they would not normally do on their own. And that's ALL it does!

There are four elements within the Halogen group. These are: Iodine, Bromine, Chlorine and Fluorine. All can be used in tungsten lamps, (dependent upon temperature, pressure of lamp and speed of response) although Iodine is the most common in Theatre Studio lamps as it is the least corrosive, but, is relatively slow to react (no good for car head lamps for example, where a fast reaction is required. Bromine is more common in these lamps).

The 'halogen' will become reactive at given temperatures and will allow chemical combinations to form. As a pure element the halogen will travel within the cooler layers and will combine with floating, or, wall deposited tungsten molecules to form 'Tungsten Halide' in Argon gas it does not form tungsten halide gas (a halide is a chemical combination (compound) of a halogen and a mineral) at this point, the newly formed compound - Tungsten Halide, prefers the higher temperature layers and accelerates towards this.

As it moves towards the filament, the temperature rises to a point where the halogen and tungsten disassociate back into their original elements, the tungsten molecule continues on the same path as

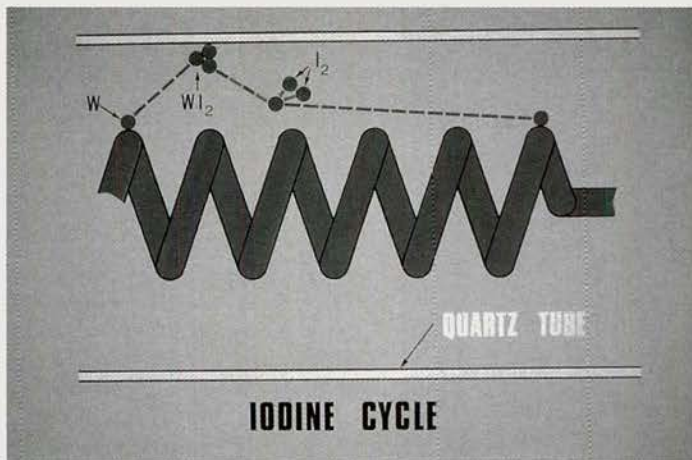


Fig 3 Shows the Iodine cycle where tungsten atoms (W) escape from the filament and combine with 2 atoms of iodine (I) to form the halide WI₂ note that the tungsten is re-deposited at a different place from where it started.

projected, the halogen reverses and heads for the cooler parts and 'looks' for another free tungsten molecule in the cooler region, this process is known as the: 'Tungsten Halogen Cycle' (see fig 3)

Unfortunately the tungsten combines back onto the filament which is at a temperature lower than the hottest (thinnest) part, so the cooler parts get thicker with re-deposited tungsten and the hotter parts get thinner as they 'boil off' tungsten (see fig 3). The net result is the lamp eventually fails at the thinnest part of the filament (the problem accelerated by the halogen cycle).

Naturally; if the tungsten went back to the hottest parts of the filament, then we would have (in theory) the ever lasting lamp, but; chemistry does not always work the way we would like. So the halogen is simply there as a (necessary) cleaning agent, without it, the lamp wall would go black long before the lamps useful life was over.

All halogens are slightly coloured, and can produce transmission losses of 3 - 10% Iodine lamps look pink immediately they have been switched off, the pink appearance restricts light output when the lamp is operating.

The halogen is also highly corrosive at elevated temperatures and will corrode cooler parts of the filament supports. These areas of construction are 'reinforced' so that the lamp supports do not collapse due to corrosion before the 'normal' filament end of life.

So to summarise: the performance of a tungsten halogen lamp is a result of increased gas pressure and an elimination of the convection currents. - End of story!

The Tungsten Halogen Cycle is there to clean the outer envelope only and does not directly increase life, or, light output. It has adverse effects on the lamp, by reducing lamp life by corrosion, by tungsten deposition on the cooler parts of the filament thus making the thinner parts hotter and so reduce life, and, by absorbing light by being slightly coloured.

And now to the Industry Confusion! So what happens when we dim the lamp?

The temperature of the filament reduces, as a consequence its evaporation is reduced to a point where the halogen cycle is redundant. At black heat the lamp would (theoretically) last for ever as there is virtually no evaporation, simply the filament is not hot enough to 'boil off'. But, the analogy being made by stating that 'at no light output you are still evaporating tungsten' is like stating that 'a cars engine consumes the same amount of petrol irrespective of what speed the car is going'.

Halogens are temperature dependent they will not chemically

continued on next page

Bigger is better!



ARENA 250mm 10" lens

10 inches may not sound much bigger than 8 inches, but some of us know better...



ARENA 200mm 8" lens

20 years of theatre luminaire development has been marked by a drive to smaller luminaires, at some cost to performance and light quality.



SF1200 175mm 7" lens

Compare actual surface area, a 10" is 56% larger than an 8", collecting more light. Our 7" SF1200 has a lens area 36% larger than an industry standard 6" lens, giving up to 50% extra light output in spot focus. In flood focus, the difference falls to around 20%.



COMPACT 150mm 6" lens

ENERGY EFFICIENT, CLEANER EDGE AND BRIGHTER, SHARPER COLOURS ARE ALL POWERFUL REASONS TO CONSIDER... AND ALL WITHIN A BODY SIZE THAT IS NO LARGER THAN THAT OF AN INDUSTRY STANDARD LUMINAIRE.



ACCLAIM 110mm 4 1/2" lens

Selecon fresnels are used in many of the world's leading theatres including the Sydney Opera house, Welsh National Opera, Gothenburg Opera, Victorian Arts Centre, Queensland Performing Arts Trust, Adelaide Festival Centre and Korea's National theatre in Seoul.



FRODO 50mm 2" lens

Selecon Australia distributors:

- NSW** - HERKES PRO LIGHTING: contact Wayne or Alf, Ph 02-9319 3133, Fax 02-9319 0204
- VIC** - CLEARLIGHT SHOWS PTY: contact John or Sam, Ph 03-9553 6888, Fax 03-9553 4401
- LIGHTMOVES**: contact Graham, Ph 03-9813 2955, Fax 03-9813 2466
- THREE ARTS**: contact Janet, Ph 03-9818 0397, Fax 03-9819 1851
- QLD** - HERKES PRO LIGHTING: contact Tim, Ph 07-3841 4288, Fax 07-3841 5448
- SA** - OSMOND ELECTRONICS: contact John, Ph 08-8410 1111, Fax 08-8410 3322
- QLVT**: contact Paul, Ph 08-8340 1999, Fax 08-8340 1980
- ACT** - SCUND ALVICE: contact Norm, Ph 06-280 8777, Fax 06-280 8177
- WA** - STAGE & STUDIO: contact Byron, Ph 08-9227 9932, Fax 08-9227 9347
- TAS** - K.W.MCCULLOCH: contact Clive, Ph 03- 6343 1043, Fax 03-6343 1847

SELECON NEW ZEALAND - Ph 64-9-360 1718, Fax 64-9-360 1719
Email - selecon@selecon.co.nz Home page - www.selecon.co.nz

SELECON

Write in Reader Service Number: 148

continued from previous page



combine with tungsten molecules at temperatures much below 2500C the halogen and the tungsten disassociate on switch off. The lamp reverts back to operating as an 'incandescent' lamp. When the lamp is not operating the 'Halogen cycle' there are then three elements in the lamp:

- 1: The halogen (Iodine, Bromine, Fluorine or Chlorine).
- 2: The Argon gas (and sometimes Hydrogen and/or Nitrogen gas to act as arc suppressors).
- 3: The tungsten filament(s).

There is no 'Tungsten Halide Gas' as stated in the article and you DO NOT 'lock up all the available halogen gas' simply because the lamp does not contain 'halogen gas' it contains a halogen AND gas. The halogen has no chemical bonding with the gas.

The 'Halogen Cycle' is continually reversible, just like water into ice, then back to water, then on to steam, then back to water. It is infinite; as opposed to finite like mercury in a discharge lamp which is absorbed into the glass or quartz wall and so is 'used up' during burning of the lamp. The halogen is never 'used up' but continually recycled.

Given that the life of any incandescent lamp is related directly to the evaporation rate of the tungsten filament and that the temperature of the filament is related directly to light output the following relationship exists.

At 80% light output the evaporation rate has decreased to a rate of (approximately) 50% so we get 200% the rated life.

At 50% light output the evaporation rate has decreased to a rate of (approximately) 6.6% so we get 1,500% the rated life.

At 20% light output the evaporation rate is less than 0.05% so we get - a b**** long time!

If the lamp is run for some considerable time at low level, *2 the capsule will slowly go black. But that is ALL that will happen. Simply bringing the lamp up to a high level will start the halogen cycle and the lamp will self clean.

As the lamp dims it will follow (almost) the standard CIE tungsten lamp life / light output curve. (see fig 2). I say 'almost' only because the halogen is most destructive at the point where it is just about to stop reacting with tungsten. This point is entirely dependent on lamp wall temperature which is effected by the lantern it is in, how long it has been on (residual heat) colour filter used, (reflection of heat) the orientation of the lantern, (retention of heat) the lamp gas fill, so there is no defi-

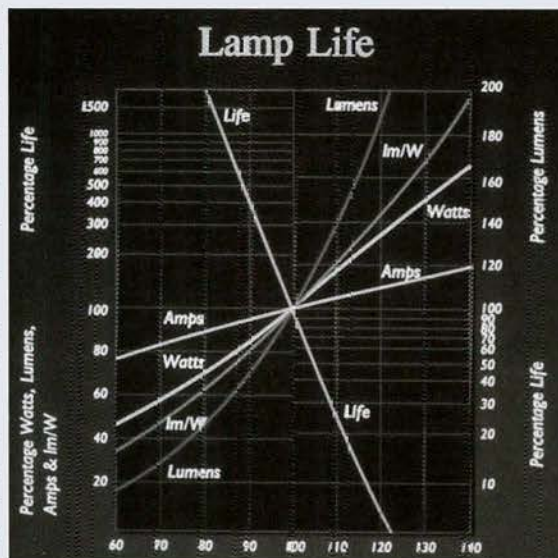


Fig 4 Shows a 'standard' CIE chart for a tungsten lamp giving all operating parameters in relation to life.

nite point, each lamp and application is different, but, the cut off point will fall between 85-65% light output.

At that precise point lamp life may not follow the CIE chart, but, could result in there being no benefit i.e. Normal lamp life. But, and I stress that!, at all other points the life will be extended.

So the answer is YES, lamp life can be extended by operating on dimmers just the same (virtually) as a conventional incandescent lamp. The ONLY down side is the lamp capsule may go black, this may be inconvenient, but, it does NOT 'damage' the lamp and is a VERY small (possible) down side compared to all the other benefits.

So how do you extend lamp life to the longest practical?

There are two things you can do that will give you the best life possible.

The biggest cause of premature lamp failure problems is thermal - magnetic shock. Using a 5K amp, (as an example) the cold filament has a very low resistance, (less than 1 ohm) switching the lamp straight on (no dimmer) means that there is a potential for an instantaneous current in excess of 200 amps to flow. Naturally the filament heats up very rapidly at this point and the resistance increases to limit the current flow to a steady 20.8 amps (approximately).

The filament is a coil of wire and as such when current flows it creates a magnetic field around the wire coil at switch on large magnetic fields on the coils of wire can be created making them move as the coils are attracted/repelled by the magnetic fields. Also, the filament is rapidly expanding with the heat. The resultant

movement can be so violent that the coils collide shorting together, the result can be that lamp fails on switch on.

You can reduce the risk if you must 'instantly' switch on (flash sequencing or 'snap' scene change) by a number of ways:

- 1: Pre-heating the filaments. Even at black heat, the resistance of the filament is considerably elevated. Run the lamps as a pre-set at 'black heat' by dimming them down to the point where the filament is just perceived to be glowing, or, if this is a problem to the point where it is just out. Pre-heat minimum time to be effective is 1 second < 1.2kW, 3 seconds < 2.5 kW, 5 seconds < 5kW immediately before they are needed.
- 2: Rather than 'Snap on' - 'fade on' even the use of a fader will slow the time period of the inrush current, a fade up in 0.2 seconds is equivalent to 10 cycles of the supply before full power is reached. The rule is: the slower the fade up speed the better, especially the first 25% when the filament is at very low resistance.

So finally I say to you all dim away; when you like and at what ever level you like, the lamps were designed to operate on dimmers at any level*2. Don't abuse the lamps by operating in the wrong plane and don't bang, or, move them when they are on and they will give long and reliable life.

● Steve Furzey

*1 As incandescent lamps behave thermally similar to a full black body radiator, their Correlated colour temperature 'K' is very close to their true colour temperature, therefore as a guide the filament temperature at 3,400K is = 3400 - 273 (absolute) = 3,1270C filament temperature.

*2 Dimming vs. life details only applies to Theatre and TV 'T' or 'CP' lamps, halogen PAR, miniature MR16s etc. it may not necessarily apply to halogen photographic/micrographic and audio/visual lamps, some of which should not be dimmed due to the concentrated halogen dosage used. Check with the lamp maker first, if you wish to dim these lamps as a long term solution.

