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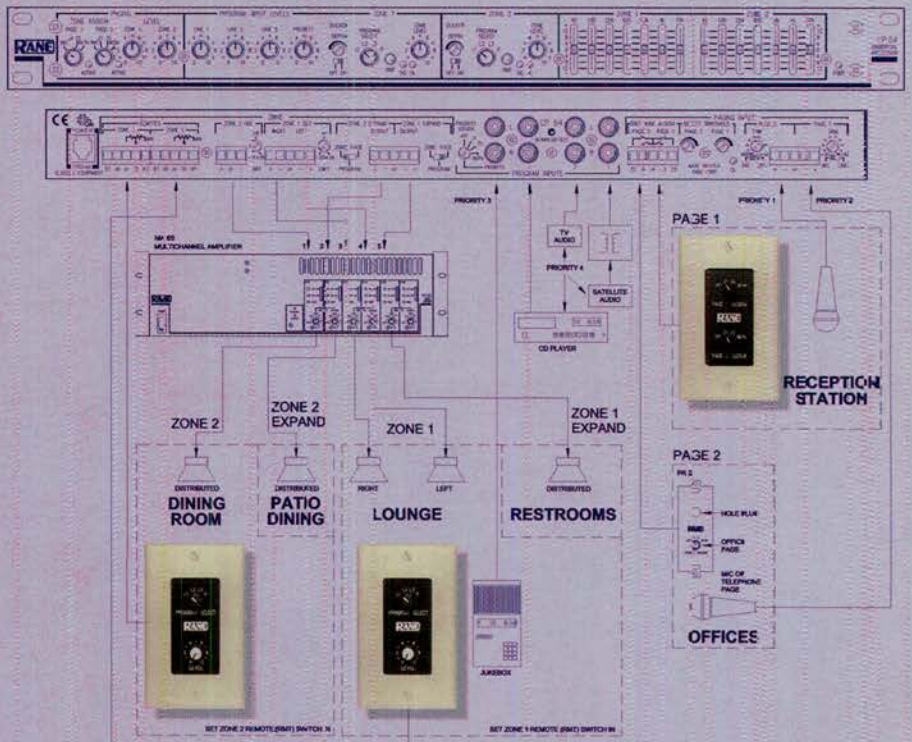
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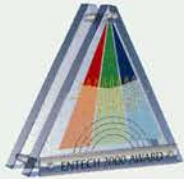
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# Connections

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SONY MDS-E52

The MDS-E52 is a 2U (19-inch) rack mountable pro MiniDisc player/recorder which features a variety of I/O connection options. An RS-232C serial port makes the MDS-E52 controllable from a personal computer or radio automation system. Features include IR Remote control (wired remote also available), and auto pause, CD sync, music sync and time-machine recording. As well as MiniDisc editing functions, playback options include Search, Auto Pause, Repeat, Shuffle and Program. Inputs and outputs include balanced XLR and unbalanced analogue I/O, as well as RCA coax and optical digital I/O.



SONY MDS-E11

The MDS-E11 is a 1U (19-inch) rack mountable pro MiniDisc player/recorder, providing all the storage and processing power you could need in a super slim unit. Inputs and outputs include balanced XLR and unbalanced analogue I/O and RCA. Multiple MDS-E11's can be coupled for endless relay-play and relay-record. An assignable 9-pin parallel interface provides everything from simple user remote play - back to easy industrial equipment interface. Computer control is supported by an external RS232C port. As well as MiniDisc editing functions, recording options include Auto Pause, CD Sync, Music Sync. Playback options include Search, Auto Pause, Repeat and Shuffle.



SONY MDS-E53

The MDS-E58 is a 2U (19-inch) rack mountable pro MiniDisc player/recorder with an array of useful features and functions. It was introduced as an evolutionary step along Sony's MD development path and fitted with a rugged disc transport system and overall design at a realistic cost. The unit has unbalanced analogue I/O and RCA as well as optical digital I/O. As well as MiniDisc editing functions, recording options include Auto Pause, CD Sync, Music Sync. Playback options include Search, Auto Pause, Repeat, Shuffle and Program. Specs: Frequency Response 5Hz-20kHz +/-0.5dB, Signal to noise ratio: >92dB.



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# Connections

ENTERTAINMENT TECHNOLOGY ~ APRIL 2000

## Wakeup call for concert acoustics

**S**uddenly bad venue acoustics and poor show sound has become a growing problem for entertainment promoters.

Barbra Streisand's management took extreme measures to mainly defeat lousy acoustics at the Sydney Football Stadium, and then came close to taming the horrors of the new Colonial Stadium in Melbourne.

Maria Carey's world tour rolled out last month, with costly extra drapery installed at some of the venues to try to tame the acoustic.

Carey's engineer Trip Khalaf: "Let's get something straight from the outset. We (the sound companies) never wanted this to happen. These places were never

meant for music; they were meant

to hold a bunch of rabid sports fans, fill them with beer, and let them deafen each other by making the places highly reflective and reverberant.

"Come to think of it, it's much the same with a pop show, but we sure could do without the rotten acoustics.

"Greed triumphed over com-

mon sense. So I spent the last part of the 20th century averting my ears from the horrid truth that large arrays of speakers in crappy sounding venues really do suck".

New high-Q PA systems do help - and promoters are wary of a new, frightening trend: in Los Angeles recently, punters asked for refunds due to bad sound.

If the growing stack of calls we get here at Connections are any indication, then concert consumers are increasingly aware of what constitutes reasonable audio. And, what does not. •

### AUDIENCES REACT

### ARO fire 'deliberate'

Adelaide acoustical specialists Aro Technology are regrouping after a fire wrecked their premises. A stolen car was set alight outside their workshop, causing half a million in damages.

It is the sixth time Aro has been hit by some kind of crime in the past six months, says CEO Chris Morton.

They urge everyone to carefully check their insurance policies and security.

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## ENTECH boosts out of town trade

**SYDNEY:** Competition was fierce. It was the weekend of the Gay and Lesbian Mardi Gras, Clean Up Australia Day, Barbra Streisand in concert and the lead up time to the Grand Prix and The Moomba Festival in Melbourne. But there were still lots of visitors, not to mention stands, at ENTECH. The trade show, billed as the largest in the southern hemisphere, so it must be, was held for the first time at the Sydney Showground in Olympic Park at Homebush Bay.

Some people moaned about how far it was from Darling Harbour, by taxi! Well, anything is far by taxi. The trick was to take the ENTECH bus, or the train, which goes straight from Central to Olympic Park in 20 minutes.

The show was bigger, but less congested than previous ENTECHs. The stands seemed more spread out, so that there wasn't a lot of competing audio, video and lighting blitzing the brain.

I carpet-stopped some visitors, and a few of the 170 exhibitors, and checked out their progress. I only heard two complaints. One was from Al Craig, from Sydney Olympic Broadcasting, about the sound at the screen sound seminar, and the other was from someone with a hangover about not being able to drink his own beer at his own stand.

Personally, my complaint is that the wonderful Derek Gilbert, CEO of the recently gutted Glantré, wasn't there with his wine bar.

(Continued on page 11)

By Madeleine Murray



## GST not a cost to business

*New tax is misunderstood by many in the industry*

The forthcoming goods and services tax (GST) in Australia will not impede entertainment businesses - unless they sell show tickets or records to the public. Studios, production companies, venues and service providers will all pass on the GST collected, without this adding to their costs.

Confusion about the GST has been escalating, but businesses need to understand that whatever GST they pay upon purchase, is claimed as a refund from the GST they have collected from their customers.

ALL Businesses must apply for an Australian Business Number by the end of May.

~ Syd Smith ~

It is with much sadness that we advise that, after a lengthy battle with cancer, Syd Smith, owner of The Drum Shop in WA, passed away on 17 March 2000 aged just 37. He is survived by his wife and 6 year old daughter.

Syd had a major impact on the drum market in Perth and operated one of the most comprehensive and modern drum shops in Australia. Our thoughts and condolences go out to his family, friends and staff.

## BIG POND CHARGES ROW

Big Pond Advance, the Cable internet connection division of Telstra (Australia), have defended allegations that their charging system is defective.

Last month Connections revealed an overcharge of \$10,156 to its cable modem account in November and December - compared with average monthly useage charges of about \$150.

Telstra executive Ben Cole said: "Fundamentally, the billing recorded against your account was correct but may have been inadvertant or unauthorised. My manager has authorised that we write off the balance of your account as a one off goodwill gesture".

But Big Pond cannot guarantee that further rogue charges will not occur. The account useage reports are being analysed by a consultant, and show extreme bites of traffic in the early hours, when our office is empty. Some are over 100Mb, at short intervals.

Meanwhile, Connections reader Mark Barry of B.S. Sound, says: "I too am connected with Telstra Bigpond via cable and had a similar experience last September. My normal web usage is a modest 50 - 100 Mb per month, but that month it quadrupled for no apparent reason".

Mark Barry says that he feels Telstra's metering and subsequent accounting is flawed, and he refuses to pay the additional charges.

## Correction, Darling Harbour

In the "Australia Day 2000 at Darling Harbour" article in last months issue a factual error was made in reference to the fireworks contractor for that event. The article should have indicated that "Syd Howard Fireworks International" were contracted.

Andrew Walsh from Accolade Event Management was the Producer and Director of the whole project.



Philips Communication, Security & Imaging (CSI) has introduced a direct web sales initiative, at < [www.teamphilips.com.au](http://www.teamphilips.com.au) >.

Philips CSI designs, manufactures and markets a broad range of communication and security products and systems. The website is designed for access by dealers and also direct customers.



The Australian Screen Sound Guild ran a highly successful *Screen Sound Day* seminar at ENTECH last month. Guild president Stephen Smith is shown above, presenting part of the day long seminar

## Theatre Tech's propose association

A meeting of Technical and Production Manager's at ENTECH saw a good number of representatives of the NSW venues meet in what is hoped to be a regular event. Led by Patrick Buckle of Glen St Theatre, the informal meeting floated the idea of forming an association.

Patrick Buckle is currently investigating the options, and a follow up meeting is intended occur in mid-April.

If you are intrested, email

Patrick at Glen Street Theatre  
patrickb@glenstreet.com.au

## Late News

The speculation on page 56 regarding **Jands Production Services** purchasing a V-Dosc PA system has been proven correct. At press time JPS announced they had ordered a complete system of 26 cabinets.

# ENTECH SPECIAL REPORT

**Tony Youlden, TD, NIDA**

*(Pictured, right)*

This is much better than the last couple of times. There's a broader range of equipment on view. I'm looking for new equipment for a new venue, and

I've seen lots of things in lighting, staging, audio, the lot. Some people are registering higher in my memory banks than they would before.



**Shiji Matsuhashi, Manager, USHIO**

I'm a distributor of GUET. The show is very exciting. The scale is similar to

Japan. We have a stand there. I came for Sunday and Monday. Most famous manufacturers and suppliers are from overseas, so this is a good chance to see them. We had some meetings with them.



**Jill Fitzgerald, editor, Stage Whispers**

The show's wonderful, it's even better than two years ago, it's grown so much. It's easier to see, it seems to be a lot more open. I was interested in meeting the people that I'm connected with.



**Sean Crayn, service at Nightshift Entertainment Services**

It's good to see what's available—it's getting very technical these days. It's more to do with moving lights, more powered speaker boxes, just too much to get your hands on unless

you're at one of these shows. I like the Martin lights, the Mini-max are good, and the Clay Paky stuff. I'm more in the DJ side, so it's good to see some of the speaker boxes, Mackie are bringing out a new powered system, which is something like 5000w, in three different boxes.



**Wolfgang Garçon, MD, Atlantic Audio**

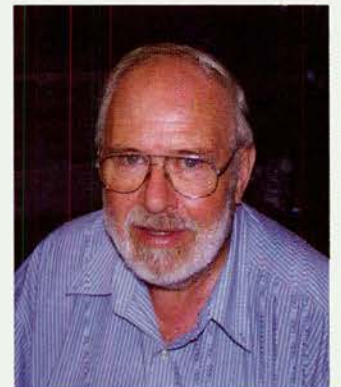
I just met one of our business partners from Great Britain here



in the café. So two Europeans come to Australia to meet! I just arrived two hours ago, I don't have jet lag. I feel fine. I've already seen our new distribution. I come over to do the contracts, and take back command systems to Germany.

**Graham Thirkell, MD and Head Designer, Acoustisearch**

*(Right)* The show is very good. I'm only here for today, and I realise I should have come for at



least two or three days. We're doing a number of new projects, for Channel 7 in Melbourne, and the Docklands projects. We're looking to upgrade ourselves in the equipment side, like video projectors, lighting control systems. Audio is my field, and I see those things normally, so I am concentrating on the lighting and video side of things.

**Leko Novakovic, Novatek, self-employed system engineers**

We've come up from Adelaide. The show is heaven. We're just running around, trying to get everything done. There's so much to do. We're here for two days, doing the Big Audio Fun Day. A couple of lighting stands, like the Clay Paky, have been really impressive.



**Michael Redgrave, Showlight and Power, Auckland**

It's a good show, it's the first time I've been here. We do a lot of lighting for trade shows back home, and this looks great.



**Wayne Leach, Inside Technologies, Asia Pacific**

I do web broadcasting, which is appropriate for this type of market. We have to interface with the producers and the equipment itself. We have to work out the conversions in order to broadcast on our website.