Steve Furzey FIES (Aust. & NZ) is Lighting Application & Product Design Manager for Sylvania Lighting International, based at Gosford NSW. Steve started his career as a Student Lamp Engineer in 1965 with Thorn Lighting UK. He worked on the development of Tungsten Halogen Studio lamps, hand building the Worlds first 5kW lamps to be used on a film set, he also worked on the development of compact metal halide lamps (Thorn's CSI and CID lamps). Steve can be contacted on: Tel 0243 29 8888, Fax 0243 29 8892.

MINI SCAN HPE ON TOUR



The scanner with superior optics - versatile, light and easy-to-handle; ideal for Rental Companies and fantastic for mini budgets.

The most Powerful 95% increase in luminous efficiency compared with the previous model, thanks to its exclusive optical system and the HTI 300 lamp.

The most Compact 58 centimetres and 13 kilograms of concentrated power.

The most Reliable with all the professional quality of Clay Paky.

36 colours, 6 indexed gobos with variable speed rotation, image multiplier prism, frost filters, colour temperature correction filters, dimmer, stopper, strobe, PAN 150°, TILT 110°, 7 control channels, DMX 512, RS 232/423 (P/MX).



Write in Reader Service Number: 153

Distributor:

SHOW LIGHTING AUSTRALIA PTY LTD
13-15 Bridge Street #PO BOX 480 - RYDALMERE NSW 2116
Tel. +61 (C) 2 9898 1666 - Fax +61 (0) 2 9898 1222

CLAY PAKY SPA - Via Giovanni Pascoli, 1
24066 PEDRENGO (Bergamo) Italy
Tel. +39 (0) 35.654311 - Fax +39 (0) 35.665976
Internet: www.claypaky.it



PROFESSIONAL SHOW LIGHTING

BUYER'S GUIDE

moving lights

Prices EXCLUDE sales tax and were correct on 15th February 1998. All care taken, no responsibility for errors. Four models only are shown in each category although these manufacturers have many more. Indicative only.

HARD EDGE

ABSTRACT

Universal Lighting & Audio (07)5532 9922

VR8 Scanner NEW! constructed from formed plastic, available as standard with 150WHQI 6000hour lamp, 12colours, 12 gobos, fully DMX512. The VR8 has digital display readout of DMX512 address, hour usage. Range of options including 250MSD lamp, 35mm slide projection and rotating gobos. \$2409.

FutureScan3CE/CED Uses M33 250W long life lamp (300hours) or 150WHQI lamp with 6000hour lamp life, 12 gobos, 12 colours, fully DMX512 or the extensive internal light show processor, sound-to-light, European CE marked. \$1730 (CE), \$2209.50 (CED).

FutureScan1 Package A set of four moving light heads, complete with Abstracts CE controller, each fitting with 100W 12V lamp, 8 colours plus white on 8 gobos. \$3890.

AMERICAN DJ

American DJ (02) 9568 6494

X-treme 8 dichroic colours + white, 8 gobos + spot, separate gobo/colour wheels, strobes in every colour, split colouring, 360 degree rotation of gobo & colour wheels with speed control, fan cooled, Size 578 x 229 x 165 mm, weight 12Kg. \$983.61.

CLAY PAKY

Show Lighting Australia (02) 9898 1666/0419 898 6661

Mini Scan HPE Compact and powerful this projector offers standard objective lens, 8 microstepping motors, forced ventilation cooling, safety device, DMX controllable, taking a HTI300 lamp, 36 different colours, 2 colour temperature conversion filters and weighing in at 14.5Kg. \$4589.35.

Golden Scan III This centre of the range luminaire offers features that are suitable for all applications. Featuring bi-directional rotating gobos, two colour temperature correction filters, 24 colours, two colour beams and rainbow effect, Image splitting system, smooth precise beam movement, HMI575 lamp this luminaire is now 30% brighter. \$4589.35.

Golden Scan HPE Standing at the top of its range the Golden Scan HPE features an HMI1200 lamp, 2 gobo wheels, 4 M-size interchangeable metal gobos, 10 additional gobos (2 that are glass), 3 speed iris, frost effect, and 12 control channels. \$13441.80.

StageScan featuring two gobo wheels, 4 fixed position interchangeable M-size gobos, 4 rotating gobos, 10 additional gobos supplied as standard, special effects filter, four indexed rotating prisms and one fixed prism. Adjustable speed iris, instantaneous beam blocking, two different grade frost filters, 16 control channels, DMX controllable and takes a HMI1200 discharge lamp. \$9835.53.

COEMAR

Coemar De Sisti Australia (03) 9467 8666

NAT TM (Total Movement) 1200HMI, 1200MSR, or 2500HTI or 4K discharge lamp versions, CMY colour mixing, 360° total movement head, 10 bi-rotational indexable gobos, rotating multiplying prisms, seamless bi, tri, colour wheels, iris, dimmer, zoom, strobe, frost, remote focus, DMX control. From \$10,406.56.

NAT MM (Mirror Movement) 1200W HMI or 2500HTI lamp versions, CMY colour mixing, removable and repositionable touring head, 10 rotating indexable gobos, rotating multiplying prisms, seamless bi, tri, colour wheels, iris, 15-30 or 8-15deg zoom options, dimmer, strobe, frost, remote focus, DMX control. From \$7,952.46.

Microsan 3 575W MSR lamp, 9 colour wheel, bi-colours, mirror movement (MM) head, 4 bi-rotatable

indexable and 4 fixed replaceable gobos, iris, dimmer, strobe, DMX control, LED multi-function panel addressing, condenser optics. \$5,954.10.

FAL

ELSTA (02) 9568 2100

FAL 2000 price: FAL's best selling scanner, 9 dichroic colours + white, HSD 200W lamp, 4 bidirectional rotating + 3 fixed gobos; 1 rotating 3 facet prism, rainbow effect; fast action shutter; fully adjustable strobe from 1 to 7 flashes per second; frost effect; colour correction filter; DMX or stand alone; 7 channels; 16kg. \$2458.20.

FAL 1000



FAL 1000 9 dichroic colours + white; 7 gobos; HSD 200 lamp (2000 hours life); strobing 1-7 flashes per second; 15kg weight; 620 x 370 x 170mm size; 4 DMX channels or stand alone. \$1638.52.

Proscan X The ultimate example of an intelligent lighting system. HMI1200 w lamp, 9 dichroic colours + white; 2 colour correction filters; 2 gobo wheels - 1 with 5 directional rotating gobos, 1 with 7 fixed gobos; 3 prisms bidirectional rotation; strobe 1-7 times per second; dimmer 0-100%; iris; DMX controlled focus; 12 channels DMX; quality optics. \$8,188.52.

Roulette 575 HMI 575w lamp, 9 dichroic colours + white, 7 gobos + clear, rotating prism, strobing 1-7 flashes per second, high reflective mirror, superior optics, brightest 575 scanner in its class, 25kg, 750 x 400 x 220mm. \$3,277.87.

FUTURELIGHT

Coemar De Sisti Australia (03) 9467 8666

Promotion Scan 200W/250W MSD lamp (2000 hour life), 9 colour wheel, mirror movement (MM) head, 4 indexable bi-directional, rotating 35mm slides, 5 fixed gobos, black-out, strobe, DMX, on-board controller, or hand-held remote control, remote zoom control. Available in reduced feature AdScan format. \$3,850.

Duke 1200W HMI lamp, 8 colour wheel (inc. UV-effect), bi-colour ability, mirror movement (MM) head, 4 indexable bi-directional, rotating gobos, effects wheel with colour correction and prism filters, black-out, strobe, DMX, dimmer and iris. \$4,295.

Genesis 575W HMI lamp, 7 colour wheel (inc. UV-effect), bi-colour ability, mirror movement (MM) head, 4 indexable bi-directional, rotating and 4 fixed gobos on one wheel, second gobo wheel features 8 fixed gobos, effects wheel with colour correction and prism filters, dimmer, black-out, strobe, DMX. \$3,331.

Voyager 575W HMI lamp, 7 colour wheel (inc. UV-effect), bi-colour ability, mirror movement (MM) head, 4 indexable bi-directional, rotating and 4 fixed gobos on one wheel, effects wheel with colour correction and prism filters, black-out, strobe, DMX, dimmer and iris. \$3,529.

HIGH END SYSTEMS/LIGHTWAVE RESEARCH

TechScope (07) 3358 5118 or toll free 1 800 773 187

Cyberlight Automated Luminaire MSR1200 lamp, motorised variable focus, strobe, iris and dimming with infinitely variable subtractive colour mixing, 8 position gobo wheel, 4 rotating gobos and effects wheel. \$16,213.43 inc lamp.

Trackspot Automated Luminaire Uses low cost QT8500 lamp, 8 dichroic colours plus colour correct and open, 9 gobos plus open, strobing, dimming. Analog, stand alone, DMX or LWR protocol. \$2,651.79 inc 6 lamps.

Technobeam Automated Luminaire Uses MSD250-2 lamp, remote focus, 12 colours plus open, 8 position rotating lithopattern wheel, 5 position rotating effects wheel, 11 to 17 degree beam angle, 180 x 105 degree pan and tilt, DMX or stand alone and weighing just 16kg. \$6,540.86 inc lamp.

Technobeam Automated Luminaire with LAD Same features as Technobeam standard but with unique Laser Aiming Device (LAD) fitted for precise lamp off beam positioning or as an effect in it's own right. \$7,072.02 inc lamp.

JB LIGHTING

Universal Lighting & Audio (07)5532 9922

VaryScan3 Special 200MSD lamp, 20 gobos, 24 dichroic colours, colour correction, dimmer, pan 170deg, tilt 110deg, German manufacture. \$2247.

VaryScan3 Special Plus 200MSD lamp, 12 rotating gobos - 6 fixed, 6 interchangeable, 36 dichroic colours, colour correction, prism, dimmer, pan 170deg, tilt 110deg, German manufacture, \$3225.

VaryScan4 Compact Plus 575HMI lamp, 24 full dichroic colours & 24 1/2 dichroic colours, 6 rotatable gobos (E size), pan 170deg, tilt 110deg, dimmer, prism, colour correction, frost, German manufacture. \$5055.

VaryScan5 Multivision NEW! 1200HMI lamp, detachable moving head, 7 standard dichroic colours, 6 special effect filters plus white, 4 rotating metal gobos, 4 rotating glass gobos, 4 fixed metal gobos, zoom function, 4 rotating prisms, full-colour mixing (CMY), variable focus, shutter with strobe effect & dimmer 0-100%, fast variable iris, DMX-512, display for DMX-address, special functions & life-span of lamp. \$17810.

LYTEQUEST

Disco World (03) 9735 0588

Motorhead 12 gobos, 12 colours + white, bi-colour and rainbow. Motor heads move 3600 with 2740 of tilt. Sound activation and DMX control capability. \$1480.

MAD LIGHTING

TechScope (07) 3358 5118 or toll free 1 800 773 187

MadScan 305HP 6 gobos with 4 colours fitted to gobo wheel in colour impregnated plastic case. Uses 3 ch DMX and has 300 hour avg lamp life from 120 watt lamp. \$ 851.26 inc lamp.

MadScan 411AP Uses 6000 hr 150 watt Arcstream lamp, 10 colours plus open, 12 gobos plus open, strobing, colour impregnated polymer case, 4 ch DMX or stand alone. \$1,525.50 inc lamp.

MadScan 511MP Same features as 411AP except with MSD200 lamp with 2000 avg lamp hour, shutter and 5 ch DMX. \$1,940.45 inc lamp.

MadScan 611ARP Uses 6000 hr 150 watt Arcstream lamp, 10 colours plus open, 10 rotating gobos plus soft edge, strobing, colour impregnated polymer case, 6 ch DMX or stand alone. \$2,028.48 inc lamp.

MARTIN

Martin Professional Lighting Australia (02) 9898 1111

Roboscan PRO812 ideal for both fixed and mobile applications. Weighing in at just 9.4Kg the 812 has 11 dichroic colours, 11 gobo patterns, 1 iris gobo, motorised gobo wheel, manual focus, fan cooling and takes

continued over

AGENTS FOR:
QUANTUM EFFECTS

- **MH-620 INFLECTION**
 - The perfect blend of economy with performance.
 - Available with 250W halogen or 200W MSD/HSD lamps.
 - 10 colours, 10 gobos, strobe up to 7 flashes per second.
 - 170° pan, 85° tilt microstepping mirror control.
 - True DMX 512 on 4 channels (pan, tilt, colour, gobo)
 - Master/slave standalone system.
 - Up to 2000 hours lamp life expectancy.
 - Weighs 11kgs.
 - Recommended retail under \$1,100!
- **CX-5 DMX MOVING LIGHT CONTROLLER**
 - Power and features at a low price.
 - 168 channel DMX 512 controller.
 - 1mb programmable memory:
 - 300 scene memories, 50 chase memories,
 - 50 macro memories, 50 learn memories.
 - Inbuilt movement patterns as a programming aid.
 - Backlit LCD display.
 - Text entry for naming scenes.
- **CA-1 INFLECTION CONTROLLER**
 - Controls up to 16 Inflection moving lights.
 - Manual override on colour, gobo, shutter and movement.
 - 10 movements to select from with independent speed control.

TRADE ENQUIRIES WELCOME

QUANTUM EFEX...

ACN 071 610 109

Ph: (08) 8381 9885 Fax: (08) 8351 9886 Email: qfx@dove.net.au

Write in Reader Service Number: 179

Laser Systems Design - Manufacture - Sales - Hire - Lease

Productions **Corporate** **Concerts**

Experience

Sports Events **Night Clubs** **Water Screens**

Theme Parks **3D Animation**

Oracle

Oracle Laser Productions

Mardi Gras
Super League
Australia's Wonderland
Santec City, Singapore
Santec Chan, Hong Kong

Sydney - 5/222 Headland Road, Dee Why, 2099, phone: 02 9935 4466, fax: 02 9938 4504
Singapore - 5 Temasek Blvd., C1-03 Suntec City Tower 4, 033985, phone: 65 9615 7889, fax: 65 3922191

Write in Reader Service Number: 140

BUYER'S GUIDE

moving lights

continued from previous page

a HT150 discharge lamp. \$1474.60.

Roboscan PRO518 Uses a MSD200 discharge lamp, featuring five rotating gobos, a fixed prism, 17 dichroic colours plus CTC filter, frost filter and motorised gobo wheel, weighs just 7.5Kg. \$2950.00.

Roboscan PRO1200 Featuring a MSR1200 discharge lamp, CMYR colour mixing, frost filter, 2 motorised gobo wheels, 4 indexing rotating, interchangeable E-Size gobos, 9 fixed metal gobos, motorised focus and weighs 53Kg. \$7376.23.

MAC500 weighs 28Kg, has two motorised colour wheels, 14 dichroic colour filters, 2 dichroic CTC filters, 2 motorised gobo wheels, 5 interchangeable rotating 28mm gobos, motorised focus and takes an MSR575 discharge lamp. Optional accessories such as a weather proof dome and roadcases are available. \$9589.35.

QFEX

Quantum Efex (08) 8351 9085
Inflection EVC 11kgs, EVC 24v 250w (M33, EVC, FGX) lamp, 10 colours, 10 gobos, 7 fps shutter, pan 170°, tilt 85°, 4 channel DMX512. \$1054.

Inflection HSD 11kgs, HSD/MSD lamp, 10 colours, 10 gobos, 7 fps shutter, pan 170°, tilt 85°, 4 channel DMX512. \$1242.

RYGER

Disco World (03) 9735 0588
Defender 10 colour, 10 gobos, DMX control, micro stepper motors, lamp dimmer, variable strobe speed (1-8Hz) DMX controllable internal microphone. Two lamp options - A1/259 or M33. \$1140.

Discovery 250 DMX 10 colours, 20 gobos, precision optics, DMX controllable, dimmable, strobe. \$1495.

Tiny Scan + Package comes complete with 4 Tiny Scans, the controller, all leads and lamp. 10 colours mixable with 8 gobos, DMX512 control, very compact size, precision optics. A1/232, colour temp 3400K. \$3150.

SLS HELLAS

Quantum Efex (08) 8351 9085

Panscan 4 39kgs, HMI 1200W lamp, 2 x 10 colours producing 99 combinations, 10 static gobos and 5 rotating, iris, 0-100% dimmer, 14 fps shutter, 4 rotating prisms. 180° pan, 110° tilt. 12 or 15 channels DMX. \$10,429.

Panscan 3 24.5kgs, HMI 575W lamp, 16 colours, 16 gobos, 14 fps shutter. 180° pan, 110° tilt. 5 channels DMX. \$4171.

Panscan Junior 15kgs, MSD 200W lamp, 16 colours, 16 gobos, 14 fps shutter. 180° pan, 110° tilt. 5 channels DMX. \$2433.

S.G.M.

Ashton Admor (08) 9478 3800

Victory high output 250w lamp, 1200 lux @ 10m, 8 standard colours, 0.08 second colour change, 0-100% dimmer, shutter, 1-9 ps strobe, 7 interchangeable gobos, frost filter, 6 channel control, sound to light. \$1733.

Victory 11 as for Victory plus 4 rotating gobos, rotary prism lens, colour temperature conversion filter doubling the colours to 16. 9 channel control. \$2189.

Galileo 11 HP fast colour changer 0.06 seconds plus fast gobo changer 0.04 seconds. Both with and without blackout. 8 gobos 4 rotating, 8 colours, frost filter, iris, shutter, dimmer, strobe, 1200 HMI. 8 channel control. \$7116.

Galileo 1V HP fast colour changer plus fast gobo changer. 8 rotating gobos, 75 colours (in 3 wheels),

frost filter, iris, shutter, dimmer, strobe, 1200 HMI. 16 channel control. \$9670.

SPACE CANNON

Ashton Admor (08) 9478 3800

Ireos 4kW automated xenon searchlight with patented R,G,B,Y,M,Cyan dichroic colour mixing. Patented shutter, dimmer, pan, tilt, zoom, special lamp anchorage. Approx. 100kg plus 57kg power supply. 8 channel control. \$42,535.

Ireos 7kW automated xenon searchlight with patented R,G,B,Y,M,Cyan dichroic colour mixing. Patented shutter, dimmer, pan, tilt, zoom, special lamp anchorage. Approx. 120kg plus 63kg power supply. 8 channel control. \$49,506.

Black Devil 2kW automated xenon searchlight DMX controlled pan, tilt, lamp anchor. \$15,451.

Black Devil 4kW automated xenon searchlight DMX controlled pan, tilt, lamp anchor. Also available in 7kW model for \$41,977. \$35,557.



TAS

Coemar De Sisti Australia (03) 9467 8666

KP6 Moving Yoke fixture offering 369 x 260 degree movement. 9 colour wheel, 4 replaceable bi-directional rotating & 4 fixed gobos, dimmer, strobe effect, multifunction control panel, remote fixture re-alignment. Features a 575W MSR lamp and high-definition optics. \$6,966.

KP12 Moving Yoke fixture offering 369 x 260 degree movement. 9 colour wheel, 4 replaceable bi-directional rotating & 4 fixed gobos, dimmer, strobe effect, multifunction control panel,

remote fixture re-alignment. Features a 1200W MSR lamp and high-definition optics. \$7,375.

Mini Ultrascan 1 200W MSD lamp (2000 hour life), 9 colour wheel, mirror movement (MM) head, 10 gobos, black-out, strobe, DMX, analogue, or dedicated control, dip switch addressing, optional 18° wide angle lens. \$2,442.

Mini Ultrascan 2 200W MSD lamp (2000 hour life) or 575 MSR, 9 colour wheel, mirror movement (MM) head, 4 rotating and 4 fixed gobos (including dichroic glass & Wood's UV glass), black-out, strobe, DMX control, dip switch addressing, optional 18° wide angle lens. From \$2,980.

SOFT EDGE

COEMAR

Coemar De Sisti Australia (03) 9467 8666

CF1200 Spot Ultra-light carbon fibre casing, 1200W discharge lamp, adjustable beam angles, CMY colour mixing, dimmer, strobe effect, DMX control, LED multifunction panel addressing, voltage selectable ballast, electronic igniter, flicker free operation, total 360 degree movement. \$11,586.

HIGH END SYSTEMS/LIGHTWAVE RESEARCH

TechScope (07) 3358 5118 or toll free 1 800 773 187

Studio Color "M" version Automated Wash Luminaire 370 x 240 degree movement, high output MSR or MSD575-2 lamp, over one million colour permutations, unique beam shaping, 8 to 22 degree beam angle, no fan, 31 kg. \$9,904.37 inc lamp.

Studio Color "S" version Automated Wash Luminaire Switching Power Supply model incorporates full positional feedback on pan and tilt together with standard Studio Color features and other benefits, weighing 25.9 kg. \$11,320.54 inc lamp.

MARTIN

LXbizzBITS

NEWS

PETER JOHANSEN LEAVES MARTIN

Peter Johansen, the founder and managing director of the Martin Group, has resigned as managing director and head of day-to-day operations. However he will act as a consultant to the company in the future.

The company's chairman, Poul Schluter issued the following statement: "Peter Johansen feels that the very strong media attention he is experiencing is giving the general public an altogether wrong impression of the Martin Group and that this situation renders difficult the company's opportunities for running its business in an optimum manner. In addition, we have jointly reached the conclusion that managing a major listed company with some 550 employees does involve certain requirements the style of management, some of which are not among Peter Johansen's strong points." The group's finance director Lars Dige and the production director, Torben Johansen, have both been appointed joint group directors.



FOGG ON THE WEB

Explore Fogg Productions/Roger Foley & Associates new website - <http://www.fogg.com.au> - and discover their innovative approach to lighting design especially in architecture.

LIGHTING SYDNEY TO 2020

The new chief executive of the Committee of Sydney, Ms Sandra Baylis, has put forward the idea of lighting up Sydney's foreshore and islands. "We have this big expanse of harbour which is black. A lot more could be done to make the harbour foreshore and islands more visually exciting at night" she is quoted as saying. The Committee is looking at ways to enhance the city up until the year 2020.

BYTECRAFT NEWS

SBS Television in Sydney have taken delivery of New Strand Videolux Softlights for their No.2 Studio. The 6 x 36W tube Videolux uses a total of 216W and gives a maximum of 5230lux at 1m. Using standard Osram compact tubes, the videolux can be either directly dimmed or DMX controlled. 1998 **Strand catalogue** is now available from Bytecraft. With over 50 pages of product details the catalogue has information on the newly released Brio range of high performance profile lanterns and the new improved Quartet 650W range. Bytecraft have won a contract to supply a Status 600 Flying Control system to the **Royal Court Theatre** in London. Bytecraft on (03) 9587 2555 or (02) 9550 3955.

ULA'S NEW SHOWROOM

ULA's new premises on the Gold Coast have a static and live showroom for client demonstration. Products include Abstract, JB, KAM, Citronic, LeMaitre, Litecraft & Infinity. Phone Luke at ULA to make an appointment 07-5532-9922

BUYER'S GUIDE

moving lights

Martin Professional Lighting Australia (02) 9898 1111
PAL1200 offers full CMY colour mixing enhanced with a motorised colour wheel, frost filter, mechanical dimmer/shutter, 4 indexed rotating gobos, fixed gobo, motorised focus and zoom, fan cooling. Weighs 61Kg, takes a MSR 1200 discharge lamp making the PAL1200 the only automated framing spot. \$12,294.27.
MAC1200 weighs 47Kg, featuring a high resolution moving yoke, CMY colour mixing, Frost filter, 5 iris gobos, a motorised gobo wheel, manual focus, takes a MSR1200 discharge lamp with fan cooling. Additional options such as the MAC Dome outdoor cover, roadcases and Condenser lens are available through MPLA. \$11228.69.
MAC600 offers fast, instant and smooth movement, featuring 2 combinable beam shaping filters, frost filter, full CMY subtractive colour mixing, fixed focus, soft-edge beam, taking a MSR575 discharge lamp, fan cooling, weighs 28.5Kg. The MAC600 is totally silent, user friendly and its highly developed yoke mounting can absorb all the punishment a World Tour can throw at it. \$4508.20.

S.G.M.

Ashton Admor (08) 9478 3800
Giotto 1200w MSR producing 22,000 lux @ 5m. Auto voltage selection, 5400 pan in 1.5 secs, 2700 tilt in 1.3 secs, CMY colour mixing + 6 dichroic colours, internal barndoor system, strobe, zoom, dimmer, silent operation for TV, Studio. \$9123.

STRAND LIGHTING

Bytecraft (03) 9587 2555 (02) 9550 3955
Pirouette PC or Fresnel Affordable precision remote control of position and beam spread using familiar theatre lighting techniques. Supplied with interchangeable PC and Fresnel lenses; ready to take either 2 or 2.5kW lamp. A kit is also provided to allow 1200W lamp to be used. Pirouette needs to be planned as a complete system with data and power distribution. From \$8,103.

TAS

Coemar De Sisti Australia (03) 9467 8666
CF6 Yoke mounted colour wash luminaire featuring 300mm fresnel lens, CMY colour mixing, dimmer, black-out, strobe effect, effects wheel (Woods, conversion, colour additive filters), automated re-alignment, variable beam angles, multifunction control panel, convection cooling for silent operation. Utilises a 575W MSR lamp. \$7,375.

DEDICATED CONTROLLERS

AMERICAN DJ

American DJ (02) 9568 6494
X-treme/B Basic controller rack mountable, control up to 8 heads, operate blackout, built-in programmes, gobo/colour change, speed control of gobo/colour wheels, & strobing, very simple to use with 4 built in programs - ideal for hire, size 254 x 50 x 110 mm, weight 3Kg. \$204.92.
X-treme/19C Fully programmable 64 channel DMX controller for the Xtreme, controls up to 16 heads, has 16 programs, built in scanner motions, rate and speed control, manual control, size: 483 x 133 x 76 mm, weight 3Kg. \$1065.57.