**Ian Hamilton, Flying Pig Production, event design company**

The show is absolutely great, it's fabulous. The standard of the show is a lot better than it has been. The products are more interesting. People



seem to be much more on the ball, it's a lot more informative. I've been here two and a half hours, and I've only managed to get around to six stands.

**Narelle Wylie, Pulsar Music, Karaoke**

I'm in do-it-yourself home Karaoke shows. I take them around and show people how to operate them. We want to take Karaoke further into a larger audience. We're here to look at ideas of how to present it, so that it can be a mass singalong—the projection of the karaoke onto a larger screen, the lightings, staging, good audio. [Narelle's husband then turned up to announce he had found their children.]



**William Sfeir, SAE college**

I'm a student, from Colombia [as in South America] studying at the SAE. This is the best show I have ever been to. You can find all the top quality brands, and the people are very kind with you when you talk to them.



The entry is free, and you can go to many seminars. It's very good.

**Martin Tyrrell, Outlook Communications**

I'm just up from Melbourne for the day. We're very busy at the moment, but it's important to make time to come up and catch up with distributors and suppliers, and assess new gear. I've been talking to colleagues and catching up with Sydney and UK-based suppliers.



**Phillip Jack, Music Headquarters, Newcastle**

We've been checking out everything. I'm looking at new products from all the various suppliers, and looking at new suppliers of everything audio. I sell musical instruments, PAs and retail audio.

**John Perez, Jazzright Production Services**

I'm shopping for some new equipment, some consoles. I have come for specific things



which are new on the market. There's a lot of new toys here. There's a new 24 track recorder from Tascam, a new 24 track hard disk recorder from Mackie, and the M 5000. There's quite a few things we're looking at. I'm looking at the features, layouts, how user friendly it is.

**Kerry Griffiths, The Edge, Auckland**

The Edge runs the performing Arts Centre in Auckland and the Civic Theatre. My colleague, Daniel has gone to one of the seminars. I've got a focus on AV and sound equipment, another couple are looking at lighting and rigging gear. There's four of us here.



**Ian Ware, Australian Public Address, Cooma**

I knew Julius when he was running Grafton Sound at the top of Oxford Street years and years ago. He and Caroline have done a fantastic job of this place, this is just wonderful. It's a credit to them—really a lot of hard work. Industry feedback has been tre-

mendous. There's been nothing like this in the Southern Hemisphere. We're really impressed, and say a big thank you. We're from the bush, we travel 500km for this—that's how important we think it is!



**Rod Louey-Gung, Integrated Media, Darwin**

The show is bigger than I thought it would be, it's more comprehensive. I've been to the Presentation seminar, and it was very informative.



**Owen Ray, International Music, Toowoomba**

We're a store with a full range of musical instruments. We've looked at most of the displays today, for a quick overview. I'm doing the whole three days here. Tomorrow I get in deep with all the people, and I do my buying on Tuesday. I'm here for lighting and disco equipment for



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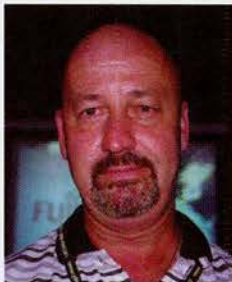
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## ENTECH SPECIAL REPORT

smaller bands, because I'm from a country area. We actually have the largest retail lighting display in Queensland!

### Muir Beck, Loud'n'Live Sound Systems

We supply PA systems. I'm here looking for new product, and I've found quite a few. EV, CMI, Jands—there were quite a few interesting things. The show is very informative, lots of new products.



### Richard Skarzynski, director, TCP, exhibitor

The show's been great for us. We've had some good inquiries from clients we have never worked for before, and clients that have been here from both Fiji and Asia. It's a credit to the organisers, the show is a particularly high standard, a big improvement from two years ago. The style, presentation, information available is great. We do a number of trade shows every year, and this one seems really well organised.



### Lewis von Meyer, Tripod Production, Emu Plains

We put on parties, and we also play live. So we are looking at



the technical gear that's around here. We've been at the Roland stand, and saw some video editing equipment. I didn't know Roland made that. And we looked at a couple of new synthesisers. There's too many things I can't afford here! Anything over \$15,000 makes me cringe a bit.

### Norman Korte, Sound Advice, Canberra



We sell and service audio equipment. At the show, we will look at everything. Then if we get a job where we think we can place something, we will buy it, to sell it. Our customers are mainly government, like possibly Parliament House...We don't like to tell our opposition too much!

Jeff Georgiou, Megavision, WA  
My business incorporates hiring video walls, lighting and sound for parties, corporate launches,



promotions. I'm here to see what's around, see what's new. I've been watching the progress of plasma screens. I like some of the new big screens that are available. Some of the Barco screens are amazing. The lighting is good, because lots of companies are doing moving heads now. I go home enlightened rather than confused.

### Pete Kalmen, QSC, California

We came from our factory in southern California. So far I'm pretty impressed. I've never been to an ENTECH before, so it is interesting. We're very pleased with our exposure here in this market, and our presence is pretty strong. We're with TAG (Technical Audio Group). We're here to see the show, visit with our distributors, and say thank you to all our customers.



### Peter Grisard, Marketing and Engineering Manager, JANDS

We've got a crowd turnout, we've got a great location, right at the entrance. We like to think that our stand looks all right. It's



designed so that you can see the exit, but you have to go past a lot of displays to get to it. We had Francesco Calvi, one of the best lighting designers, do our lighting for us. It's been a good mix of dealers and new business.

### Geoff Lissaman, representing DBX, Utah

I'm here with DBX, doing the drive rack. I did a presentation up here for the drive rack. The response for the new product, the drive rack, is great. Everyone that sees it has been really interested. I think we hit a hole in the market that no one else has touched. We've had a lot of interest from the touring companies, rental and AV houses, and live sound installation.

### Emmanuel Ziino, MD, Show Technology, Australia

It's been absolutely fantastic—lots of trade customers, no tyre kickers, and we're writing a lot of business. It's serious buyers—a lot of our customers, but also a lot of people that we deal with indirectly—designers, consultants, decision makers.



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In pursuance of this principle we have always committed ourselves to these ethical and professional standards:

1. We shall report and interpret the news with scrupulous honesty by striving to disclose all essential facts and by not suppressing relevant, available facts or by distorting by wrong or improper emphasis;
2. We shall not place unnecessary emphasis on gender, race, sexual preference, religious belief, marital status or physical or mental disability;
3. In all circumstances we shall respect all confidences received in the course of their calling;
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7. We shall use fair and honest means to obtain news and documents;
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9. We shall respect private grief and personal privacy and shall resist the compulsion to intrude;
10. We shall do our utmost to correct any published information found to be harmfully inaccurate.

## ENTECH SPECIAL REPORT

### Michael Knapp, Lighting Supervisor, Opera Australia

I've gone round, and met people that I only ever talk to on the phone. At the Opera company, we never get out. We are always down at the House, or on tour. It's the first time in years that we have been in the same town as an ENTECH. So I am putting faces to people from all over the country—that we only ever talk to when source gear or source information.

### Mark Howett, WA Academy of Performing Arts, exhibitor

We have a stand here because we are trying to let industry know that we feel we are the best of the country, if not Asia Pacific. We are trying to bring our graduates to a professional level. All the students come out with restricted license, rigger's ticket. At the stand, we got exactly the market we were targeting. It's also great to find out from people here how our students are going in the industry. I just wish there were more seminars. I would love a seminar about what is missing from the educators.

### Richard Frost, Co-owner, Jacflac, exhibitor

We make customised road cases, sell these amazing folding trol-

leys, and do computer upgrades. We're getting interest from everyone from punters to industry guys, because our products range from one end to the other. We're only a small company, it's our first ENTECH. But there are some potentially big deals. We've only been in the business four years, and we're hoping this is our big move. [Richard Frost is 21!]

### Anthony Fitzsimons, student from RMIT

About 20 of us came up. The trip was discounted by the uni—bus, accommodation and food. We just got in this morning. We're staying at a church-hostel thing in Chatswood. It's a learning experience for me. I got a lot of brochures and magazines.

### Lloyd Bevan, Brite Lite Productions, Melbourne

I've been out of the industry two and a half years due to illness. This is my fourth ENTECH, and I always have a rule. If I can finish a day having found three things that I can sell to a client, then I've had a good day. So I've just had a good day! •



## MAJOR TRADE EVENTS

- MusikMesse, 12 - 16 April. 2000, Frankfurt. www.messefrankfurt.com
- SIB, Mar 26 - 29th, 2000. Rimini, Italy. www.fierarimini.it
- NAB, April 8-13th, 2000, Vegas, USA. www.nab.com
- NSCA, April 27 - May 1, 2000. Las Vegas. www.nasca.org
- PLASA Shanghai. June 7-9. +44 171 370-8231 www.lightandsound-shanghai.com
- Broadcast Asia. June 6 - 9. Singapore.
- InfoComm International 15 - 17 June. Anaheim LA. www.icia.org
- WORLD LIGHTING FAIR, June 22-24. Tokyo. www.wlf.co.jp
- PLASA, 10 - 13 Sept. London. www.plasa.org
- AES, 22 - 25 Sept. L.A. www.aes.org
- LDI, 13 - 15 Oct. Las Vegas. www.intertec.com
- NAMM, 18 - 21 January 2001. Anaheim, LA. www.namm.org
- SMPTE 2001, July 10-13. Sydney. www.smpete.org

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# THE ENTECH 2000 AWARDS

*Recognising technical brilliance, the fifth entertainment and presentation technology awards were handed down in Sydney last month*

As a peer recognition process, the ENTECH Awards have gathered considerable steam over the years. First run in 1994, The Awards Dinner is now the key event at ENTECH, and this year sold out two weeks beforehand.

Once again the awards were presented in two streams, one for products, and the other for people and institutions. The latter were chosen by industry panels, following the model of the ARIA awards. Each panel varied in size and composition, depending on the category. Nominations for people and institutions were received in the last quarter of 1999, following extensive advertising in Connections.

Voting was counted by the returning officer, once again Sydney accountant Bruce Rowland of Partlett, Chave & Rowland handled the count and validation of each vote.

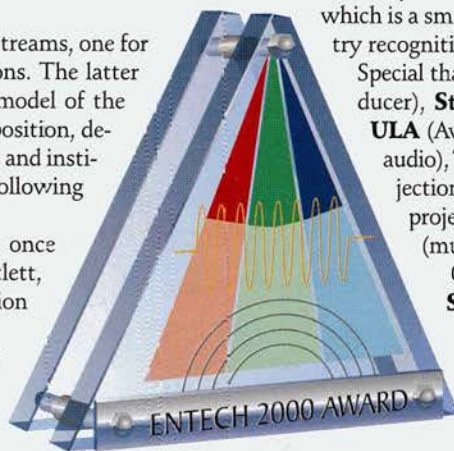
Product awards were, for the first time, confined to products released for sale prior to this ENTECH, but since the previous show in 1998. This put the emphasis on new products or

new variations of older products

The Awards Dinner was very well supported by sponsorship, necessary as it still ran at a loss of almost \$20,000 - which is a small price to pay for such a vital industry recognition process.

Special thanks go to: **Meri Took** (Awards Producer), **Staging Rentals** (Stage and drapes), **ULA** (Awards lighting), **ShowCorp** (Awards audio), **The Electric Canvas** (Big screen projection), **Technical Direction** (Vision and projection), and **Nightlife Music Video** (music videos shown at the Awards).

Cash sponsors of The Awards were **ShowTech Rigging**, **Connections Magazine** and **Presentech Magazine**. Many other companies supplied support services and assistance, many thanks must go to them all

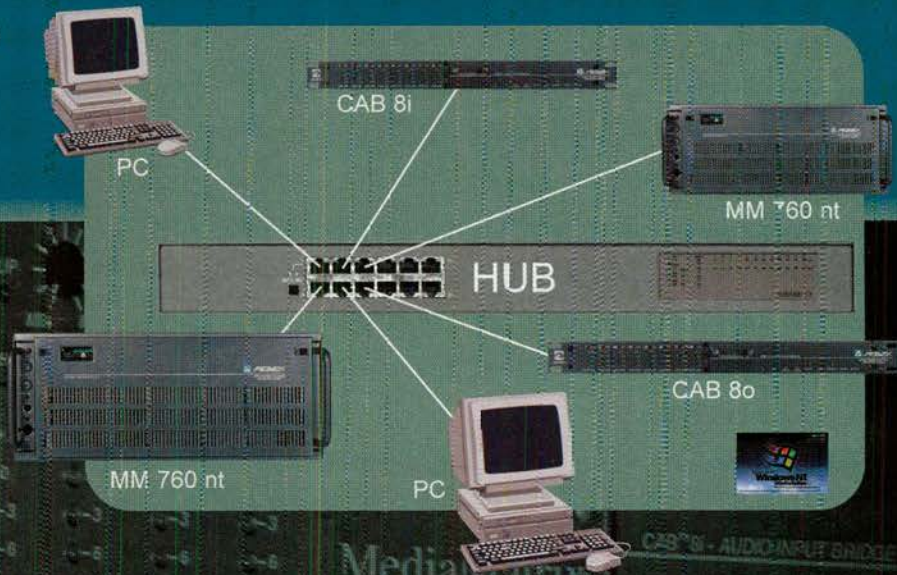


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# ENTECH AWARDS

## 2000

*Recognising technical brilliance*



Best Production  
Manager

Recipient:

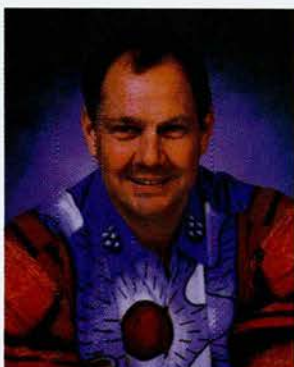
**GARRY BROKENSHERE**

Garry Brokenshire toured extensively with Australian bands Sherbet and the Ted Mulry Gang in the 1970's, and had a 3 year stint as lighting designer for INXS in the 1980's.