FAL

ELSTA (02) 9568 2100
Easy -2 Very easy to operate DMX controller - controls any FAL scanner, 12 pre-programmed sequences, configurable for multiples of 4 or 6 scanners, automatic or music operated, splash proof front panel, 3 RU rack

mountable, easy manual control including joystick. \$1228.69.

FUTURELIGHT

Coemar De Sisti Australia (03) 9467 8666
CP Controllers Dedicated controllers for Futurelight units offers complete control of all parameters, address individual or multiple fixtures, presets, chaser presets, and multiple programs. Simple rack-mount housing with scratch-resistant fascias. From \$1015.

HIGH END SYSTEMS/ LIGHTWAVE RESEARCH

TechScope (07) 3358 5118 or toll free 1 800 773 187

Trackspot Analog Controller Low cost control for up to 64 Trackspots, manipulates 32 preprogrammed scenes, with scene bump, rate and audio functions. \$759.43.

Universal Controller 16 fixture programmable control of any combination of Trackspot, Emulator or Intellabeam. 500 scene, 34 presets, 32 position memories. Supports Midi Show Control(MSC). LCD display. \$2,938.57.

Technobeam LCD Controller 24 individual fixture programmable control of any combination of Technobeam, Technoray or Technopro luminaires. Rack mount control with all the standard LCD controller features. \$5,885.98 with ram card.

Status Cue Link Card w/- software Link card with software provides 1024 DMX channels. 6000 scenes, CD-ROM support for time coded cues. Requires PC with Windows 3.11 or 95. Memory limited only by computer hardware. \$5,487.68.

MAD LIGHTING

TechScope (07) 3358 5118 or toll free 1 800 773 187

MAD 1 120 scene, 24 chase programmable controller has Midi input with Midi file record/playback cued from in built SMPTE decoder. 60 ch DMX. \$925.97.

MAD 4 1 Low cost control for Madscan 305HP luminaires. \$279.

QFEX

Quantum Efex (08) 8351 9085

CX-S Controller 1MB programmable memory, 300 scenes, 50 chases, 50 macros, 50 learn memories. Controls more than 100 popular scanners. Controls up to 12 scanners with up to 14 channels each. \$1706.

CA-1 Controller controls up to 16 inflections with independent control of pan/tilt movement, colour, gobo with manual override. \$813.

S.G.M.

Ashton Admor (08) 9478 3800

Pilot 168 programmable control unit for 16 - 8 channel fixtures. Automatic and manual operation, 16 sequences, 16 scenes. \$1332.

Pilot 16 programmable control unit for 16 - 6 channel fixtures. Automatic and manual operation, 16 sequences, 16 scenes. \$1222.

Pilot 2000 new model to control multiple Galileos of up to 16 channels per fixture. \$2007.

Pilot 512 professional programmable control unit for any projector from 1 or more channels. 512 channels in total. Automatic and manual. \$5474.

SLS HELLAS

Quantum Efex (08) 8351 9085

16ch Controller controls up to 16 Panscan Juniors or Panscan 3's with joystick control, 495 programmable scenes, smashproof front. \$2433.

16 + 16 Controller controls up to 16 fixtures from the Panscan range with analogue joystick control, 792 programmable scenes with master override control on all

functions. \$3754.

TAS

Coemar De Sisti Australia (03) 9467 8666

Mini Ultrascan Controller 16 Dedicated controller for up to 16 Mini Ultrascan units offers complete control of all parameters, address individual or multiple fixtures, 8 presets, 8 chaser presets, up to 32 programs of 16 steps, Midi In/Out, Audio In, and simple rack-mount housing with scratch-resistant fascia. From \$1,118.

DMX Controller 16 Dedicated controller for up to 16 Mini Ultrascan, Crono, or Microscan 3 units. With full independent control of all parameters, 16 static presets, 180 memory banks, 32 programs of 90 steps each, 32 chasers, Cybercard storage facility, external analogue triggering, audio input. From \$6,500.

next month:

FILM & TV STUDIO LIGHTING

CORRECTION

In the Feb issue of Connections, Ashton Admor's Ashbar was listed in the Buyers Guide at \$210 per 0.5m length. It should have read \$210 per 6.5m length.

LXbizzBITS

PRODUCTS

EC-1 and ES-1

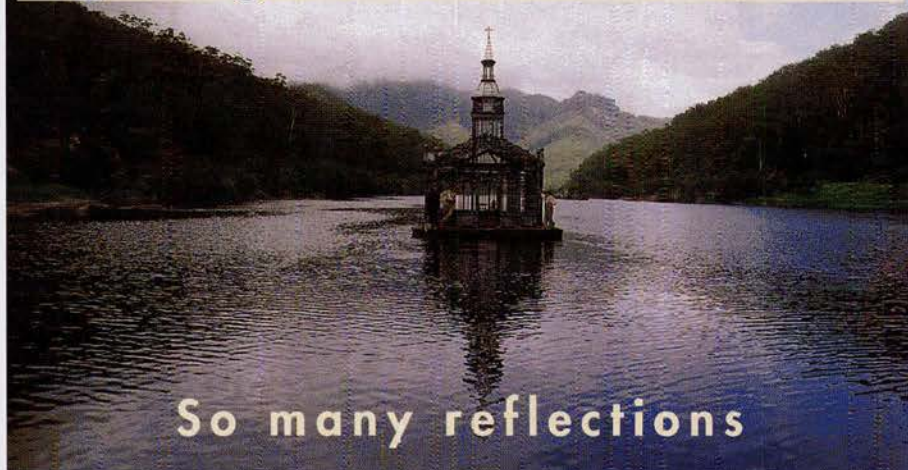
Created specifically by High End Systems for outdoor architectural applications, the EC-1 and ES-1 architectural luminaires utilise the Studio Color design in a weatherproof, static package.

Designed for applications requiring the major functions of Studio Color and Studio Spot respectively, the EC-1 and ES-1 provide a cost effective, full-featured alternative to other architectural fixtures available. The fixtures are completely waterproof and may be mounted in any orientation. Both fixtures include a 575w source, a high colour temperature of 6200⁰K, convection cooling, DMX512 control, variable frost, smooth mechanical dimming, shutter for instant blackout and strobe effects and full power factor correction.

Call Techscope + 61 7 3358 5118.



Lighting Oscar and Lucinda



So many reflections

Just as the interview starts, his mobile phone rings. "Oh no... I hope it's my wife," Peter Bushby sighs. Even though he is on his way home, he ends the call with, "I love you, darling."

As gaffer, Bushby had his trial by fire with *Oscar and Lucinda*. The budget was modest, but the scope was lavish. And he had other concerns.

Bushby's wife had a baby on a Saturday, on the first week of the Australian principal photography of *Oscar and Lucinda*. Serious budget concerns came to a head on the second week. "It was a pretty stressful time," Bushby admitted. "I wasn't on set, I said, 'I'm going to see my wife.' It was hard. She still hates me over that one. It was quite an emotional time for everyone concerned."

Bushby's father was a film editor, and Bushby always wanted to work in lighting. At 16, he started work experience with Simon Lee. He worked as best boy with Lee on fifteen features, before he became a gaffer six years ago. His truck, like most gaffers, has about \$1m worth of gear in it. "While I was working with Simon, I started to store up equipment. I would buy blondies, and 10Kws and stands, and make my own boards. As I started to get more work, I was building a truck. After *Babe*, which was a four month job, I got a bigger truck, a big Scania."

When *Oscar* came along, Bushby invested another \$400,000 in gear. "Geoff wanted the big guns to do the job. There's a lot of nice shots and big interiors, and we needed to balance to the exteriors." Geoffrey Simpson, the *Shine* DOP (Director of Photography) was keen

for Bushby to be his gaffer on *Oscar*. They had done a lot of commercials together before *Oscar*. "I asked Bushby why he thought Simpson liked to work with him. "Oh I'm young, silly, and keen, I guess. I've probably got a good imagination," he said.

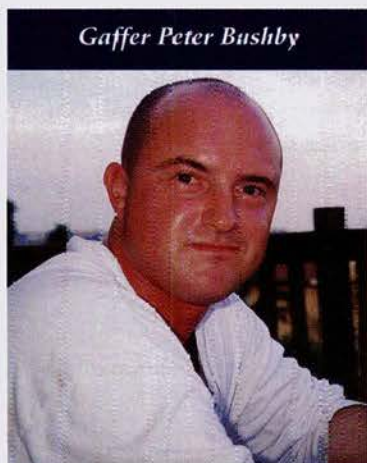
Think fast

One of the biggest setups, a location church interior in New Town, all happened in one day. "We had three church windows, each about 45' high, and 30' wide. We had three dinks on towers all the way around. One started at 18' high, then 12', then 6'. On that day, we had probably about 500amp of phase of power running that set, and about 15 guys on my team. They were building the scaffolds, and running power. The trucks and generators were 150m away, and we had to run a mega amount of cable.

"The call time was 7am, and we had to have four 13Kws, four 12Kws and four 6Kw pars, and six Dinos all rigged and be ready to shoot by 11 that morning. There was a full shot and a reverse shot, so the whole church had to be lit ready to walk in and walk out. Then we had to wrap it that day, which went into the night, with a de-rig crew."

On *Oscar*, Bushby had to cope with lots of interiors with big lighting setups, moving to exteriors the next day. "We needed all the gear, and the budget didn't allow for another lighting truck. I had to leave everything set up, then de-rig it, then set it back up again. It got a bit silly. I really hate de-rigging a huge set, putting it all back into the truck, get-

continued on page 72



Gaffer Peter Bushby

LXbizzBITS

PRODUCTS

TS DIMMER

LSC have released the TS Dimmer designed for touring or permanent installation. It is available in two basic models: 12 channels @ 2.4kW which can be configured to up to 3. kW or 6 channels @ 4.8kW which can be configured to up to 6kW. The design is flexible and can accommodate larger channel load capacity if required.



The TS Dimmer is designed for rack mounting with circuit breaker channel protection, automatic variable speed fan cooling, remote temperature monitoring output, choice of dimmer curves, DMX512 input and thru, 0-10v analogue input and a number of various output connector panels, quality toroidal inductors with long rise times ensures minimised radio emissions/interference into PA systems as well as providing greater lamp life.

The TS Dimmer has already been selected by the Victorian Arts Centre as part of the upgrade of the State Theatre and by Osmond Electronics for use in the Ade aide Festival and their hire department. Price is \$3300.

Call LSC Electronics +61 3 9561 5255.

NAT ADDITIONS

Coemar have released three new additions to the NAT range:

NAT TM1200 Power has usual features of the range plus: a 1200SA MSR lamp producing twice the normal output of the standard TM1200; selectable electronic ballast; and reduced weight.

NAT TM4000 has all the features found on the TM2500 but has been designed with films and the arena performances in mind so it has a high power 4000w discharge lamp.

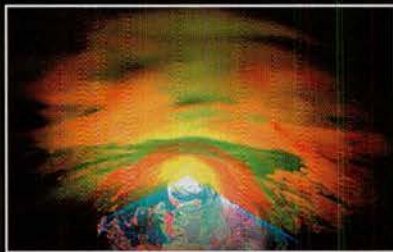
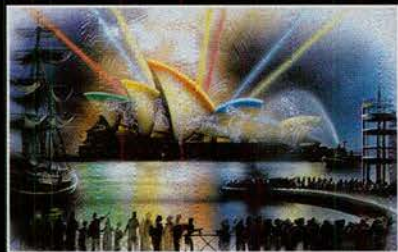
NAT DXPrism TM and **MM1200** feature the foundations of the NAT DX range with the addition of a further prism wheel including: four facet multiplier prism; multiparallel prism; bi-speed prism; and super-speed prism.

Call Coemar De Sisti Australia +61 3 9467 8666.



Technofear®

**Lasershows, Special Effects, Lighting, A/V, Pyrotechnics,
Multimedia & Total Event Management, Production & Staging**



You might find other laser sales and production companies slightly cheaper or more expensive than **Technofear** - but there's no doubt, after your experience, you won't use them again.

Why? Because the others bombard you with technology with little regard for concepts, creativity and artists design.

Well, not at **Technofear!** Our design capabilities are renowned, with clients continually utilising our services acting as living proof. Yet, we still offer a full spectrum of laser, lighting and multimedia technology to suit your every application, indoors and out.

At **Technofear** we are dedicated to provide you with the very latest in state-of-the-art technology, concepts and artistic design with experience and knowledge where it counts.

When you combine this with our GLOBAL network of Lasershow designers and local production talents you have a unique and valuable resource.