In the early '90s Garry moved into Production and Special Event Management, and has since worked with some of the biggest acts in the world, including U2, Michael Jackson, Maria Carey, The Bee Gees, Gloria Estefan, Neil Diamond, Eric Clapton and Phil Collins to name just a few...

Last year saw Garry touring once again with Neil Diamond and with the Eurythmics, The Bee Gee's and numerous other special events.

He has just completed the Barbra Streisand tour, and has forthcoming tours for Savage Garden and Harry Connick Jr in 2000.



Best Show Designer

Recipient:

**BRIAN THOMSON**

Brian is Australia's most acclaimed stage designer and he has won many awards for his shows, the most notable being the Tony Award for the Broadway version of The King and I. He designed Happy Days, the Arena Musical last year.

Brian is currently adapting The King and I for its London opening in May. Other projects this year include Suddenly Last Summer for Company B Belvoir, The White Devil for the STC during the Olympics Festival and the Closing Ceremony for the Sydney 2000 Olympics.

Brian is also designing the 2001 Centenary of Federation Ceremony.



Francesco Calvi is a popular identity in the lighting world. 1999 was a busy year with



Best Live Sound  
Engineer

Recipient:

**BRUCE JOHNSTON**

Bruce seems to have mixed FOH for every Australian band that played in the past two decades!

They include Midnight Oil, Hoodoo Gurus, Paul Kelly, Crowded House, Diesel, Divinyls, James Reyne and Darryl Braithewaite.

Last year Bruce was FOH engineer for Neil Finn, the Noiseworks Reunion Tour, The Tea Party's Australian Tour and Oasis' USA tour.

Bruce is currently on a world tour with Oasis.

Audio Industry  
Development Award

Recipient:

**DAVID McGRATH**

David McGrath is a co-founder (with Brian Conolly) of Lake dsp, which recently successfully floated on the sharemarket as Lake Technology Ltd. He is known as The Algorithm King, and is currently involved in a secret project with audio legend Bruce Jackson.

His algorithms have changed the face of the audio industry, and are featured in technology licensing deals that Lake has signed with Dolby and a host of others.

David is a modest genius, who is also working on a computer game which trains children with ADD.



Best Lighting Designer

Recipient: **FRANCESCO CALVI**

many televised projects undertaken including:

- Official Opening of Stadium Australia;
- 13th Annual ARIA Awards;
- Qantas Spirit of Australia Concert;
- Fox Studios Australia Grand Opening;
- AFI Awards;

- World Cup Comedy;
- House of Hits.

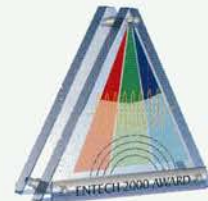
He has also made a name for himself in the world of fashion, lighting the David Jones Fashion Launches and Wrapped in Cotton Fashion Parades.

During ENTECH his partner gave birth to twin girls.

# Lots of changes!

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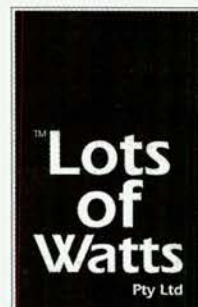
We've done Lots of (extra) **installations** lately, so we built a new workshop and spray room down the road.

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# ENTECH AWARDS

## 2000

*Recognising technical brilliance*

Commitment to  
Industry Safety Award

Recipient:

**MICHAEL 'SHACKLES'  
KENT**

Michael has spent the last 8 years focusing on the development of new safety standards and safety procedures that can be utilised in the entertainment industry. While working at Jands, Michael was instrumental in the development of the following:

- Vertical and horizontal fall protection systems for concerts and concert tours.
- Development of a rigging training course designed to teach staff how to rig lighting and sound systems safely in the entertainment industry.
- Development of a practical training course designed to instruct staff how to climb safely and utilise fall protection equipment on site.

He has written a recommended safety code that details recommended safety guidelines to be adopted on a theatrical/concert production (*See it at [www.showsafe.com](http://www.showsafe.com)*).

Michael is the Director of Platinum Rigging Services, a newly formed company specialising in rigging and safety co-ordination, industrial rope access, rigging design and OH & S advice and planning for special events, corporate functions, theatrical productions, concerts and concert tours.



Audio Visual Industry  
Development Award

Recipient:

**GARY HACKETT**

Gary Hackett is Group Managing Director of Staging Connections, Australia's largest audio-visual and event staging group.

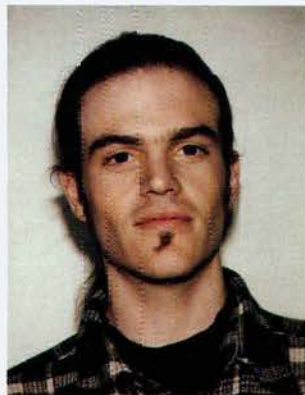
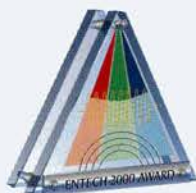
With a background in photography, in 1981 he purchased a small Sydney multi-image studio, Unison Productions, with three staff.

He quickly formed an alliance with similar companies in other states, creating the Network Hire Group.

In 1986 this became Staging Connections.

Today Staging Connections has over 500 staff, with offices in ten cities and 52 hotels across Australia.

Gary holds an MBA and until recently sat on the board of governors of the International Communications Industries Association.



Best Theatre Sound  
Engineer:

Recipient:

**PAUL TILLEY**

Paul originally studied film and television, but the enthusiasm of sound staff at college promoted an interest in audio.

The Adelaide Fringe Festival of 1990 was his first real encounter with theatre sound, and upon returning to Sydney he commenced casual work at the Opera House, which continues to this day. During this time he worked periodically with Coda Audio Services, and this team (together with Ron Barlow designing) formed the sound component of "How to Succeed in Business Without Really Trying" the 1993 GFO production which was Paul's first commercial musical.

Over the next 5 years, his front of house engineering credits included "South Pacific", "Hello Dolly", "The Secret Garden", "My Fair Lady", and "Crazy for You".

Paul completed the "Showboat" tour in March 99, then worked the final 8 weeks of "Oba Oba" at the Star City Showroom.

He has most recently mixed the Sydney season of "The Sound of Music" for System Sound, and is about to start work on the forthcoming production of "Pan" at Sydney's Capitol Theatre.

Rigging Services  
Award:

Recipient:

**TINY GOOD**

Tiny and his partner Robyn run Showtech - a Melbourne based company which won an ENTECH Award in 1998 for Services to the Entertainment Industry.

This year, once again, Tiny came in with many nominations and easily won voting in this slightly changed category.

Showtech offer services, equipment and expertise for venues and events.

They supply rigging, scaffold structures and staging-and circus, aerial & physical performance services. The scope of work can include scuba diving clearance of submerged show cables, which Tiny has done on several occasions, and the territory in which the firm works is truly regional, extending through south-east Asia.

It's a growth industry requiring specialist skills and careful attention to detail.

As performance formats diversify, and with increased growth in the corporate theatre market and trade exhibitions, more and more equipment and scenic elements are flown.

Showtech come with a lot of letters of recommendation, which are posted on their website at:

[www.showtechaustralia.com.au](http://www.showtechaustralia.com.au)



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# ENTECH AWARDS

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## Best Lighting Production Company

Recipient:

### BYTECRAFT

Bytecraft commenced operations in 1984 and that year, quickly established a small rental facility. A major milestone was the initial tour of CATS in the late 80's.

This begins their history in major event and theatrical based hires which expanded when they took over the Adelaide Festival Centre Hire operation in the early 90's.

Their move into the mainstream concert production market was made after the establishment of a relationship with Light And Sound Design in 1994. This saw Bytecraft setting up an Icon moving light system in Australia.

The establishment of a strategic alliance with Gearhouse with Bytecraft as their exclusive supplier of lighting, has seen the company now expanding into the corporate area.

Recent or current Concert Production hires include: Barbra Streisand, Bee Gees, Janet Jackson, Bryan Adams, Elvis the Concert, Eurythmics, Reba McEntyre.



**BYTECRAFT®**

## Best Audio Designer

Recipient:

### WYN MILSOM

Wyn Milsom has an extensive background in sound system design, installation and engineering for theatre, concerts, live television and special events.

He founded Clair Brothers Australia with Bruce Jackson in the early 1970's, then went on to work for Artist Concert Tours, and finally has been a long serving senior sound engineer at Jands Production Services.

As well as designing the sound for *Happy Days* in 1999 he was also kept busy moving *The Boy From Oz* around the country, and designing the musical *Fame*, a show which he also had to install at various venues around the country.

This is his second ENTECH award, having won Best Live Audio Engineer in 1998.

Wyn has just finished touring with Barbra Streisand, where he co-mixed the orchestra for Bruce Jackson.



## Recording Industry Development Award

Recipient:

### Dr TOM MISNER

Dr Tom Misner owns SAE Technology Colleges worldwide, and Studios 301 in Sydney.

Last year he invested over 8 million dollars building and relocating 301 into a highly acclaimed world class facility in Sydney.

Starting from scratch in the 1970's, Dr Tom Misner went from being a recording engineer to an audio educator. His network of SAE colleges spread worldwide during the 1990's, and are today form the largest audio education organisation in the world.

Based in Sydney, Dr Misner travels the world and is establishing new outlets for SAE in the USA and Europe.

In purchasing Studios 301 (the worlds second longest established studios) last year, and by building its new headquarters, profits from his overseas success with SAE have been pumped back into the regional recording industry.

## Best Audio Visual integration firm:

Recipient:

### SPACE AGE COMMUNICATIONS

Space Age Communications wins this award for being one step ahead of technology.

Established in 1986, they specialise in the design, integration and installation of audio visual for conference, training, presentation, worship and entertainment facilities.

They have evolved into a corporate solutions provider, applying new technology to boardrooms and learning spaces in Australia, the region and even the USA.

Space Age Communications has world class engineering facilities and information systems.

CEO Neil Langford (pictured) typifies the kind of technology entrepreneur we need more of.



## WHO VOTED? AND HOW?

The **PEOPLE & INSTITUTIONS** on these pages were chosen from a list of nominations received during the final months of last year. (Did YOU nominate someone or a company? If so, thank you!)

Then we assembled industry teams to vote for

each category. They are specialists in each field.

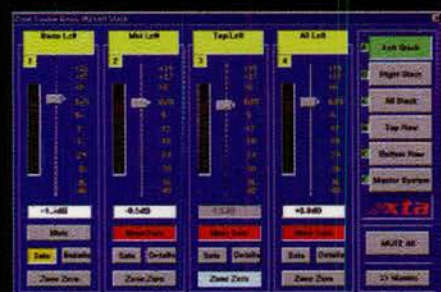
The votes were tallied by our returning officer, Bruce Rowland, of Partlett Clave & Rowland.

It was a long and tiring process, but it delivers a democratic and extremely worthy awards result.

These winners are definitely peer awarded!



# Satisfaction!



HARRY WITZ (db Sound, Chicago) equips 'The Rolling Stones' touring system with thirtytwo DP 226's from XTA.

Combining XTA's AudioCore™ software and their new Array Control™ feature, Harry is able to provide array adjustment from the FOH mixing position.

XTA's Array Control™ feature gives Harry the ability to group outputs into any combination required, which makes the remote control of the Stones' large complex loudspeaker arrays an unconstrained reality.

Who says you can't always get what you want?



When will you change?

# ENTECH AWARDS

## 2000

*Recognising technical brilliance*

Best Audio Visual  
Services Company:

Recipient:

**CARIBINER  
AUSTRALIA**

Caribiner Australia are running the Australia pavilion at Expo 2000 in Hanover, Germany.

They pitched for the management and commissioning contract from the Australian Government - and have built and commissioned the entire pavilion. It opens June 1st.

Caribiner operate with a simple slogan, which reads: "Our promise: your message, loud and clear".

Audio Visual Services are only one part of Caribiner.

They say:

*Good communication is an ever changing mixture of art and science. Much of the science is represented in the actual staging of the communication. How bright are the images?*

*How clear is the sound?*

*How friendly is the environment?*

*And, how safe and secure is the process for all those involved?*

*Our technicians and Technical Directors understand that their art comes in the detail... in the planning of the team, the technology and the schedule. They understand that when all these 'basics' are covered your communication can be at its best.*

*We leave nothing to chance."*

**Caribiner**  
AUDIO VISUAL SERVICES

Best Audio Production  
Company:

Recipient:

**CODA AUDIO  
SERVICES**

Coda Audio Services was formed in 1990 by Philip Murphy and Michael Wilkie.

Both Philip and Michael's prior audio experience included



sound design and equipment hire for musicals and theatrical performances. Early experience in sound operating included Les Miserables, They're Playing Our Song, Evita, Barnum, Oklahoma!, Song and Dance and The Pirates of Penzance in Australian and overseas productions.

Coda was established when Michael and Philip realised that they were often collaborating on theatre productions in the late 1980's and that a more formal approach to these events had become appropriate. As a result they combined the equipment that they owned and set up business in their first premises at Newtown which they quickly outgrew.

The next few years was spent in a larger premises in Camperdown but this too was overtaken by the scale of the companies growth and Coda has just completed a move into

Professional Equip-  
ment Outlet Award

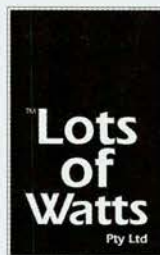
Recipient:

**LOTS OF WATTS**

This award was won by a large margin.

Lots Of Watts was established in 1990, working out of a shipping container. Previously, the owners had traded as a Lighting production Company called NAEK, the meaning of which is obscure.

Founders Philby Lewis and Greg Kean have a terrific work ethic, and have won this award for their efforts in selling and representing professional lighting and audio, at retail, trade and installation levels.



Lots Of Watts operate from premises they have purchased in Rydalmere, the geographic centre of Sydney.

Several years ago they purchased the majority of the assets of The PA People's Concert production division, which gave them an entree into large scale concert audio.

Meanwhile they have built a solid and expanding customer base for new pro audio and lighting sales, and installations.

With 17 or more staff, the culture is co-operative and positive, which reflects on their dealings with customers.

After voting closed for this award, they opened a new showroom (in another recently purchased building), which is five times larger than the previous one.

Distributor Of The Year  
Award

Recipient:

**TECHNICAL AUDIO  
GROUP**

This award was also won by a large margin.

TAG started as an audio contracting firm called AR Audio Engineering. Founder Tony Russo was joined by partner Max Twartz, and they slowly acquired distribution rights to some smaller brands.



Several years ago they reasoned that they had a conflict of interest in distributing product to people against who they may compete for installations. They sold off the contracting business to GUET, and re-incorporated as TAG.

Sentiment expressed in the nominations process has TAG ranked highly for honest, open and effective communications with customers and dealers - which increasingly is seen to be an important benchmark for a professional distributor.

Having built themselves into an increasingly powerful pro audio distributor in the live audio sector, TAG is now making steps into the field of broadcast and studio.

They represent Allen & Heath, QSC, Martin Audio, ATC, Klotz, Marantz Pro, LA Audio and most recently Euphonix.

# Studiomaster Club 2000 series

Hi Z plus

Based on the proven design concepts of our most expensive mixing consoles, the Club 2000 range delivers a remarkable level of features and versatility that is unmatched by other compact mixers.

With our new Hi Z input circuitry, the Club 2000 range offers greater flexibility. The line inputs accept any signal from CD players to electric guitars - no more guess work.

CLUB 2000  
**DSP**  
Hi Z plus

The Club DSP offers a superb audio specification together with well chosen features and a high quality 32 bit digital stereo effects processor in a compact package that will last for years.

## Club 2000 DSP

6 mic/2 stereo rackmountable

- 32 bit digital effects processor
- Balanced mic & line inputs.
- 3 band EQ with Mid Sweep.
- 2 Aux sends.
- Listen (PFL).
- Stereo Aux return.
- 48V Phantom power.
- Balanced outputs.
- Internal power supply.
- 60mm faders.
- Internally modular.
- Optional rackmount kit available.

## Applications:

- Solo singers & entertainers • Public address • Duet's & bands
- Karaoke • Theatres • Installations • Conferences • Clubs & pubs
- Bars & restaurants • Schools & colleges • Places of worship • Recording
- Computer soundcards • Video audio • DJ mixing • Keyboards

## Built to last!

All models use traditional construction methods with an internally modular design, rugged 18 gauge steel chassis and fully regulated internal power supply.



## Club 2000

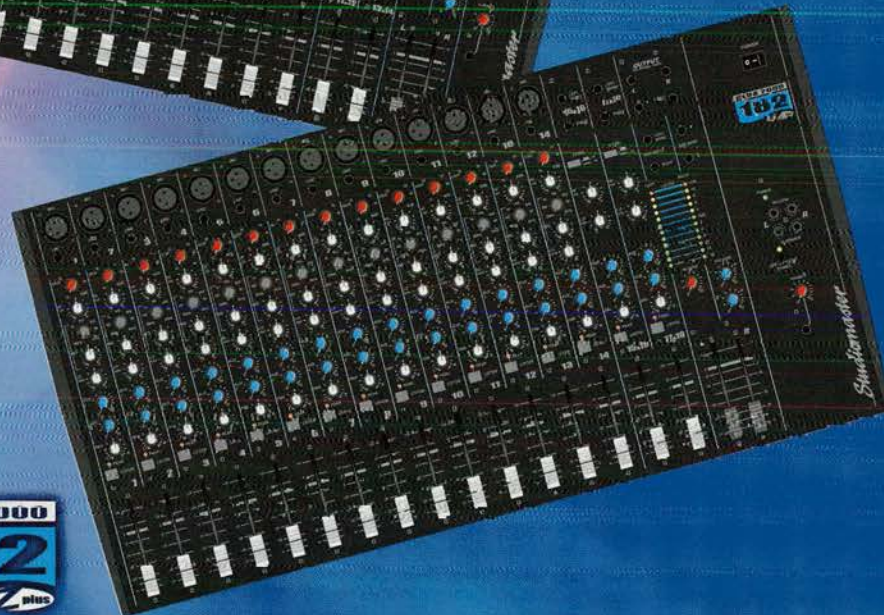
- 102 - 6 mic/2 stereo rackmountable
- 142 - 10 mic/2 stereo rackmountable
- 182 - 14 mic/2 stereo

- Balanced mic & line inputs.
- 3 band EQ with Mid Sweep.
- 2 Aux sends.
- Listen (PFL).
- Stereo Aux return.
- 48V Phantom power.
- Balanced outputs.
- Internal power supply.
- 60mm faders.
- Internally modular.
- Optional rackmount kit available for 102 and 142.

CLUB 2000  
**102**  
Hi Z plus



CLUB 2000  
**142**  
Hi Z plus



CLUB 2000  
**182**  
Hi Z plus

Studiomaster - because you can't

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**GREATER UNION**  
ENTERTAINMENT  
TECHNOLOGY

# ENTECH AWARDS

## 2000

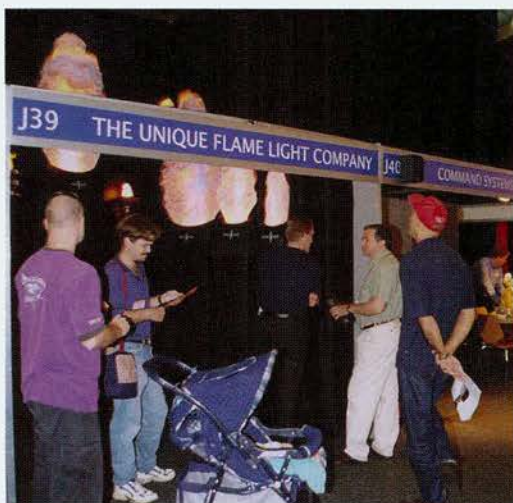
*Recognising technical brilliance*

### PRODUCT OF THE SHOW AWARDS

*These three awards were made after a team of journalists had spent two days at ENTECH looking over the products on offer.*

#### ENTECH Product of the Show: Lighting: THE UNIQUE FLAME LIGHTS COMPANY FLAME LIGHT

An old idea, redone well. Use them anywhere simulated flames are required, without actually causing a flame! The stand (pictured) attracted many, some of whom were sure it got hot in there!



#### ENTECH Product of the Show: Audio: MIDAS HERITAGE SERIES 3000 MIXING CONSOLE

Released last year, this new console is finding favour with serious concert and theatre sound professionals worldwide. Seen and admired by many on the EVI Audio stand.



#### ENTECH Product of the Show: Vision: BARCO DLITE LARGE SCREEN

The large format LED screen for indoor or outdoor use. Simply dazzling intensity and very good pixel pitch make this a winner. Hung at the end of the main aisle at ENTECH.

#### Lighting Exporter Of The Year

Recipient:

#### SELECON

Selecon was established in 1968, and the current owners purchased the business in 1985.

At that time they competed against UK manufacturers, CCT and Strand, who held the majority of the market share in the Australasian region.

During the 1980's and early 1990's Selecon overtook Strand to become market leaders in the Australasian region.

Selecon have progressively and aggressively pursued export markets.

Last year Selecon launched their Pacific range in the UK, opening their own office there. With their own marketing and distribution in Europe, they then commenced a determined drive into the North American and Canadian market.

Now that the Pacific range has taken off, the company is building its export business like never before.

**SELECON**

#### Audio Exporter Of The Year

Recipient:

#### ARX SYSTEMS

ARX Systems are the only pro audio manufacturer in Australia to offer a complete range of products to the world market. Others build audio for export, but no-one offers all the key components of a sound system - amplifiers, speakers and processors - to all world markets.

ARX are astute marketers, who understand the world pro audio market. They are represented at all the major trade shows internationally, and get disproportionately large amounts of editorial in trade publications the world over.

Crucial to their success is the continual refinement of their product, which has progressively moved up-market, but remained competitive against over brands.

ARX understand the importance of the internet, and run a pro active website.



# WAVEFRONT LENGTHROW™ OUT IN FRONT AT ANY DISTANCE

Awesome power from compact enclosures, with no need for delays. Flexible configuration, includes compatibility with award-winning W8C.

True longthrow reinforced sound from innovative, high efficiency horn loading and vertical line array format pioneered by Martin Audio.

Intelligible sound proven in performance at prestigious outdoor festivals.

**W8CM** dedicated longthrow low-mid enclosure with two vertically aligned horns powered by 12" drive units.

Column of W8CM low-mids throws 120Hz-750Hz information beyond 200m for exceptional clarity in the farthest stadium seats.

Robust enclosures designed for ease of handling, set up, stacking and secure flying.

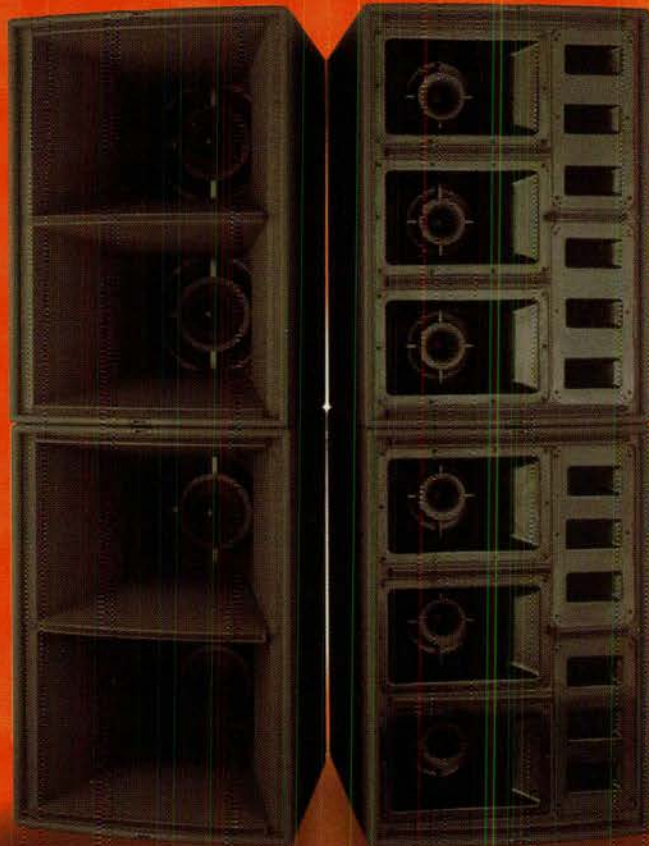
Inventory of Longthrow and Wavefront W8C systems equips touring sound companies with the superior muscle to tackle any scale of venue.

Vertically coupled elements deliver exceptional efficiency by narrowing vertical coverage and increasing main axis output.

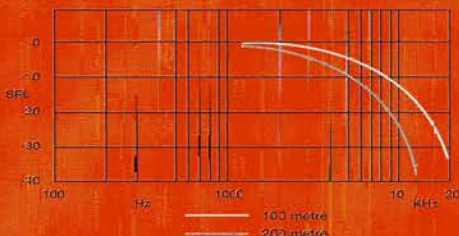
**W8CT** dedicated longthrow high-mid / HF enclosure overcomes air absorption over distance outdoors.

Amazing HF energy from 6 x 1" exit HF drivers optimised for 3.5kHz upwards - outperforming all competitors.

Maximum throw from 3 x high-mids in line array covering 750Hz-3.5kHz. Sophisticated design features 6.5" driver loaded by toroidal phase plug and constant coverage horn moulding.