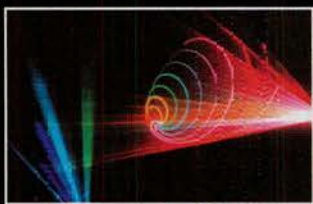
In keeping with our tradition as pioneers in the laser and multimedia industry, **Technofear** are pleased to announce the next evolution in turning concepts into reality. **Technofear** is now your Total Event Management, Production and Staging supplier and have just opened a new high technology outlet in Western Australia. This is Australia's first high quality, high-tech Showroom and Demonstration Facility where clients can witness first hand the marvels of laser, lighting, pyrotechnics, **Jamo** Professional Sound, audio visual and multimedia all in the one place. Now you can see what you are getting before committing yourself or your client to a concept or idea.

Be it Corporate, Entertainment or that Special Project, when you're ready to get serious about seeing before believing, call **Technofear**.

Just try us and experience the difference.



Perfect reproduction of your clients corporate insignias.



High resolution full colour laser special effects



Interactive choreographed total immersion.



Full 3D capabilities, to bring your concept to life!

Authorised
Jamo

Professional Sound
Systems Supplier



**New Outlet
Just Opened in WA**

Technofear®

Australia-Wide Telephone (local call cost):

1300 366 554

International Telephone: **+61 8 9228 1711**

High-Tech Laser & Multimedia Production Studio

400 Newcastle Street, West Perth, WA. 6005

E-Mail: info@technofear.com.au

Internet: www.technofear.com.au

Member of



Lighting Oscar and Lucinda

continued from previous page

ting it out the next morning to light another location, repacking it that night, giving it to another lot of guys who take it back to the first set. That happened about three times on the shoot, which really set us back, mentally more than physically. My lunchtimes consisted of going straight to the truck, turning the air conditioning on because



it was so hot, and spending an hour on the phone organising crew. It was a good learning curve for me, to be thrown into the deep end.

"It was particularly hard, because there was no real preproduction budget. We had a week of location surveys without a director, without a DOP, and that made it extremely hard. I had to go ahead and make decisions that normally a director or DOP would make.

"In the first two weeks of the shoot, we had to light five sets in White Bay studio. They had already shot half the scenes in England, and the sets had to match. I had to light them just by looking at rushes, without Geoff being there at all. He arrived the day before we were to start principal photography in Australia. So that was very challenging for me."

A false wall

Another big location was in the Rocks, where Bushby's team spent hours dynabolting grids into the ceiling. "We hung 12Kws, which had to be up and down in a day, then up again two days later. The building was on street level one side, and ten stories down on the other. We built a false wall, and lit it from behind. There was no way we could control the light all day on the real wall. It was about a \$10,000 build for that wall, which the production budget didn't like too much. But we would have had cherry pickers outside all day trying to control the light.

"That building was an old wool store, and everything had to be carried up a stairwell about a metre wide. Eventually we organised a crane to load the heavier stuff through an existing hole in the floor. Just walking up was one way traffic, with a crew of 300, five electricians and six grips and five camera people trying to get up the stairs at the same time.

"All the main lighting work took place

in the first six weeks in Sydney. It was a shocker for us. My best boy, Ian Mathison, probably gaffed about a third of the film. I ended up doing all the big prelights, because Geoff couldn't be there, and someone had to light the set. I had to come up with little ideas and different colour gels for fire effects. Ian did a really good job. He would go off in the ute into the mountains, where they did a lot of off road stuff with 4WDs and generators."

The famous glass church posed lots of problems for everyone, from the construction team to the art department. Being glass, it was extremely reflective, and the crew had to creep around in black cloaks. When they floated it down the river near Grafton, huge rains turned the water from clear, to murky brown. "The church on location wasn't too bad," Bushby said. "When we caught a reflection of ourselves,



we would just take a hammer and smash the pane. The church travels from Sydney to Bellingen in the novel, so we could get away with a few smashed panes!"

New gear

Bushby likes Leonetti lights. "They are beautifully done lamps, with aircraft style aluminium, and beautiful finish. I'm about to start swapping over, and moving from Arri. I'm getting sick of the Arri ballasts, and heads and barn doors. I've just bought a heap of KinoFlo, and Wall-o-Lite, a ten

LXbizzBITS

PRODUCTS

CompuCAD

CompuCAD, the new software release from Compulite, is a comprehensive package which not only allows accurate and detailed focusing charts and plots to be produced, but also monitors the lighting by graphically indicating the luminaires which should be live, by using CompuCAD NET, an Ethernet communications module, in tandem with the lighting board.

The Graphic and Database modules of the system allows ideas and concepts to be developed into clear and detailed lighting plots. The Conceptual Design module allows designers to organise lighting ideas and to define the lighting needs. The Cue Editor allows the creation of lighting cues and is the natural extension of the lighting board. Cues are able to be exported and, with the use of CompuCAD NET, a real-time WYSIWIG rehearsal can be viewed, modified and saved. Call Coemar De Sisti Australia +61 3 9467 8666



FIBER SOURCE Q150

The new Martin Fiber Source Q150 is a dedicated light generator for fiber optic applications. Using a 6000 hour 150W lamp, a single Fiber Source can accept up to 300 1mm fibers. These can be either side or end emitting fibers.

The basic white light source of the Fiber Source can produce a coloured light with the insertion of a standard 52 mm dichroic filter. Price \$1999 inc. tax. Call Martin Professional Lighting Australia +61 2 9898 1111.

COLOURDYNAMIC

Italian lighting manufacturer SGM have designed the ColourDynamic 100 colour changing unit. According to SGM, the projection is 'composed by animated beams similar to the fractal images realised by computers'. The unit is stand alone, colours are obtained through dichroic filters and a 12v/100w halogen lamp is used.

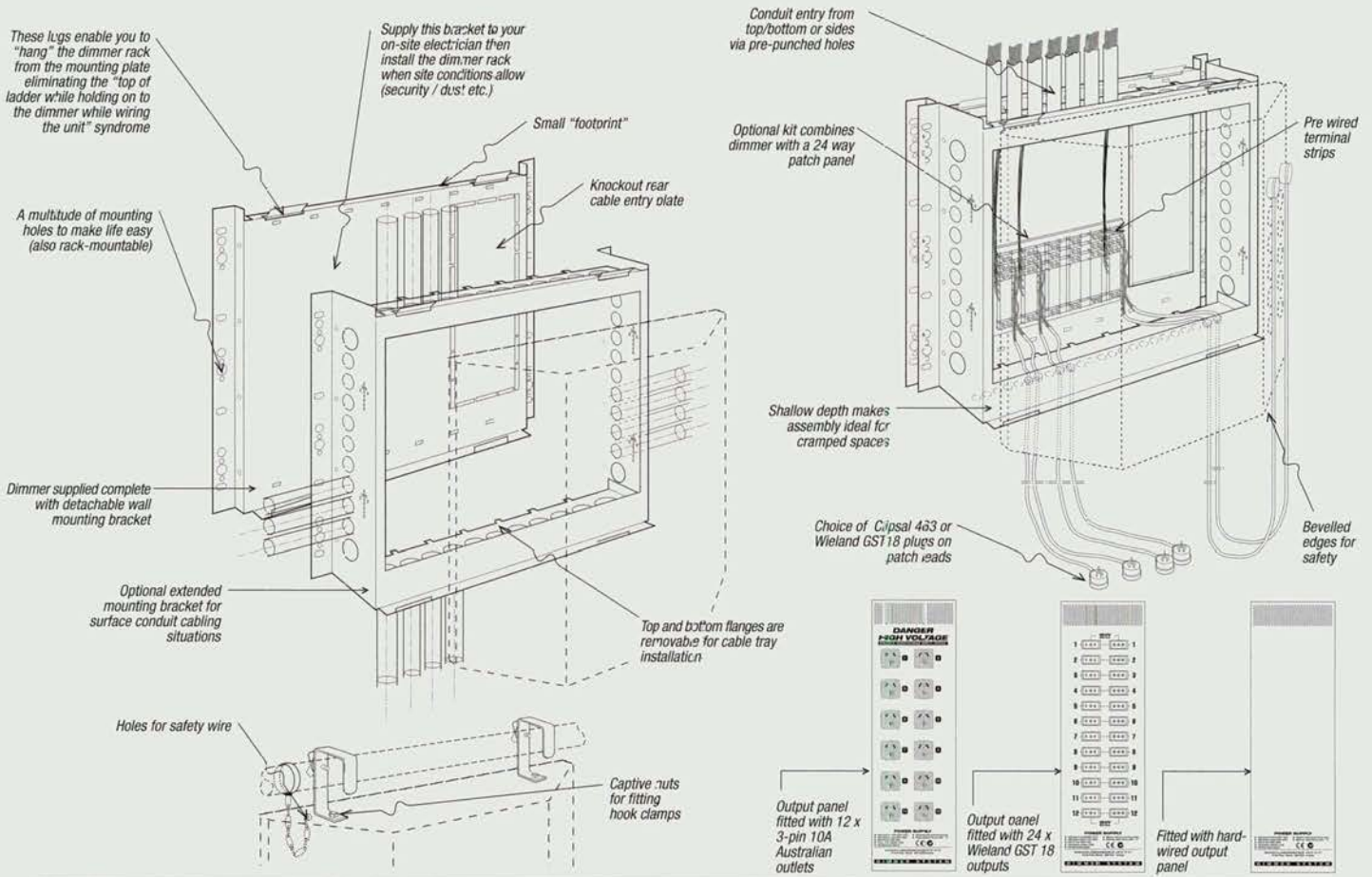
Call Ashton Admor +61 8 9478 3800

bank fluoro kinoflo system. Most commercials guys seem to be getting into that. They are quite lightweight, flicker free, and they have a range of colour temperature tubes, which is pretty important, so you don't lose light through colour correction. They're a controllable big soft source, and they drop off. They hit from about a metre away, and you haven't got a big shadow on the wall on the other side. They're the latest thing on the market. I really like the whole range right down to the small 12v systems that you put in cars."

● Madeleine Murray

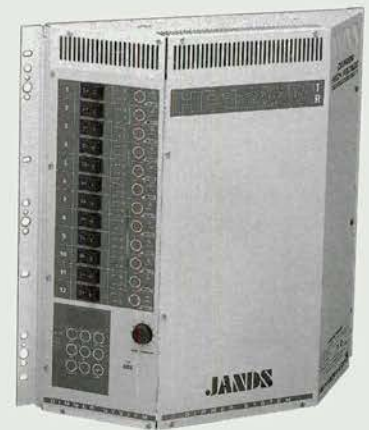
DIMMERS WITH APPTITUDE

(Or how to provide your client with a highly specified 12-channel dimmer rack and a 24-way patch system without spending a fortune in buying separate equipment, wasting installation time, taking up lots of wall space or drilling holes in plastic boxes to make a patch panel)



JANDS WM SERIES DIMMER RACKS

FEATURES	HP12WM-SC	HP12WM-TR	GP12WM
Number of channels / Power rating	12/2.5kVA	12/2.5kVA	12/2.5kVA
Hard-fired SCR control	✓	-	-
Opto-fired triac control	-	✓	✓
Menu-driven software & function keypad/LEDs with 4 digit/16-segment display	-	✓	✓
*"SELECT" switch (controls function)	per channel	per channel	-
Bank select switches	-	-	✓
*"STATUS" LED (indicates changed output voltage e.g.120V)	✓	✓	✓
*"LOAD" & "DRIVE" LEDs	✓	✓	✓
*"DMX IN" (indicates presence of DMX control)	✓	✓	✓
*"1/2/3 PHASE" LEDs (indicates 3-phase supply OK)	✓	✓	✓
On-site software update capability	✓	✓	-
Stand alone operation with channel level control	✓	✓	-
Built-in factory programmed chase functions	6	6	✓
Store up to three (3) DMX snapshots	✓	✓	-
Two (2) custom scenes	✓	✓	-
Fan assisted convection cooling	✓	✓	✓
CE & C approved	✓	✓	✓
DMX start address selected by bank or channel	✓	✓	✓
Neutral failure detect with override	✓	✓	✓
Automatic mains input fluctuation compensation	±25%	±25%	±25%
Over-temperature detect / warning	✓	✓	thermal cutout
User lock facility	✓	✓	✓
Dimmer "wakes-up" in previous mode	✓	✓	✓
Pre-heat facility / level select	variable per channel	variable per channel	global
Selectable output voltage (240V/120V/60V chopped)	✓	✓	✓
Hold last DMX value should control data be interrupted	✓	✓	✓
Single or three phase operation	✓	✓	✓
Selectable linear power or switched dimmer curve	per channel	per channel	linear only
USITT DMX-512/1990 control protocol	✓	✓	✓
Output risetime	500µs	280µs	130µs
Circuit breakers output protection	magnetic	magnetic	magnetic,thermal
Test facilities	per channel	per channel	per channel
Dimensions	482mm(W) x 158mm(D) x 485mm(H)		



▲ HP12 WM-TR



JANDS Electronics Pty Ltd ACN 001 187 837

40 Kent Road Mascot NSW 2020 Phone: (02) 9582 0909 Fax: (02) 9582 0999

www.jands.com.au

E&OE

Write in Reader Service Number: 111

TRACKSPOT

Jaqueline Molloy looks at the High End System moving light

The Western Australian Academy of Performing Arts own eight of what must surely be the hardest working Trackspots in existence. From the moment they were purchased three years ago they have been used almost constantly in a variety of situations. Purchased primarily as a teaching aid to educate students in the technology of moving lights they also feature in the lighting rigs of the Academy's productions which range from opera, dance (classical & modern) drama and musicals.