**HF ATTENUATION OVER DISTANCE**  
Air Absorption vs Frequency  
20°C and 50% relative humidity



Wavefront  
Lengthrow™



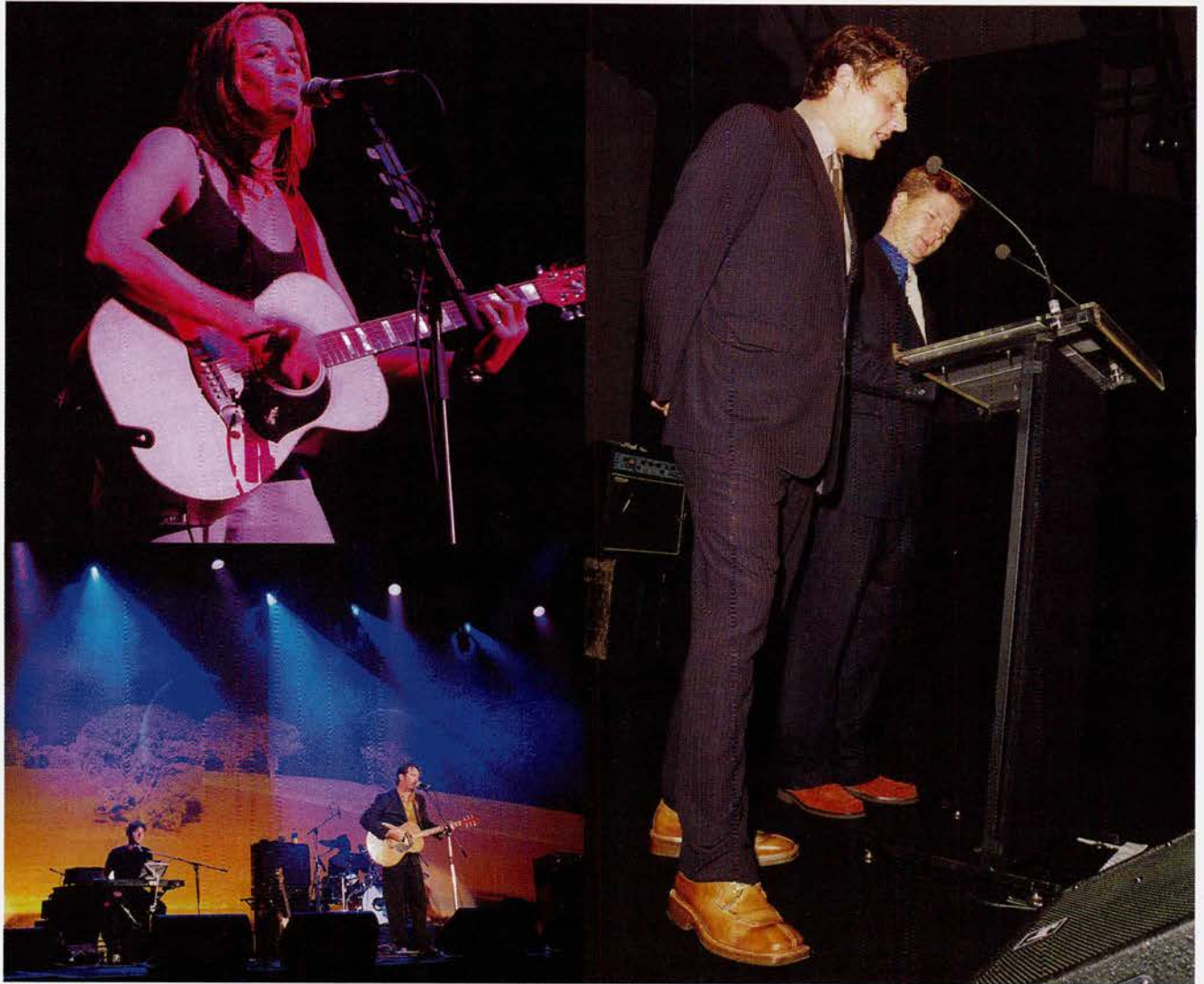
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Web: www.tag.au.com E-mail: info@tag.au.com

# ENTECH AWARDS

## 2000

*Recognising technical brilliance*



*Marie Wilson: (top left), Merrick and Rosso, and Karma County (left)*

## The SHOW behind the show

*With keen sponsors and kind support, the show was built from scratch - inside a tent. It became a saga!*

**By Mandy Jones**

Not even the pouring rain could put a damper on the social highlight of ENTECH - the ENTECH Awards Night. A night when members of the industry put on their 'good' black jeans, get together, and argue over who should have won the best product awards. ENTECH co-organiser Caroline Fitzmaurice-Grafton described the Awards show as "a tough gig to a cynical audience" but under the watchful eye of Event Producer Meri Took from Staging Rentals the show went off without a hitch.

Held in the Badgery's Pavilion within walking distance of the

main trade show site, production companies Staging Rentals, Showcorp, Technical Direction, Showtech Rigging, The Electric Canvas, and Universal Lighting and Audio banded together to transform the permanent marquee into a workable venue.

Heading the entertainment line-up was comedy duo Merrick and Rosso who summed up the networking opportunities of the Awards Night by remarking "it must be great to be in the same room with the people you bitch about all year". Surely not in this industry!

A great combination of musical acts were chosen to perform - Marie Wilson opened the show with her incredible voice and rich

# YAMAHA M3000.

## LARGE FRAME CONSOLE AT A SMALL FRAME PRICE.

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



#### Group/Aux Bus Diversity

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

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

*Also available in a 24 Mono & 4 Stereo frame*

#### 8 VCA Groups

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

#### MIDI Mute Scenes

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

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

*Now there is a new standard.*

*The M3000.*

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

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

Rental companies can reduce inventory cost!

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

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

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

*The legend grows!*

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# ENTECH AWARDS

2000

*Recognising technical brilliance*



*Tiny Good presented the Best Production Manager of the award to Gary Brokenshire's wife Susanna and number one son, Arron. Gary was working on the Barbra Streisand show that evening.*

One surprise inclusion was the use of two Pigi large format scrolling projectors. The Pigi's provided rear-projected images of landscapes, kinetic patterns and even an image of theatre drapes onto the gauze at the back of the huge stage providing an amazing backdrop to the live entertainment.

Pigi operator Joe Murray explained the large format films were made by The Electric Canvas' in-house art department who came up with a different look for each of the bands.

Technical Direction supplied two hunky graphics projectors and screens to show the slides for the award categories and winners, as well as screening video clips during dinner.

Universal Lighting and Audio came to the party in a big way, supplying an array of lighting units from their range including Given Imperial searchlights to give it a Hollywood look, Kolorado colour changing units used to illuminate the outside of the canvas pavilion, and Kaleidos for colour changing room wash inside the pavilion.

The lighting rig was designed by Dave Jackson from Phaseshift Productions and featured in addition to the usual 48 par can stage rig, two tri-truss triangular grids with scrim for his

acoustic guitar, Karma County provided a mellow tone to the evening, and the Andy 500 whipped the crowd into a frenzy with their ultra-cool covers of some old favourites.

Of course the Awards Night is a great opportunity to show off some great entertainment technology to a captive audience so it was no surprise the sponsors went 'all out' in making the show look and sound as impressive as possible

## 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 \$650 inc. tax. Perfect for live sound or general contracting.

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**\$299 inc. tax**

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effects lighting which included JB Vary-scan 6s, JB Vary-scan 4 575s, JB Vary-scan 3 Special Plus', and Abstract VR8s. A couple of Le Maitre Star Hazers worked flat out to create a fine haze throughout the room to show off the beams.

Lighting control was split between Dave who ran all the automated fixtures on his beloved Avolite Pearl, and Laurie Videky from Phaseshift who ran all the analogue fixtures off an LSC Axiom.

So did Dave feel the pressure of lighting for such a tough crowd?

"Any pub gig you can get away with a bit of bluff and



half the time the punters wouldn't know, but here everyone's going to know what's going on and notice every mistake."

FOH audio engineer Garry Hall felt a similar pressure:

"In the back of my mind I was thinking there are 500 ex-roadies in this room who are thinking 'I'd have done that different' so I was a little bit conscious of that but it wasn't too phased by it."

*Please turn the page >*

*Awards director Caroline Grafton (left). (Above) Is this why there were 2 mic's? Rolling Stones sound engineer Robbie McGrath (right) with Connections' Julius Grafton - overloading the lecturer mic.*

**FOR A SOUND DEAL!**

**PAstuff.com**

25 YEARS EXPERIENCE IN PRO PA



FOH audio engineer Garry Hall, Dave Jackson and Laurie Videky from Phaseshift

**The Professional's Choice**  
**ENTECH**

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

Showcorp Operations Manager John Swiney said the choice of PA was always a big consideration so Showcorp took advantage of the Awards night to trial and evaluate a new system. Initially a Meyer system was specified but then there weren't enough boxes in town.

Ian Johnson from EMI came through with a full EV X-Array system driven off EV amps. EV boxes were used for the delay system as well. For control, a Micras XL3 was used for FOH and an Allen & Heath GL4000 for monitors.

"I wanted to give Garry something to work with so that he would have enough headroom and componentry without having to stretch the system. I didn't want people whingeing that they couldn't hear the speeches", said John.

The biggest challenge for Garry was the room itself - highly reflective curved vinyl surfaces creating lots of reverberation, and the bitumen floor didn't help. But with some acoustic treatment come with drapes, and by angling the speakers down to keep the sound off the roof in order to minimise reflections, the results were excellent.

In the wake of the ENTECH Awards it was unanimously agreed that Meri Took should have received an award for pulling it all together and making the show run so smoothly and painlessly.

• *Thanks to all who assisted!*



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# ENTECH AWARDS

## 2000

Recognising technical brilliance

### MOST POPULAR NEW PRODUCT AWARDS 2000

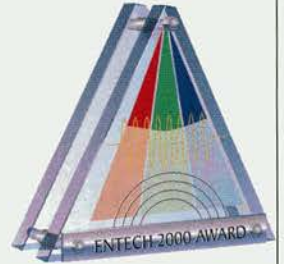
Nominations were called in the second half of last year. Products needed to have been released at or after ENTECH 1998, and be available for sale at the time on nomination. The nominated products were listed in an awards voting booklet.

The numbered awards voting books were sent to a sample group of almost 3,000 people, chosen at random from the 7,000 current Connections magazine subscribers.

They were asked to vote only for the products that they thought should win.

The voting books went back to the Returning officer, Bruce Rowland of Partlett Chave and Rowland, and his staff counted the votes.

This is an arduous, but totally democratic process, which makes a very worthy award.



**Best Microphone**  
**Shure - Beta 58A**  
[www.jands.com.au](http://www.jands.com.au)



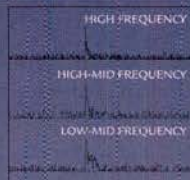
**Best Mixer**  
 (under \$10,000)  
**Yamaha - O1V**

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**1 Superior projection, superb intelligibility result from perfect physical time-alignment of the individual Floodlight drive units, offering excellent transient response.**

**2 Safer and more convenient: the polycarbonate 'biscuit' aligns the rear of the cabinets to ensure physical time alignment when flown or stacked.**

**3 Seamless, controlled horizontal coverage pattern of 50° nominal is optimised for the widest possible variety of applications.**

### Floodlight

Picture: TFL-760H touring Floodlight enclosure

**4 Safe, easy flying with certified flying and lifting hardware. Fly points are positioned precisely on the centre of gravity.**

**6 Smallest, lightest birch plywood enclosure weighs only 60kg (132lbs). Flush handles ergonomically placed for easy handling.**

**8 Increased efficiency, ultra low distortion is achieved from Ahead™ waveguides coupled to specialised paper cone transducers.**



**5 Smooth response and superior intelligibility in the ultra-critical midrange frequencies by extending the use of paper cone transducers up to 8kHz.**

**7 Easy access to loudspeaker components, multi-way speaker cable and captive biscuit is provided by the hinged rear access door.**

**9 Ideal transport and handling: enclosures are optimised for 4-across truck pack in a standard 2.3m (90") wide internal trailer.**

**10 Built-in EP6 multi-way cabling system parallels to adjacent enclosure; stows inside access door for trucking.**

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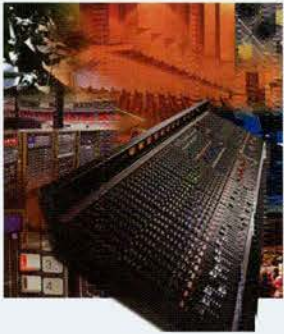
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# ENTECH AWARDS

## 2000

*Recognising technical brilliance*

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(over \$10,000)  
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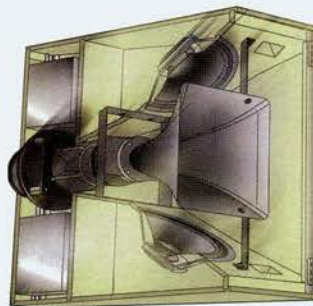
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*Best Loudspeaker System*  
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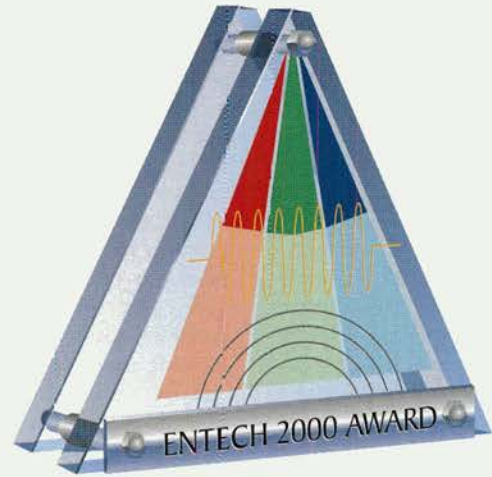
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### Awards 2002 criteria

Nominations open on September 1st, 2001 and close December 31, 2001. Revised criteria includes that: Products be wholly new, must be a single nominated product with model number or unique identifier (not a family), must have been released at ENTECH 2000 or afterwards, and be available for sale at the time of the nomination. Categories will be detailed prior to Nominations, and new category eligibility rules will also be detailed. All product nominations will carry a fee to defray the costs of running The Awards, which currently runs at a loss of around A\$20,000.