Predictably, each new batch of students thinks the Trackspots are the most exciting luminaire the Academy owns and there is fierce competition to see who actually gets to use them in a show. One of the students has even made a 6 minute training video demonstrating how to use the Trackspots.

Such is their popularity that it wasn't difficult to convince Matt Cawrse, a recent WAAPA lighting graduate to share his opinions of the pros and cons of the Trackspots. Mark Howett, a lighting lecturer at WAAPA, who has used the Trackspots professionally as well as teaching with them, also had some comments.

WHY TRACKSPOTS?

Andy Ciddor was the lighting lecturer responsible for purchasing the Trackspots and he explained that the Trackspots only just won out over the Martin Pro 218s. "I had commissioned some Martin Pro 218s several years earlier for a hire company and I was very impressed with their performance. I looked at them very seriously for WAAPA but a couple of their features didn't really fit in with our requirements. We needed a moving light that ran on DMX so that we could control them from several of our desks. Unfortunately for us the Martin Pro 218s use a proprietary serial protocol which required a dedicated computer as a controller. We didn't have the option of such a luxury."

Ciddor also liked the electronic dimming curve from the Trackspots versus the optical shutter on the Martin Pro 218s. "It was a very close call but in the end it was the matching dimming curve and the colour rendering of an incandescent lamp which tipped the balance to the Trackspot."

CONTROL

The Trackspots are run at WAAPA either off a Jands Hog 250 or a Jands Event control desk although they have also been run on their Galaxy. The Hog is the preferred desk according to Cawrse who believes that the rotary wheels and the palettes on the Hog make programming and replaying cues easier. Each unit requires seven channels of control which allows for intensity, colour, pan, tilt, gobo, beam and speed. The Trackspots can also be run off High End System's low voltage analog controller or operate as a stand alone unit for night-club and dance party use.



COLOUR & EFFECTS

Cawrse is not entirely wrapped in the colour choices the Trackspot offers saying that he finds them a bit garish for theatrical use. "I think they would be more suited to a night-club and to be fair I'm sure that's where a lot of Trackspots end up and therefore the colours would be suitable but for theatre I find them a bit saturated. I've used them for a musical though and the colours worked well." The Trackspot offers 8 dichroic colours plus a colour corrector (CTO), colour splits and open white.

There are nine gobos (2 with built in dichroics) plus an open position and one slot for a custom made gobo if needed. There is also a spare gobo wheel if more than one custom gobo is required. Cawrse was very pleased with the range of commercial gobos available for the Trackspots and said it wasn't often that they used the custom option. The gobo wheel offers 8 forward and 8 reverse spin effects as does the colour wheel.

DURABILITY

The general consensus seemed to be that if the Trackspots have survived three years at WAAPA they can survive anything! Howett explained that they were used nearly every day and moved between 2 campuses and several venues on a regular basis. He also explained that: "our Trackspots pass through many hands and not all of them are as careful as you would like them be. I've seen them dropped and still function perfectly afterwards. I think they're a very robust unit to have survived some of the treatment they get here at the hands of students." Howett was also pleased with how the electronics had performed over the years and said that any problems they had with the Trackspots were usually structural damage caused by mis-handling.

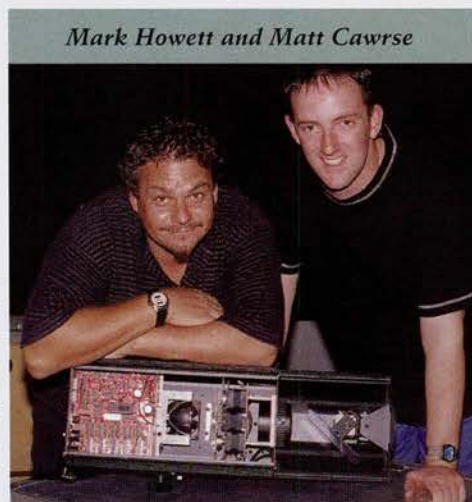
PROGRAMMING

Cawrse believes that the Trackspots are quite easy to program especially using the Hog 250. The Trackspots are the first time many of WAAPA's lighting students have attempted to use moving lights and most of them find them accessible and logical to programme. Cawrse says that it is operator error rather than difficulties with the Trackspots themselves that makes programming tricky at times: "A lot of students learn to use the desk and the Trackspots at the same time which can make it difficult but not through any fault of the luminaires themselves."

PROS & CONS FOR THEATRICAL USE

Cawrse once used three of the Trackspots in a small venue and found that the fan noise was distracting yet said it was not so noticeable in a larger space. "I found

continued on next page

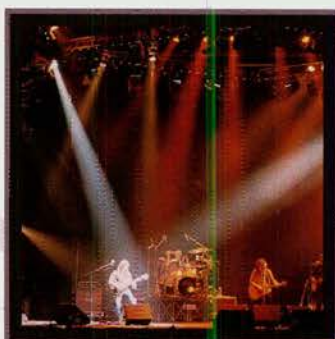
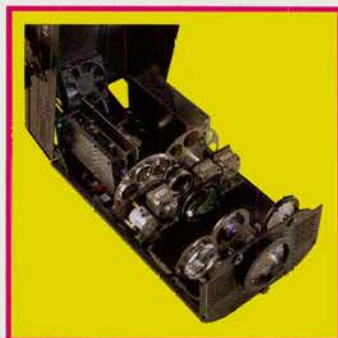


Mark Howett and Matt Cawrse

Has your scanner all the functions of the Victory and a halogen lamp with the power of a discharge lamp?

No?

What a shame...



VICTORY 250

- * 8 colours using carefully selected dichroic filters
- two-tone beam
- adjustable speed rainbow effect
- high-speed colour changer with or without black-out and music sync
- wheel with 7 easily changed gobos
- 0÷100% dimmer
- 1÷9 fps strobe
- high resolution mirror movement (16 bit)
- 250W/24V halogen lamp, over 300 hr. lamp life

VICTORY II 250

- * 16 colours using carefully selected dichroic filters
- two-tone beam
- adjustable speed rainbow effect
- colour conversion filter
- frost filter for wash effect
- 4-sided rotating prism
- high-speed colour changer with or without black-out and music sync
- wheel with 7 easily changed gobos (4 are adjustable speed bi-directional rotary gobos). Gobo change with or without music sync
- 0÷100% dimmer
- 1÷9 fps strobe
- high resolution mirror movement (16 bit)
- 250W/24V halogen lamp, over 300 hr. lamp life

VICTORY II 250



Pilot 1600 is a universal controller: it can be used with the Victory or any other unit requiring DMX512 standard

SGM
LIGHT TECHNOLOGY

20th
ANNIVERSARY

TRACKSPOT

continued from previous page

that I was conscious of the fan and it was a fairly quiet show but as I've said they were fine in musicals because the noise of the show muffled them. The motor can also be a bit noisy as they're being repositioned but I think you just have to choose your moment. I also worry a bit about the grinding and hammering noises if we should ever have an accidental reset during a performance."

Howett has used them in his lighting design for Black Swans's production *Corrugation Road*, and was very impressed, "I think they offer a lot of features for the money you pay for them and they're reliable. I agree with Matt in that you just carefully pick the points in a show that will cause the least distraction when you reposition them."

MAINTENANCE

One twist of a toggle and the back panel slides out to give access to the circuit board, colour and gobo wheels and lamp. Everything that needs to be changed or removed is easy to get to though Cawrse and Howett both agree that it can be a little tight for big hands to get in and work. Howett says, "you just have to be patient and take your time though patience is not always a characteristic that students display with the result being cracked mirrors, smashed lamps and bent colour or gobo wheels."

LAMP

The Trackspots take a 250w, 24volt incandescent lamp and come with one fitted and five spare when purchased. The lamps retail at approximately \$28 each including tax. The Trackspots have a dip switch which when selected can drop the output of the lamp prolonging lamp life and also bringing the colour temperature of the Trackspot closer to most stage luminaires making them more compatible in a rig. Lamp life is around 500 hours.

FINAL COMMENTS

Cawrse: "I enjoyed using the Trackspots and appreciated the



The affordable and robust Trackspot

variety of functions they offered and I would use them again in the right situation."

Howett: "They're a great tool for students to learn on because they're robust, affordable and offer enough features for students to become familiar with moving lights and their operation. I also like the fact that it only takes one pair of hands to rig a unit."

Physical Characteristics: A Trackspot weighs 10.4 kg and is 650mm L x 221mm W x 178mm H.

Price: \$3235.18 including sales tax.

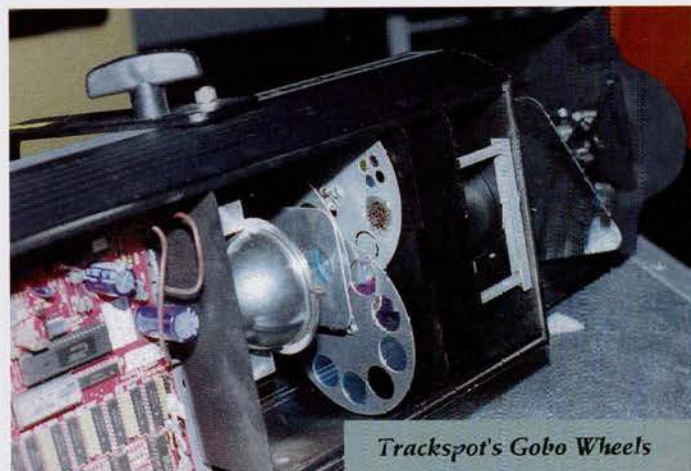
Manufacturer: High End Systems

Inc +1 512 836 2242

Australian Distributor: TechScope Lighting and Audio Distributor -61 7 3358 5118

Singapore and Hong Kong Distributor: High End Systems Singapore +65 742 3266

New Zealand Distributor: GUVT New Zealand +64 9579 4082



Trackspot's Gobo Wheels

DYNAMITE!



GAM COMMAND II

- Searches out lost DMX channels dynamically.
- Displays channel number and level.
- Fast scene and solo focus.
- Automated 5 pin lead tester.

SHOWCRAFT AUSTRALIA

937 Bourke Street Waterloo NSW 2017

Phone: (02) 9698 3009 Fax: (02) 9699 9570

Write in Reader Service Number: 176



Clay Paky VIP 300's light up New Zealand's new museum

Four years in the making, the Museum of New Zealand Te Papa Tongawera opened its doors to the public last month celebrating the culture and heritage of the diverse array of people who live in the island country. Spanning 37,000 m², it is apparently the largest national museum project in the world. At a cost of some \$NZ317 million it is also the biggest cultural project in New Zealand's history.

Housing the country's national treasures, the museum is high-tech and features a combination of displays, high energy attractions and special theatrical effects to recreate the creation and development of New Zealand life in an indoor and outdoor setting.

Central to these displays are 21 Clay Paky VIP 300 Projectors which are housed throughout the six-storey museum. They were supplied by the NZ Clay Paky dealer Metro Productions.

The Museum's Lighting Designer was Marc Simpson who said he chose the VIP's because he needed a product which was versatile, resilient and had the optics to animate a multitude of displays especially in a museum equivalent to the size of three rugby fields. Custom gobos were made for every display the VIP's are featured in.

For one of the displays, a customised gobo was made of a window featured in government buildings. As Marc recalls, "the Head of Museums and Exhibitions was looking at this image and had no idea it was not real...he really believed he was looking through a window!"

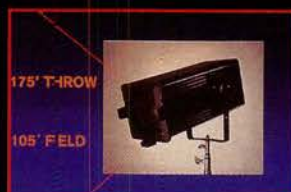
VIP 300's are also being used to project static images such as branches, trees and textures on the floor to recreate the New Zealand environment.



NEED UV EFFECTS? The choices are yours...



Ultra-Violet Visual Effects



Long-throw™ UV-A fixtures - 6 models (WF-401 pictured)



Polycarbonate granules



Fluorescent, invisible and phosphorescent paints



PVC UV active flexible tubing



Makeup and hair products



Fluorescent adhesive tapes



Wildfire sample kits
paints, dyes and plastics



Backdrop under white light



Backdrop under Wildfire UV-A

Technical Bulletins and Application Notes available upon request.