People and Institutions nominations do not carry a fee, and will also open on September 1st 2001.

Prior to September 1st 2001, any submissions regarding proposed categories are welcome, to mail@conpub.com.au or fax +61 2 9876-5715.

Sponsorship opportunities and other details will be posted on the Awards website at www.conpub.com.au in 2001.

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## WE HAVE MOVED



ENTECH 2000 Award  
Best Audio Production Company

## Tour of Duty

I found the story "Tour of Duty" in the February edition of Connections very interesting and took me back nearly sixty years to my time in the Army Entertainment Unit.

In 1942 when the government formed the Army Entertainment Unit it enlisted some of the top bands and entertainers in the country and formed twenty-two Concert Parties. Plus another twenty personnel as back up to cover sickness, emergencies etc.

Army life and discipline was a shock for these people but they coped extremely well. Within months of joining they were dispatched far and wide in the war zone, Northern Australia, New Guinea, Pacific Islands, complete with mobile stages, generators stage lighting, stage settings (drapes, rostra etc) wardrobe and sound systems. The headquarters and base for the Unit was the Pagewood Film Studios in Sydney.

The average age for members of the Entertainment Unit was 15 years above that of the ordinary troops who were mostly around the 18 or 19 mark. Whilst on active service, each Concert Party was expected to move, set up and perform some 4-5 shows per week. A total of some eighty shows per week was the norm for the Unit. We also provided the facilities to back up American performers who toured from time to time - but always in safe areas.

Each Concert Party was self-

contained. Twenty-two musicians or entertainers and one technician. Every member was multi skilled - driving trucks, assemble stage and equipment, wardrobe maintenance, administration, mess, first aid etc.

Staging shows in New Guinea had its interesting side. On clear nights you could always expect one, two or more bombing raids - the stage lights plus the large concentration of troops in one place was a prime target.

At other times of the year, it rained for almost three months, creating problems for vehicles and men alike, sinking knee deep in mud. But the shows always went on. From a technical aspect I think the biggest difference between the past and the present is in the audio arena.

Our equipment was quite primitive by today's standards. We had to rely on 6ft metal hornspeakers (as installed at some racetracks) to cover the estimated 2-4 thousand troops who turned up for our concerts. Each Concert Party had six horns and with prior notice could call on another four, plus six ribbon Microphones.

These were the only microphones available at the time that would stand up to the humid conditions and the occasional drenching. I could write a book on my 4 years with Army Entertainment.

Thank you once again for the item on the DILI Concert - it brought back many memories.

- Jack Singe, Kenmore, QLD.

## Contract?

I am a freelance sound designer and operator, and I am getting sick and tired of theatre companies engaging my services and then backtracking on verbal agreements made regarding my payments, responsibilities, time requirements, and even petty things like my entry in the program.

I would love to draft a agreement to be put in place prior to commencing a production, but have been unable to find any existing documents on which to base by agreement.

Do you know of anywhere I can find a sample employment contract that may cover the issues I am concerned about?

- Russell Goldsmith, email

*• How the "well organised" theatre companies deal with this issue is that they have had their own contracts drawn up, using the award pay scales set out by the union as a basis for the contract.*

*All I can suggest is to see if you can sweet talk a copy of a contract from a friendly technical manager somewhere, and set up the contract yourself. You will still have to convince the employing company to sign it. It is a good lesson for all that employment contracts are a very important, and often neglected side of our industry. Good Luck. - DrG*

## The MDM revolution has ended

I was very interested in your article on the New HD recorders from Mackie and Tascam. While both of these units seem incredible, I am still wary of the backup aspect. Your article notes that the DVD RAM devices can be used for BU (presumably only on the Tascam, as it is a SCSI device) but the 225min backup does not take into account that you have to change disks (a DVD RAM will hold only 2.6 gig per side). And this is not practical in most cases.

Tape BU systems can hold 27gig (AIT etc) but are usually SCSI devices.

The Tascam has the edge in this respect because the SCSI devices can be mounted on a Mac

or PC and that can be used for Backup during the session, or alternatively you can play the tracks out to an MDM for backup (such as a DA-88)

The whole backup issue is getting more pronounced as the Hard drives get larger and cheaper, very few people that I know have a daily backup regimen, and the data that gets produced in the modern recording session (remembering that the players and producer want to keep all the takes), is huge. Some songs are larger than 5-6 gig now. So I would like to see the manufacturers and users get together to solve this problem.

I saw an article recently that showed a backup disk (like DVD RAM that has 10 layers and would backup 230 gig! But we are unlikely to see one of these for some time.

- Simon Leadley

Trackdown Music, Sydney

• See our story on page 42 for more on this whole theme.

## Hi-res gobos's

This is not a complaint its simply a clarification re the Opera House projections article (Feb).

The first picture above the article actually depicts an oil filled gobo that contained fragments of clear and dichroic glass to break up the air bubble as it rotated. This was created by us specifically to be able to sit in the standard gobo holder of a moving light such as the 4K NAT.

A comment was made that assumed we manufactured gobos of a lower resolution than some "photographic gobos" shown at PLASA. In fact the quality that we produce using Beacon patented technology is unmatched in the industry.

Our images are 1.3mm thick with each colour layer 0.1mm to ensure they are as close as possible to the same focal plane. Resolution wise we manufacture at 425linescreen as standard but can supply 600linescreen if required.

- Joakim Odlander  
Lighting By Design



## Errors/Omissions?

Just a quick follow up on the article in the March 2000 edition of control console comparisons. Basically the article was VERY good, however there are a few small errors/omissions that I should point out.

1) *Do You Want Manual Fader Control Of Individual Channels?* You state that this is not possible on the Photon. However this can be done very simply. You simply use a macro to assign individual channels to each of the 20 controllers.

2) *Do You Want Sub Masters?* You cover this well, except that you forgot to mention the 999 Snaps that give you 999 'pages' of the assignments. This paging function was mentioned in all the consoles, but missed on the Photon.

3) *Do You Want To Run Chases And Other Effects?*

The step fade time is fully programmable using the Time/Wait functions. You also state that "Unfortunately ... all channels that are active .... be at the same level." I think that this is incorrect and very confusing.

- Richie Mickan,  
Coemar De Sisti Australia

John Grimshaw responds:

1) Using the submasters as channel control is an obvious option for any desk that does not have dedicated channel control faders. Placed in context with the rest of the article, what this line means is that the Photon does not have dedicated faders for this purpose.

2) It was an error on our part to not recognise Compulite's use of the word "Snaps" to mean "Pages". As we only had a very limited time for each desk, we did not get much time to interpret any manufacturer's "technospeak". If we missed it then I would suggest that we would not be the only ones to do so.

3) When the section on chases was written, information was checked against the manual for each desk. If you "think this is incorrect and very confusing", I apologise, but this was our best interpretation of the information we had to hand.

-DrG

## Dangerous

I repair professional audio equipment for a living and would like to point out a potentially dangerous problem that I have noticed lately.

I often pull 240 volt mains plugs apart on bits of equipment being serviced to see if everything is OK. On more occasions than I would like to mention I have found that the insulation of the wire is pushed into the ter-

minal clamp in the plug, the clamp is then grasping the insulation and not the bare wire as it should be. This plug/insulation/cable combination will often still work as the bare wire is still contacting the terminal but the safety and reliability of the equipment is compromised because the dodgy connection will eventually arc and cause damage.

I have repaired several items damaged in this way. Plugs in-

correctly wired in this way will pass a standard "test and tag check" as they can only be detected by the tester physically pulling the plug apart and looking carefully. An earth connection wired this way could be extremely dangerous.

- Warren Huck,  
Hux Electronics, Brisbane

• *Mains arcs can also kill PA systems as a massive signal spike.* -Ed

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## Tommy can you hear me?

Not if Barnesy doesn't stop screaming!

By Duncan Fry



I've always been a little uneasy with the concept of an orchestra playing with a rock band, as I imagine most of the performers in The Ultimate Rock Symphony would be if they were honest with themselves. An unhappy melange of aggressive young music and tired old classics. So it was with great trepidation that I went along to the concert, expecting the worst. As you'll see, I was right and wrong.

The night started with the overture from Tommy. Not something you hear everyday, but a good showcase for the talents of the band and orchestra.

Roger Daltrey opened with Pinball Wizard, waving his mic on a lead a little bit too much, almost like a parody of himself. Still, at least he still had his distinctive voice and undeniable stage presence.

The night's looking up, I thought, having been a Who fan since the early 60's. With Pete Townshend's brother Simon on rhythm guitar and higher harmonies and Simon's son Ben on drums, it didn't sound half bad.

Whoops - I spoke too soon. Out came Billy Thorpe for an agonised version of Ruby Tuesday. The least said about that the better, although there was worse to come later.

Daltrey introduced a protege of his; a girl called Nikki Lamborne. I hadn't heard of her but she had a shit hot voice, which she showed off on Led Zeppelin's Kashmir. This was unfortunately a duet with Barnesy, and rapidly deteriorated into an everyone-for-themselves scream fest. Just who is advising Jimmy Barnes these days? Anyone? He's got a great voice, but there's no light and shade in it when he screams every word of every line of every verse flat out.

Nikki left the stage and Barnesy screamed his way through Working Class Man, one of my all-time favourite songs, but to be honest I've worked with cover bands who've done better versions of it. Still, at least it wasn't a Beatles cover, as much of the evening seemed to be.

Gary Brooker came on next with Conquistador, which got a little lost in the middle, then A Salty Dog, dedicated to all at sea (probably the audience wondering where the night was heading!).

He handed the mic over to Paul Rodgers, who stumbled his way through an insipid Beatles/Lennon medley, starting with Give Peace a Chance. Unfortunately, I can't listen to that song without remembering mixing the Pete Best Beatles, who would sing "...all we are saying, is give Pete a chance!"

This was followed by Imagine, Blackbird, and Come Together. If it hadn't been a non-smoking venue then we could have all waved our cigarette lighters!

Peter Frampton joined him on stage for Norwegian Wood, yet another Beatles cover. Jeez, I thought, is this what the whole night's going to be? Lacklustre back-to-back covers? Finally Frampton waved goodbye and to everyone's relief, the power chord intro to Bad Company's Can't Get Enough started and the night really fired up.

And then it was interval. Just when everyone was starting to get into it, they stopped.

The second half started with Nikki Lamborne doing an excellent version of Stairway to Heaven. With her long curly hair she even looked a bit like Robert Plant, (although from about 150 metres away for all I knew it could have been Jeff from The Wiggles up there!) and she sounded a whole lot better.

Then Peter Frampton came back out for his solo set. His opening comment of "Please, no jokes about my hair..." had everyone asking "What hair?" and then he commenced a turgid version of Jumping

Jack Flash. This was truly depressing. Anything less jumping and flashy was hard to imagine. All around me the audience was muttering "Jeez, just who is choosing these songs? Let's hear some of their own stuff, not these half baked covers."

It ended eventually, and in contrast he played a great, slick version of his own hit Ooh Baby I love Your Way, then left the stage to Alice Cooper.

Alice was pretty damn good. He hasn't really changed at all. He looked like shit when he was younger, and he still does now. He couldn't sing when he started and he still can't now. But he's got bucketloads of confidence, charisma, and he knows how to put a song over. His version of Brick in the Wall was scary, to say the least, and when he did School's Out he sounded better than he ever did with his own band.

When Roger Daltrey came back out and delivered a great sounding You Better You Bet, my hopes for the evening soared.

Then it all fell to pieces when Thorpie came back out and duetted with him on O have a guess. Poison Ivy? The Suck More Piss cheer from Sunbury? Nope - another bloody Beatles cover, this time Let it Be. The collective groan around me was louder than the band.

Look, make no mistake, Thorpie can still sing. His voice is in great shape - high notes, low notes, he can deliver a song with the best of them, but his talent was surely being wasted on this tripe. And then he joined Daltrey on another great song Won't Get Fooled Again.

Excellent.

Gary Brooker came back out for a tour de force version of Whiter Shade of Pale, which was excellent as well, but its effect was spoiled by Frampton doing yet another Beatles cover, a dull but well played While my Guitar Gently Weeps. Yeah, I was weeping too. With frustration!

Paul Rodgers saved the night with an audience participation version of All Right Now, which really kicked along, and then Barnesy slaughtered Khe San, after telling the audience that "Thorpie taught me how to scream." Nobody was arguing with that.

At last Billy Thorpe played the opening chords to Most People I Know, which brought cheers and applause from the audience. Most people I know were wondering how he ever got himself roped into a gig like this, as we sang along while Thorpie told us "Fuck the bouncers, let's dance". Trouble was, with most of the audience being 30 to 50 year old baby boomers, dancing was less on their mind than getting home to the babysitter!

The evening was winding up now, and we had Alice and Daltrey doing Start Me Up. Like every other Windows 95 user I'm sick of that song, but then all was forgiven with a blistering My Generation from everyone. Peter Frampton came out in a ravishing lime green shirt and shorts combination, looking like Angus Young Goes to Hawaii and played a stunning short sharp solo on his voice tube. "Frampton Finally Comes Alive", a voice behind me said!

After See Me, Feel Me, Daltrey strapped on an acoustic and the whole ensemble joined in on the final number, Squeeze Box. This was a great relief, as the official program listed the finale as Hey Jude, and we were all dreading that.

Then, at the end, Daltrey said "This is for the Prime Minister who threw us out of the country back in 1968," waved the guitar in the air and smashed it to pieces on the stage!