82 Arthur Street, Fortitude Valley,
Brisbane, Queensland, 4006 Australia
Tel: +61 7 3358 5118 Fax: +61 7 3358 6032
Toll Free: 1 800 773 187
Email: tscope@mpx.com.au

10th Year

PALA '98

THE TOTAL ENTERTAINMENT TECHNOLOGY EXHIBITION



MUSIC ASIA

2nd MUSIC ASIA '98



2nd VISUAL COMM '98



3rd AUDIO BROADCAST TECH '98



1st ENT-DECOR '98



2nd SOUND COMM '98

YOUR STRATEGIC LINK TO ASIA PACIFIC'S GROWING MARKET

PALA '98

10th PRO AUDIO & LIGHT ASIA '98

17-19 JULY 1998
WORLD TRADE CENTRE
SINGAPORE

The Entertainment Technology Jigsaw is fast taking shape - Book your Space Today

The 10th International Trade Exhibition for the professional recording, sound reinforcement, broadcasting technology, live sound, architectural / disco / theatre lighting, special effects, design & decorations, visual and sound communications for the entertainment, presentation and music industries for the Asia Pacific region.

Tel: (65) 227 0688
Fax: (65) 227 0913

PALA 98 - BUSINESS REPLY COUPON

Fax: (65) 227 0913

For Enquiries, please contact:
IIR EXHIBITIONS PTE LTD
Tel: (65) 227 0688; Fax: (65) 227 0913
Attn: Rosalind Ng-Seah (Ms), Project Director
Ann Tan (Ms), Sales Manager

Contact Name: _____
Job Title: _____
Company: _____
Address: _____

Yes! We wish to **EXHIBIT** at PALA '98
Our initial requirement is _____ square metres.
Major Products represented:
 Audio Lighting
 Broadcast Visual Comm
 Sound Comm Entertainment, Furnishings, Fittings & Beverages
 Others, please specify: _____

Postal Code: _____
Tel(+area code): _____ Fax(+area code): _____
Please attach name card when returning by mail

Yes! We wish to **VISIT** PALA '98
Please send me more information in due course.

Our Products / Services are: _____
My company activity: **Manufacturer**
 Distributor

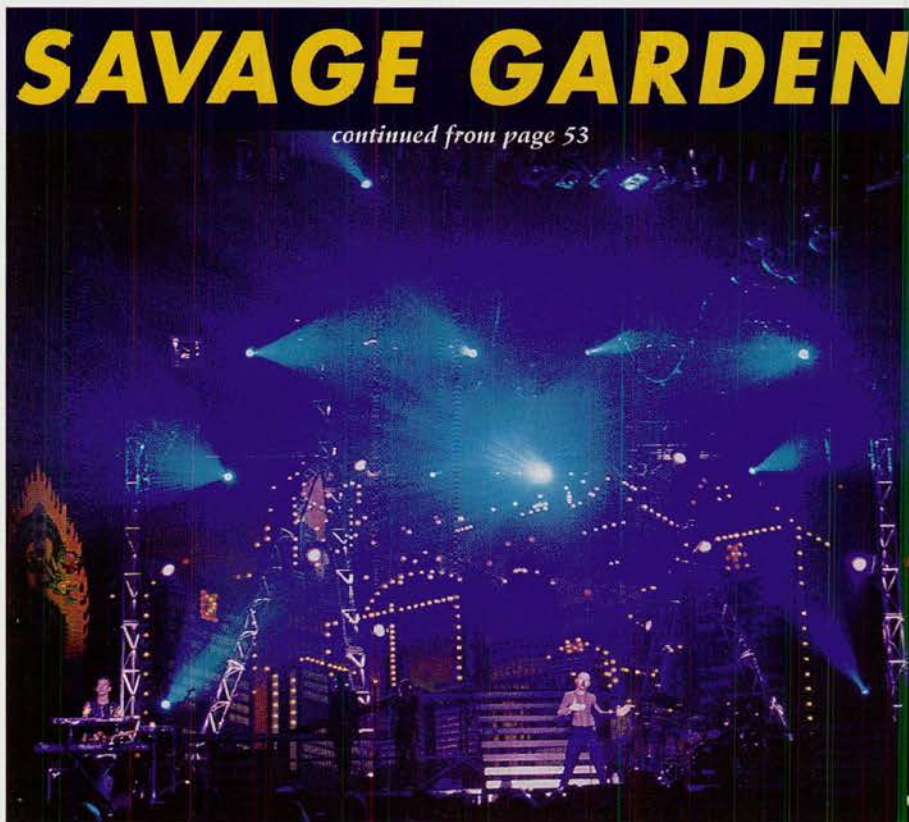
Organised by:

IIR Exhibitions Pte Ltd
101 Cecil Street #09-03
Tong Eng Building
Singapore 069533



SAVAGE GARDEN

continued from page 53



My ambition is to be an LD, tour the world with a live show that blows everyone away and turn around to this country and say 'see, you don't need to employ an American to make it look good. We can do it, just stop knocking the creativity out of us'. On one hand you have the management telling you how great it is and on the other people in the lighting industry sticking the knives in. But I've got so many holes in my back already, it doesn't matter."

Although Motley was more than happy to have Bytecraft supply all the lighting he was a bit worried about the crew.

"You're only as good as your crew and I know that Dion Weeks from Bytecraft can make the Icons work but I want guys who can set up a rig," he said. "So I got Nicky Koumos involved. Today at the Sydney Entertainment Centre, we didn't get the trucks until 2.30pm and we finished at 7.15pm. Everyone kept cool and we just went for it. No one went to the toilet for four hours!"

The rig included: a variety of Par 64's (147 in total); 4 x 6x16 Lekos; 4 x 5K fresnels; 4 x 4lite DWE; 4 x 1000w nook/QI/Coda; 6 x 1200w 4 way cyc units; 12 x Icons; 8 x Icon Wash Lights; 40 x egg strobes; 3 x 400w UV cannons 150' rope lite; 4 x 25' and 4 x 30' festoon lengths Icon console; c/c console; 20 x Par 64 c/c.

3 x 5K c/c; 1 x DF50 smoke machine; 1 x Rosco smoke machine; 2 x fans; 1 x 24' mirror ball; and a mirror ball cluster. Four FOH spots were used in each venue (in house spots).

The tour started with two outdoor shows in northern Queensland who decided to play outdoors in the tropics at this time of year I'm not sure. Predictably it rained although Motley only lost four ballasts on the Icons.

"In Rockhampton it rained so hard and I can't describe the lightning," he told me. "The storm hit ten minutes before the band came on and the stage was under two inches of water. Luckily the dimmers were in a good area and we were dry. We only lost one Icon by the time the show started but the other one worked the whole show. Mind you it blew up the next day. In Cairns we had five lightning strikes during the show which took the power out and made my desk flicker interestingly. In Townsville we couldn't put the whole show up. In hind sight it was probably the best thing that could happen to the band. All these things went wrong but nothing went wrong that was the fault of the band or the production. By the time we played Brisbane last night it ran so smoothly.

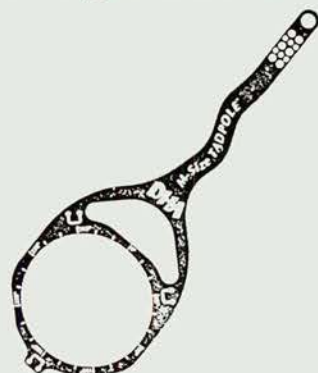
• Cat Forcer

CREW PERSONNEL

Tour Manager Brendan Ryan **Production Manager** Peter McFee **FOH Sound Engineer** Colin Ellis **Lighting Operator** Sean Hackett **Stage Manager** Paul Collins **Drum Tech** Lindsay McKay **Stage Tech** Clem Ryan **Monitor Operator** Grant Pudfig **Senior Lighting Crew** Nicky Koumos **Sound Crew** Dave Vinnicombe, Gary Walker **Lighting Crew** Dion Weeks, Glen Orchiston.

tadpoles?

you've got to be kidding



The amazing tadpole is designed to hold a metal gobo in a Rosco gobo holder and allow the gobo to be rotated and aligned then locked off. No more burnt fingers. No more struggling with paper clips or screwdrivers. Now available through Rosco stockists to fit A, B, and M size gobos and Rosco holders.

contact your rosco dealer for a complete rosco gobo catalogue

Write in Reader Service Number: 133

Pacific

Cool light. Cool luminaire. The next generation.

<http://www.selecon.co.nz/~selecon>

Club

Sandwich

Edited by Caroline Grafton, Compiled by Nicky Morris, Catriona Forcer & CG

Product News

Gemini Sound Products have recently launched the CDM-1000 professional stereo preamp mixer. The 1000 features 4 stereo channels, the latest in cueing technology, LEDs on each channel, -26dB of cut for low, mid and high on each channel plus balanced master outputs and 3 mic inputs. Price A\$859 from **Disco World** on +61 3 9735 0588.

KAM have introduced the Beat-Pro Mixer for BPM matching. Each output channel has its own dedicated BPM window showing the three-figure LED display in either real time or averaged, depending on the mode selected. Two LEDs also display the beat in use and if the channel is selected. An intelligent chip adjusts automatically for double or missed beats allowing for stable BPM readings. Adjustments can be made to the BPM by altering the trim control. (Is this a mixer or a

KAM Beat-Oro Mixer



Vestax PDT-5000

plane?) When the BPM on both selected tracks has been adjusted to match, the beat indicators can be used to start the mix. Price A\$1,229, from **Universal Lighting & Audio (ULA)**, Sales Hotline 1800 648 111.

Vestax have the PDT-5000 Black Record Turntable developed exclusively for DJs, featuring a high powered AC direct drive motor system for improved torque. Other features include minimised acoustic feedback by the original floating arm system, +/- 10% detachable pitch control fader permitting easy replacement and optical speed control via the illuminated VU meter. Priced around A\$1,200, from **Moore Music** on +61 3 9419 0344.

The Cave Niteclub

Rene Rivkin, stockbroker and well known entrepreneur has recently made his mark on the Sydney nightclub scene with the late '97 opening of The Cave Nightclub, situated in the Star City complex in Pyrmont.

The venue consists of two rooms. The Cave Bar with a capacity of 345 is the dance room - loud and well, LOUD.

The Velvet Room, which is the cabaret lounge and function room, comfortably seats 200 in a deco style, multi-coloured velvet environment. Rivkin is famous for his flamboyancy and the Velvet Room appears to be an extension of his personality.

This is the latest 'beautiful people' hang. Just imagine the dozens of gorgeous bodies attending the Cleo 'Bachelor of the Year Awards', or how many people had to dodge the undulating arms of Mariah Carey on a recent visit. Human Nature and Phil Ceberano are other artists enjoying this new nightspot.

Project Manager acting for Total Concept Productions was Mark Lang.

Special mention going to Nick Orsatti of Jands Electronics for audio alignment.

The Cave Bar Spec

Dance Floor Audio - Rane MP24 DJ mixer, 2 x RPM26 crossovers and ME60 EQ; 2 x

Technics SL1200 turntables; Kenwood 5way DPR4090 and Denon DN2500 CD players; Shure SM58 Mic; Sony TCW290 cassette deck; JBL - 4 x MPX1200 amps, 1 x MPX300 amp, 2 x MPX600 amps, 2 x AS3218 low/

mid/high speakers, 2 x 4897 HLA "killer" subs and Powered Eon 10P (DJ monitor); TCP EWIS over ride.

Background Music System - 2 x JBL Control 28, SR4706A and 2x SR4722A speakers



and MPX600 amps.

Lighting - 8 x Clay Paky HPE Miniscans; JEM ZR31 fogger; 2 x Genie DMX strobes; 8 x Martin Destroyers; Show Technology 1mtr mirror ball & motor; TCP Truss and Elektralite CP-100 controller.

The Velvet Room Spec

Live/DJ Audio - Spirit LX7 24ch. console; Rane MP24 DJ mixer RPM26 crossover and ME60 EQ; 2 x Technics SL1200 turntables; Kenwood 5way DPR4090 and Denon DN2500 CD players; Sony TCW290 cassette deck; Shure mics 5x SM58s, 6 x SM57s and 1 x Beta 52; SCV DI unit; Various stands; Jands multicore; Yamaha SPX reverb; JBL 3 x MPX1200 and 2 x MPX300 amps and 4 x 4892 mid/high plus 2 x 4893 sub speakers, DSC260 series processor and 5 x Eon 10P as performance and DJ monitors; TCP EWIS over ride; DBX 2215 comp/limiter;

Background Music System - 8 x JBL Control 25s, 4 x Control 1CMs speakers and 3 x MPX300 amps; Rane AD22B delay; DBX 2215

comp, limiter;

Lighting - 4 x Clay Paky Silverado; 3 x Martin PRO400; JEM ZR20 fogger and Elektralite CP-1CXT controller.



The Design & Installation - Total Concept Productions Phone: +61 2 9648 3444

The Venue - The Cave Nightclub - Star City Casino, Pyrmont NSW 2009. Phone: +61 2 9566 4755



Club/Venue News

► Velour is one of the latest clubs to hit Melbourne. Velour provides patrons with a casual bar atmosphere and pool tables during the week, while on Thursday, Friday and Saturday nights the funkier of club nights. On Thursday retro fans can listen to their favourite hits from the 70s and 80s with DJ Wendi from 8pm 'till late with free entry. Friday nights from 7.30 'till 9.30 Musiki Manjara play the live sounds of the Reggae culture. Followed by Progressive House with DJs Dean Cherney, Sean Quinn, K-Cee, Dave Yakka, and Gavin Keitel 'till late, on 2 levels. Cover charge is \$7 or \$5 with a pass. Saturday nights is Live Latin Groove with band La Gran Banda pumping the sounds of Latin America for your listening and grinding pleasure. Down stairs DJs Brandon, Ses and Lee play for you Funk, Soul and a little R'n'B, all for \$7 or \$5 with a pass. Velour is located at 121 Flinders Lane. Ph: (03) 9663 5589 for details.

► If your just passing through Noosa, or if your a local, The Reef Hotel is the biggest night club in town. New on Wednesday nights for the dance club lover is "Pulse" from 9pm. Pulse brings you DJ talents from all over Australia, pumping out the latest in dance music. Cover charge ranges between \$5 to \$8, depending on who's J'ing. On Thursday nights you can hear live alternative bands from 9pm 'till late for free. Saturday nights is 'Ladies Night out', dress is smart casual for entry from 9pm. The Reef Hotel is open every day, with pool tables available. Thursday and Friday nights also feature Happy Hour, with \$3 basic spirits. If you belong to an alterna-

tive band or know one who would like to strut their stuff on the stage of The Reef Hotel, don't hesitate to call Peter on (07) 5447 447. The Reef Hotel is situated on Noosa Drive.

► Noarlunga has seen the light of a new all ages venue. The St Vincent Recreation Centre has live alternative bands every Friday night. Local acts featured in the past include 'Where's the Pope?' and 'No Reality'. International acts set to make their way to the centre in March are 'Satanic Surfers' and 'Strife'. The St Vincents Recreation Centre is on David Witton Drive, just a few minutes walk from the railway station. Entry cost ranges from \$8 to \$10. If your a new band and want to play at the Noarlunga Centre, call David on 0419 214 344. For details of who's playing call (08) 8384 1144.

► Club 77, at 77 William Street, Sydney is hyping up the club scene 5 nights a week, with DJs and Free Arcade games every Wednesday through Sunday nights. Wednesday night is Phony, with hard house for the small price of \$5 from 10pm 'till late. Thursday night make your way to Club Kocky, where DJs Gemma and Seymour Butz play what could only be described as strange sounds from 10pm 'till late with a \$5 cover charge. Friday night is 'Tweekin'. DJs Sugar Ray, Phil Smart and Guests provide you with hard house from 11pm 'till 5am, for \$8. Pure Pop is the happening British indie night from 9pm 'till 3am Saturday and on Sundays look out for Bazooka, the indie alternative from 9pm 'till 1am for free. For more info call Club 77 on (02) 9361 4981.

**Earliest man
discovered
heat rises...**

A reality yet to be mastered
by today's axial profiles.

Pacific

Cool light. Cool luminaire. The next generation.

<http://www.selecon.co.nz/~selecon>

ADVERTISERS INDEX

Please Note 'S' indicates Studio & Post Directory at centre of this issue

Acoustic Technologies	30
Altronic Distributors	29
Ambe Technology	D9
Amps Unlimited	43
AON Fisk Services	41
AR Audio Engineering	18
ARX	35
Audiology	33
Australian Audio Supplies	S13
AWA	14,29
Birkart Concert Cargo	20
Bytecraft	60
CLS	62
CMC	31
Connections Shop	S21
Digide sign	S2
Digital Sound Systems	S7
EVI	25
Gray Esdell Timms (Auction)	37
Group Technologies	33
H&C Audio	19
Infonics	24
Jands	2,13,77,S17
Lightmoves (Cloud Electronics)	45
Magna Systems	27
Martin Pro. Lighting Aust.	88
Megaron Recording	S
Meyer Sound Aust.	17
Oracle Laser Productions	71
Oracle Records	S
PALA	82
Paul Bryant Mastering	S15
Penn Fabrication	65
Production Audio Services	6
Pro Music	43
stm Electronics	26
Quantum EFEX	71
Rosco	83
School of Audio Eng. (SAE)	S11
Selecor	59,67,83,85
SGM	79
Show Lighting Australia	69
Showcraft	80
Showtech Australia	63
Sound Advice	41
Soundcorp	34
Stage & Screen Travel	15
Studio 301	S
Studio Supplies	22
Syncrotech	23
T-PAC	44
Technoear/Scan Audio	75
Techscape	61,81
TRC	41,44
Universal Lighting & Audio	87
Yamaha	39

READER SERVICE CARD:

You can obtain information on Products and Services in this magazine where a reader Service Number is indicated. Just fill out the **FREEPOST** Reader Service Card elsewhere in the magazine, and send it to us. Post FREE!

THE PA PAGE

BACK TO BASICS

Part Two in a series, by Michael Orland.

"G' day Mr. Jagger."
 "Who the hell are you? How did you get past security?"
 "I'm Trev from Mount Druitt. Just thought I'd come backstage and say G'day 'n that."
 "yes, well, good day to you as well. Now, I'd suggest you left quickly before you got yourself seriously hurt"
 "S'cool, Mick. Just thought I could have a word about your front-of-house dude,"
 "Robbie? What about him?"
 "Aw nuthin' s'cool, it's just that, like, if he ever wanted to take a break 'n that, like I wouldn't mind avinago at mixing 'n that"
 "Really. And your credentials....?"
 "Huh?"
 "Who have you engineered previously?"
 "Uh, no one. But I'd really like to try with youse guys 'n that,"
 "A fresh approach? Well, there's a lot to be said for that. And Robbie was asking for time off. Yeah, alrighgt, Trevor, you've got the gig. You can start tomorrow night. We'll have a limc pick you up at 7. Hey, Jerri! Get ya butt in here and meet the newest addition to our family!"
 "You know, Trevor, we ARE a family, and like all good families, we believe in sharing...everything. Jerri, make Trevor feel... welcome."(Jerri slinks in wearing a leopard skin negligible. Incredibly enough, she looks the same as she did 20 years ago in the "Let's Stick Together" clip. She eyes Trevor up and down, licks her lips and moves them close to his ear. He braces himself in anticipation of what she is about to suggest....)
 "How about getting outta bed, son. The crewing company said midday, and you shouldn't be late on the first day!"
 "Aww, ma...I was having this really good dream too...."

Like rolling leads, loading is a skill based on aquired techniques. And the more "box relocating" techniques you aquire, the less the impact on your body as well as the equipment.

Stay sharp. Drink water and

dress to sweat. Until you no longer have to think about what you're doing, beer is for after the load-out. Vagued-out loaders are a real danger to gear and others.

When starting out, keep an eye on those with the experience. These are the persons who make it look easy, as opposed to those who groan, grapple and fumble.

On a stair load, the person who knows the gear will call numbers like 2 or 4, indicating the number of people required to safely carry the next item. NEVER try to impress by grabbing anything on your own that should be carried by 2. You'll only impress your stupidity. Endurance counts, and it is only achieved by pacing yourself. You're no good to anyone if you start hyperventillating halfway through the job.

When the call is for 2 on a case, and the person you're paired with knows their stuff, mirror them. This is choreograophy. Dances with boxes. Watch where they put their hands, how they bend their knees, etc. If they grabs a case from underneath instead of its handles, then so do you. Doin' your own thang when starting out is dangerous and stoopid.

Actually, handles on cases are rarely usefull on stair loads. Positioning both hands under the case helps to distribute the weight evenly. Whether you choose to wear loading gloves or not is up to you. Whatever makes the job more comfortable. Personally, I prefer not to wear them, feeling a better grip with bare hands.

Then again, my fingers were already toughened from years of bass playing by the time I started. Anyroad, if you don't wear them, never slide your hands along the underside of a case before picking it up. If the edge is wooden, you may get a nasty splinter. Or if it is aluminium, then a raised nick in it can slice flesh.

Handles ARE usefull for awkward sized things like large mixing consoles, which generally travel upright on their front or backs, requiring 4 or more to carry

it. In such examples, trying to use both hands under it means walking sideways, where tripping over yourself becomes a real hazard. So it's one person per usable handle, shoulder to case, sharing the weight as evenly as possible or lower your arm accordingly.

Handles are also usefull for lifting cases up onto a high stage. Always lift the case from underneath so that the handles face the stage. This way a third person can assist by grabbing the handle when it gets past the halfway mark and finish the lift up onto the stage. If a third person isn't available, dont "dead lift". Instead, tilt the case, hook the front wheels up over the edge and roll it over.

When pushing cases, take care not to stack things precariously on them. Raised edges on dance floors, uneven concrete paths, steep ramps, are all risks to gear. Sometimes a shove will keep the case moving, sometimes it will send gear tumbling. I've had no less than ten biradial horn flares broken in the last year as a result of such poor "snap" descisions.

The loader says "oops" and 2 minutes later forgets all about it. I, on the other hand, who finds fiberglass repair just about the worst PA maintenance job of all, memorise the loader's details for life. So, if in doubt, stop, walk around the front of the case and lift it over the bump.

Hopefully the above tips will brace you for what you can expect at the most common entry level into the live music industry as I know it. After working with a good loading team, you should feel invigorated, as you should after any healthy workout. After working with a poor team, and it only takes one or two non thinkers to screw it up, you feel like you've gone ten rounds with Costa. If you dont think loading work is for you and you'd rather start at the top, well, what can I say? Dream, on, Trevor!

Michael runs The Public Address Co in Sydney, call +61 2 9799-7219.

VR Series

NEW!

Behold the Abstract VR8 - the most beautiful lighting effect ever produced

Constructed entirely from formed plastic, the VR8's finely sculpted, elegant lines herald a new dawn in the aesthetics of high performance lighting effects.

The Abstract VR8 is the first of a four model range that will satisfy all levels of application. The full range is VR4, VR8, VR12 and VR1E.

The Abstract VR8 is not only the perfect lighting solution for designers of discotheques and bars, who want a lighting effect that is sympathetic to their creations; it opens completely new possibilities for exhibition, architectural, multi-media, retail and promotional lighting applications.

The Abstract VR8 has a full digital display function that indicates performance parameters such as the hour usage of the powerful discharge lamp, and full mode select for the unit. The use of a trapezoid colour system produces totally seamless

movement between the 12 beautiful dichroic colours (10 colours plus white and multicolour). The gobo wheel offers 12 sharp, motorised gobos.

Abstract has put the passion back into lighting.

VR Series Options:

- Precision projector optics for high resolution POS applications
- 35mm slide projection facility
- Rotating gobos
- Separate strobe shutter
- Dimmer
- Colour correction
- Frost filter
- MSD 250 lamp
- Available in silver and black



26 Commercial Drive, Southport, Q. 4215 Australia
Telephone: 61 7 5532 9922
Sales Hotline: 1 800 648 111
Facsimile: 61 7 5532 4155
Email: ula@ula.com.au Web Site: www.ula.com.au

CALL US NOW, FOR YOUR NEAREST STOCKIST





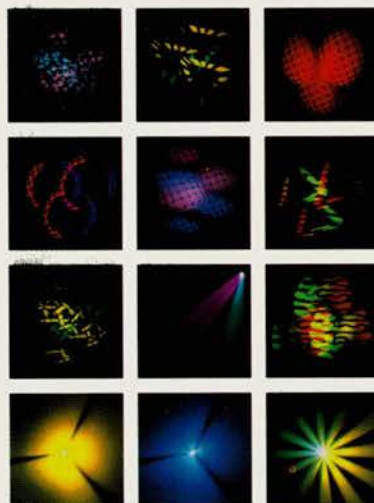
NEW PRODUCT

NEW PRODUCT

Now available with an Electronic Ballast

The MACnificent Team

The Martin MAC 600 Fresnel and MAC 500 profile moving head luminaires make up the ultimate professional lighting package.



The MAC 500 has 2 motorized gobo wheels, 5 interchangeable 28mm indexed rotating gobos, 9 fixed metal gobos.

Together, they are the most flexible and compatible solution to your lighting requirements.

They're Made For Each Other.

The MAC 500 and 600 are both examples of cutting edge, road proven Martin experience. Take performance. Though they share the same base, yoke and light

source, they are two completely different products that complement each other so well, they even fit in same flight case.

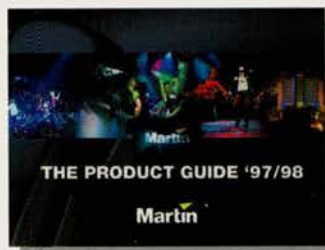
The MAC 600 is the powerful washlight with unbeatable color. The MAC 500 is the feature-packed profile spot. It's a match made in Denmark.



Both lamps fits in three available flight cases

What's more, you can buy them.

Rental is not always the best option. You can purchase (or lease) the MACnificent Team secure in the knowledge that they're supported by the most extensive international distributor network in the industry and a thorough commitment to customer service.



Call your local dealer for a FREE 72 page catalogue

Martin
Professional Lighting
A U S T R A L I A

A division of 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>

Write in Reader Service Number: 152