"Hey - that's my guitar," yelled Frampton!

• Want to comment on this? Email me on [dunk@dunkworld.com](mailto:dunk@dunkworld.com)

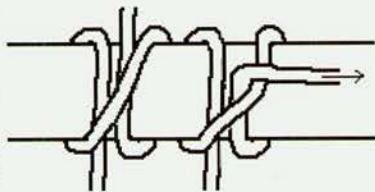
## Tiny Good's Rigging Note

### Knots - 3 Basic knots for general use in the entertainment industry

#### CLOVE HITCH

The clove hitch is probably the most useful knot you could learn. It can be used for tying a rope to almost any object. For example tying a rope to a lamp yoke to lift it to a bar or truss. Tying a rope to a loom to lift it onto a catwalk. Tying a rope to a pipe for a backdrop.

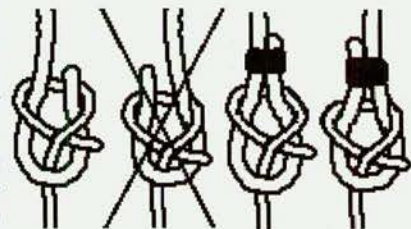
Riggers usually tie this knot under a chain motor hook so that when they pull it up the hook is free and can be hooked onto a shackle.



The clove hitch is a very versatile knot. Note that usually it is finished with a half hitch which is not shown in the illustration.

#### SHEET BEND

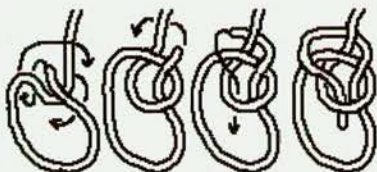
The sheet bend is used for tying two cables together and is particularly useful when the cables are of different diameters, the thicker cable makes the loop and the thinner ties the knot. This knot is often used for attaching a hauling line to an electric's loom, or a small line to a larger hand rope.



Be careful - as suggested by the crossed out picture above, with the loose end on the wrong side you have another, weaker knot (Left-hand sheetbend).

#### BOWLINE

The bowline is a knot, which makes a loop that will not slip. It can be used for making a loop to hook on lights; chain hooks, or around a pipe when you want the pipe to be able to rotate as with a Kabuki drops system.



These are just a few basic knots, however the use of any of the three list here and a little thought will allow you to safely lift and tie off almost any item in use. It should be noted that all of these can be tied 'on the bight' which means not at the end of the rope but with the rope folded back so the knot is tied using two thickness of rope.

Knots are easy to learn, and with a little practice most can be tied without really thinking about them. Like all other things constant practice is needed to be good at something.

#### Disclaimer

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## HOW FAST is FAST ENOUGH?

HARD DISK RECORDING disk space and throughput speed are a difficult set of numbers. John Grimshaw decodes the jargon.....

So you've got a new G4 Mac or a Pentium III, and you've spent the hard cash on software, cards and hardware for serious digital recording. Or, you are thinking about buying one of the new 'all in one' 24 bit, 24 track HDR format recorders.

How much hard disk space will you need, and how will you handle, transport, and back-up your project files?

How fast is fast enough when it comes to data throughput?

We have developed a speed comparison table to show you just how fast various hardware and system items are in relation to each

other. All of the items listed on the opposite page show their "best case" data transfer rate ability.

These speeds are interesting when you compare them to the data transfer rates required for some forms of media. The list on the right shows some of the most popular forms of media playback, and their bit-rates.

Comparing these tables, it would be easy to make the mistake of thinking of the hardware devices only in their "best case" speeds. When using some of these products in a standard computer, these

### Raw Audio Data File Size

Frequency (no of samples per second)	Resolution (number of bits per sample)	Bits/second (=Freq x Res)	Mbps (see Data Values Table)	File Size (MB) for 2 tracks for 1min	File Size (MB) for 2 tracks for 60min	File Size (GB) for 8 tracks for 60min	File Size (GB) for 24 tracks for 60min
44100	16	705600	0.71	10.09	605.62	2.37	7.10
48000	24	1152000	1.15	16.48	988.77	3.86	11.59
88200	24	2116800	2.12	30.28	1816.86	7.10	21.29
96000	24	2304000	2.30	32.96	1977.54	7.72	23.17

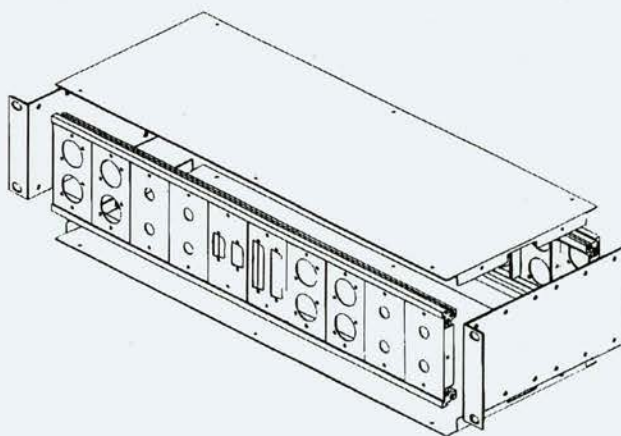
The above figures are only a guide, and do not contain parity bits, start and stop bits, CCRC (cyclic redundancy check code) bits, etc

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speeds are rarely achieved. The trick is to know what speed you should expect from any device, most of the time. The reason why these speeds are not easy to identify is usually because the operating system or some other software gets in the way, and uses the computer's available resources for other tasks.

For example, those people who have a Pro Tools suite set up for audio editing typically do not let any other stray piece of software onto that workstation, because it is all too easy to disrupt the performance of any device in the system. This problem is also why companies like Fairlight, dsp and now Mackie have developed their own operating software, to give the priority to the movement of audio.

The computer industry is what drives the development of faster devices and protocols, and the fastest growing area of the computer industry is the home market. As a result, much of this development is aimed at this group. The whole pro-audio, video and lighting requirements for computer solutions only make up a very small fraction of the entire computer industry. So, it is easy to see why entertainment technology developers always try to use "off

the shelf" hardware and software when ever possible.

With the public demand for home computing growing, the "pro" technology users could conceivably become the "poor cousins" in

### Playback Media Throughput

Media	Throughput (approx) Mega bit per second
Stereo Audio @ 44.1kHz/16bit	1.41
Stereo Audio @ 48kHz/24bit	2.30
Stereo Audio @ 96kHz/24bit	4.61
DVD Video	4.8
HDTV	18.0
24 Audio tracks @ 48kHz/24bit	27.6

### Hardware Throughput

Hardware	Throughput (approx) Mega bit per second
Unidirectional Parallel Port	0.04 to 0.14
56K Modem (best case, usually slower)	0.50
Bidirectional Parallel Port	0.08 to 0.29
Standard Serial port 1.0	0.11
Standard Serial port 2.0	0.22
Standard 3.5 floppy	0.25 to 1.0
Enhanced Parallel Port (EPP/ECP)	1.0 to 2.0
USB	6.0
48x internal CD-ROM (best case)	7.0
10baseT Ethernet	10.0
PC-DVD 8x (speed for DVD-Rom data)	10.8
USB 1.1	12.0
EIDE Ultra ATA Hard Disk Drive	66.0
Ultra SCSI 2 Hard Disk Drive	80.0
100baseT Ethernet	100.0
Firewire (also called i-Link or IEEE 1394)	100.0, 200.0 & 400.0
USB 2	120.0 to 240.0
Adaptec's 3 channel RAID system	240.0
Fibre Gigabit Ethernet	1024.0

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## HOW FAST is FAST ENOUGH?

the world of product development. The speeds of devices currently available are quite acceptable in the home and for most office applications. Unfortunately for the high end pro video and audio users, while the speeds available now will do the job, there is plenty of room for improvement. So, while size capacities will continue to increase, it will be interesting to see if the data throughput options will also increase at the same pace.

### GETTING YOUR PROJECT ON DISK- OPTIONS.....

There are several ways to do this, but increasingly the portable hard drive is the way forward. With an 18 gigabyte SCSI hard drive costing less than 300 Australian dollars, and a 36 gig version selling at under 2 grand, these drive prices (and the prices for their cheaper

IDE cousins) are in free fall.

Of course these options limit you to a computer based solution, and these means a transfer stage if your source material is from tape. Whether the tape is analogue or digital, this usually means a transfer in real time regardless of the speed abilities of your hard disc.

### THE QUESTION OF DVD

Of course there is the "old" CDR, but with the limitation of 650MB in size for each disc, more and more digital audio and video project engineers are trying to make the decision between DVDR, DVD-RAM, DVD+RW or DVD-RW formats. There are few similarities between the formats, and we may have to cope with the next "Beta Vs VHS" format fight.

DVDR is a "use once" format, similar to CDR and is designed for use in a computer. There are two size discs options - 3.96 and 4.7 GB. and the system is compatible with standard DVD-ROM and home DVD drives.

DVD-RAM is a drive designed for use in a computer. The system was developed by Panasonic and it allows "drag and drop" file storage like hard drives we are currently used to. Orig-

#### Key to understanding data sizes

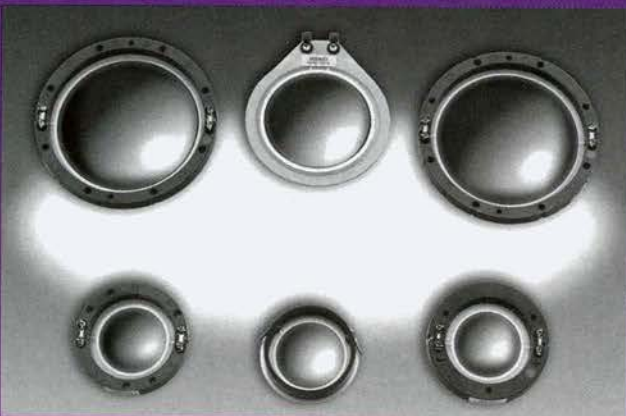
8 bits per byte  
1024 bytes per kB  
1024 kB per MB  
1024 MB per GB

#### Key to understanding data speeds

1bps = 1 bit per second  
1kbps = 1000 bits per second  
1Mps = 1,000,000 bits per second  
1Gps = 1,000,000,000 bits per second

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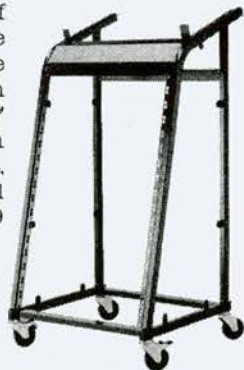
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nally released as a 2.3GB system, the new yet to be released 4.7GB version boasts some abilities which could prove useful in the pro audio/video world. This system is not compatible with standard DVD drives, but it has been adopted by Apple and has been used in Tascam's new 24 channel digital hard disc recorder. Other computer manufacturers are closely watching this format.

DVD-RW (usually referred to as "minus RW") is designed for use in stand alone digital video recorders. This system, as developed by Sharp, is aimed at the home video market, and allows video editing and archival stage of video material for playback on most standard DVDs. Pioneer have recently released in Japan a production model of this device, the DVR-1000.

DVD+RW is a rewritable format also designed for use in a computer. Like DVD-RW, this system is intended so that standard DVD readers can be designed to read the discs, but the -RW format is not compatible with the +RW format. This format has not even been launched yet, and already it has an uncertain future. The biggest limitation with this system is that production models will not be on the market before the last half of 2000. This gives DVD-RAM many months of head start.

While all of these formats begin to solve some of the issues involved with the size of storage space, the transfer rates of these devices remain not much better than a 10baseT ethernet network. So, the technology as it currently stands may not have the longevity you might expect as we continue to push the requirements for access speed - until we see the 80x speed DVD. •

### High speed digital video transfer across Australia

Telstra is currently implementing a digital video transfer network to allow HDTV quality video to be transferred between capital cities in Australia. Set to replace the existing method of satellite transfer of analogue vision, this system is designed to be able to handle up to 622Mbps digital transfer between nodes in each city. Ultimately it is intended that Australia's digital video transfer system will be connected into other world systems currently being installed, allowing the fast movement of digital video internationally without loss of quality.

### Operating system blues

Microsoft's recent release of Windows 2000 means developers of "Pro" audio and video software for Windows will now have to write more complicated and thorough software than ever before - to make sure the computer will do exactly what it required of it. Some companies may not survive this step, and others will prosper as a result.

### The Fastest Network

Internet 2, currently in development and use in the US is a new high speed connection used by universities and research stations across the US. A typical desktop on this network has a transfer speed of 100Mbps. Its backbone, known as the Abilene Network, has a transfer capacity of a whopping 2.4 Gbps.

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# Studio ROUNDUP

## BASF National TRACKING Guide

ARTIST PRODUCER ENGINEER/PROGRAMMER NOTES

### New South Wales

**A#Sharp Studio** Jeff Cripps +61 2 9153 9988 24 TRK Analog 8 TRK Digital  
 Metro Festival of Music Jeff Cripps CD  
 Shoogah Catz Jeff Cripps CD  
 The Australian Cher Show Jeff Cripps CD  
 Wards Express Jeff Cripps CD

**Aphek Studios** Greg Dixon +61 2 9876 8170  
 16 TRK 1" Analogue/Digital/ H/D + Soundcraft Ghost  
 Leon Stemming Leon Greg Dixon (E) Album  
 Jettison Band Greg Dixon (E) demo  
 Greg Dixon Greg Dixon Greg Dixon (E) Album

**Damien Gerard Studio** Marshall +61 2 9555 1710 2" 24/ Pro-Tools Music Facility  
 The Posies Nick Dalton Russell Pilling Vocals EP  
 Fragile Simon Holmes Russell Pilling Album  
 Robin Hayda Robyn Hayda Russell Pilling Album  
 Fantastic Leslies Band/Russell Pilling Russell Pilling GYO 5 Track  
 Jan Preston Jan Preston Russell Pilling Soundtrack

**Fatt Traxx Studio** Tim Gurner +61 2 9521 8435 HBB ADAT  
 Vince Page V Page/A Keller Alex Keller Album Rec.  
 Amanda Mcguire A McGuire Alex Keller Album Rec.

**Festival Studio A** Suzanne Hill +61 2 9395 8070  
 The Tenants David Trump Album  
 Grinspoon Jonathon Burnside Album  
 Lo-Tel Matt Lovell Album  
 Formal Dekka Mark Thomas Mark Thomas Debut Album  
 Montana John Haeny John Haeny Album

**Festival Studios + Mastering** Suzanne Hill +61 2 9395 8076 Mastering  
 78 SAAB Greg Wales William Bowden Mastering Album  
 Not For You William Bowden Mastering Album  
 PNAU William Bowden Mastering Album  
 Rick Robertson William Bowden Mastering Album

**Floating Point Studios** Peter Tzanetos +61 2 9318 1550. 64 TRK Pro-Tools Mix, 16 Analog  
 i/O, Ghost 32/8 Analog Console, Mixdown Facility  
 Multiball Sam Dickson Peter Mayse Live Album  
 Barney McAll Barney McAll Peter Tzanetos Album  
 Glean Elliott Glean Elliott Martin Eckel Single

**Fountainhead Music** Darryl Chute +61 2 9395 8070 Grand Piano + Digital (VST)  
 Roz Winters Darryl Chute Album  
 Walkie Talkie Tours Rob Detriech Darryl Chute Album  
 Daniel Thompson Daniel Thompson Darryl Chute Sitcom Demo  
 Mark Hennesey Mark Hennesey Darryl Chute Album

**Hindsong Studio** David & Lynn Hinds +61 2 6592 7070 Digital Project  
 Balance Blues band D & L Hinds D & L Hinds Album Tracking

**JMF Recording** Fran Esther +61 2 9790 4097. 24 TRK 2" Analog. 24 TRK ADAT  
 Cold Turkey Bill Croft Guy Saminaden (E) Album  
 Willows Connections Trish Watts Ralph Esther Album  
 Pat Drummond/Karen Rod Coe Glen Phimister (E) Album  
 Dave Deen Dave Deen Ralph Esther (E) Demo

**Keystone Recording Studio** +61 2 6772 1838 16 TRK Digital/Analog to Stereo DAT.  
 Bruce Walker B Walker/A Heeney Alan Heeney CD  
 Tree Los Lantana Tree Los Lantana Alan CD  
 Lyndon Meggarity Lyndon Meggarity/A Heeney Mini CD  
 Armidale Music Foundation AMF/A Heeney A Heeney CD

**Lee Street Studios** John Summers +61 2 4788 1585 16 TRK ADAT/ H/D Mainly classical,  
 acoustic and jazz.  
 Jacinta Tobin Jacinta Tobin John Summers 2 x Albums  
 Natalie Sprite Michael Stavrou/BMG Michael Stavrou Album

**Megaphon Studios** Shane Fahey +61 2 9550 6576 Tracking Room, 2" 24 TRK  
 Gersey Tim Whitten Tim Whitten Album  
 String Fever String Fever Shane Fayey Covers Album  
 Justine Nichols Justine Nichols Guy Dickerson Album

**Q Recording** Richard Muecke +61 2 9212 4851 SSL G + 4040 2" Analog  
 Steve Prestwich Steve Prestwich Richard Muecke (E) Mixing

ARTIST PRODUCER ENGINEER/PROGRAMMER NOTES

Doris Goddard D Goddard/R Muecke Richard Muecke (E) Album  
 n2tocr2s Lachlan Mitchell Lachlan Mitchell (E) Tracking + Mixing  
 Guy Gross Guy Gross Michelle Barry (E) Film Score  
 J.C Blues Max Seage Max Seage (E) EP

**Rockinghorse** Anthony Lycenko +61 2 6688 4005 NEVE V Series Console 48 CH Studer,  
 24 TRK, Pro-Tools Mix 24  
 Dalo Alto Anthony Lycenko Anthony Lycenko (E) EP Tracking  
 Lancaster Anthony Lycenko Anthony Lycenko (E) EP Tracking/Mix  
 Silver Rob Walsh M chael Worthington (E) Album Mixing  
 Acre C Pyle + A Lycenko M chael Worthington (E) Album Mast.

**Skylab** Dave Russell +61 2 9310 4774 Live Band Studio 24 TRK 2" 32 TRK Digital.  
 Doug Williams Gudu Spaceman EP  
 Rita Schneider Mary Schneider Dave Russell Album  
 Sharon Hayes Phil Grove Phil Grove Album  
 Te Lares Herman Dave Russell Album  
 Big Bang Theory Justin Bricks Spaceman Album

**Sony Music Studios** Ross A'Hern +61 2 9383 6320 Multitrack Rec studio  
 Bernie McGann Lloyd Swanton Ross A 'Hern(E) Rec/Master Album  
 D'Volv Band Ross A 'Hern (E) Rec/ Master Album  
 Olympics Album R Hirst/R Grossman James Cadsy Tracking Album  
 Mark Isaacs Mark Isaacs Ross A'Hern (E) Rec/Mast Album  
 Passion Flowers Lee Cutelle T Deeley/K Naunton Rec/Master Alb.

**Soundwarp** Meredith Brooks +61 2 9905 7144 Mastering  
 Aust Chamber Orch Brendan Frost Bill Syratt Demo Rec.  
 Mirdze Sture Astrid Meredith Brooks Restoration  
 Irish Compilation B Frost/M Brooks Meredith Brooks 3 CD Set  
 Blacksmith Hopkins N Hopkins Meredith Brooks Album  
 Brett Browning Brett Browning Meredith Brooks Radio Jingles

**301 Mastering** Jaquie Espie +61 2 9211 7301 Mastering Facility  
 Leonardo's Bride Justin Stanley Don Bartley Forthcoming Single  
 Colin Buchanan Colin Buchanan Steve Smart Forthcoming Album  
 Popstars Michael Szumowski Don Bartley 'Poison' Single  
 Pretty Violet Stain John Haeny Don Bartley Forthcoming Album  
 Vanessa Amorosi Various Steve Smart Album Tracks

**Tiger Recording** Lynda Hanbury +61 2 9922 4700  
 Pop Stars T Farahger/M Szumowski  
 Leah Haywood Paul Begaud D. Hemming, D. McWilliam (E), M. Szumowski (P) Album  
 D Hemming (E)/D McWilliam (E) Album

**Top Cat Recording Studio** Brad Wann +61 2 6628 0233 Auto 24 TRK Analog 1" + Pro-Tools  
 Mix 24 +V5  
 Dead Man Groove Band Brad Wann (E) Album Tracking  
 Dream Seeds Band/Brad Wann Brad Wann (E) Album Tracking  
 Col Finley Col Finley Brad Wann (E) EP Tracking/Mixing  
 Geraldine Loong Brad Wann Brad Wann (E) Album Mastering  
 Adrian Gawain A Gawain/B Wann Brad Wann (E) EP Mastering

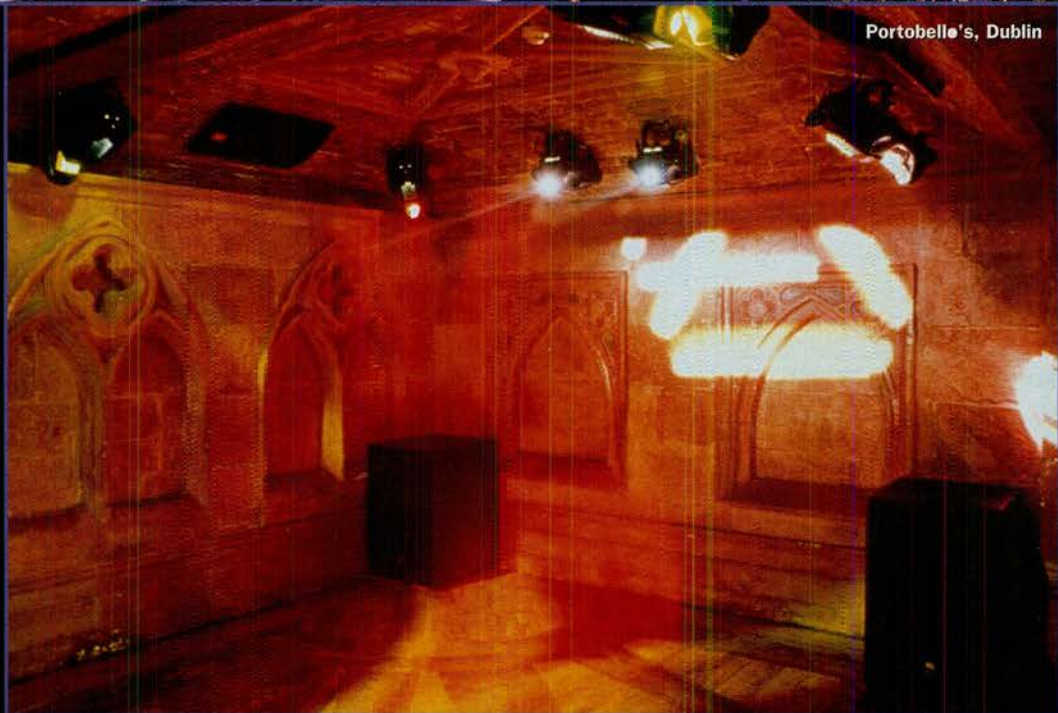
**Trackdown Digital P/L** Mike Duffy +61 2 9550 6890. 64 TRK, Post + Music  
 Serenades Davood Tabrizi Tim Ryan (E) Film Underscore  
 Walk the Talk Todd Hunter Tim Ryan (E) Film Music Mix  
 HI 5 Chris Harriott Kathy Naunton (E)TV-Vocal Recording  
 Flipper (Ser. 2) Yoram Gross EMTV T Lista /D Candusso Vocal Rec.  
 Skippy Forest Interactive Kate Austin CD Rom

**Velvet Sound Recording** Dave McCunn +61 2 9267 2915. 64 CH Pro-Tools + 24 TRK 2"  
 Analog  
 Dreamwind Dreamwind Adrian Grigorieff Album Tracking  
 Rivers & Roads Michael Paul Stavron M P Stavron EP Track/Mix  
 Brain Pete Jones Pete Jones Album Tracking  
 Bell Shakespeare Co. Mazen Murad M Murad Soundtrack  
 The Utopian Babies Craig Portells Adrian Grigorieff EP Tracking

### Victoria

**AD Studio** Lindsay Buckland +61 3 9372 6828 Rec/Mix/Mast-Analog/Hard Disk Recording  
 Lindsay Buckland Lindsay Buckland Brett Taylor Album  
 Lindsay Buckland Lindsay Buckland Brett Taylor Album  
 Louisa John Krol Brett Taylor Brett Taylor Album/Single

**Backbeach Recording** Mark Rachele +613 5988 6948 2" Class A Automated Mixing  
 Superheist Band Mark Rachele Single O'Dubs



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When small venues, area fill and near field applications are required,

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# Studio ROUNDUP

## BASF National TRACKING Guide

ARTIST	PRODUCER	ENGINEER/PROGRAMMER	NOTES
Madison Ave	Van/Coates	Mark Rachelle	Post Mixing
Abremelin	Band/Norton	DW Norton	Album
Residue	Mark Rachelle/Ivan Gough	Mark Rachelle	Remix
Room 101	Band/DW Norton	DW Norton	2 Songs
<b>Crystal Mastering</b> Joe Carra +61 3 9326 2318 Mastering facility			
The Gamma rays	Kal/Band	John Ruberto (E)	Mastering album
The Drugs	Chris Dickie	John Ruberto (E)	Mastering EP
Hummell	Bnad	Joe Carra (E)	Mastering EP
The Anyones band	John Ruberto (E)		Mastering Album
Voice of Descent	DW Norton	John Ruberto (E)	Mastering Album
<b>Kick studios</b> Ant Dale +61 3 9696 6697 Pro-Tools/24-64 TRKS H/D Rec + Plug-ins & Outboard			
Sun Babies	Gideon & Daniel Frankel	Andy Shanahan	Album Tracking
Sugarlips	Sugar Lips	Andy Shanahan	Album Tracking
Jimmy Christo	A Dale/V Deltito	A Dale/V Deltito	Single
<b>Lo Ricco Sound Studios</b> Marcello Lo Ricco +61 3 9701 6220 32 TK-Logic Audio Platinum/16 TK-ADAT x T			
Shane Simmons	S Simmons/M Ricco	Marcello Lo Ricco (E + P)	Demos
Taken	Band	Marcello Lo Ricco	Demos
Terence & Owen	Terence & Owen	Marcello Lo Ricco (E)	Demos
Anthony Costanzo	A Costanzo/M Ricco	M Ricco (E+P)	CD Single
The Methinks	Band	Marcello Lo Ricco	Album Tracking
<b>Metropolis Audio</b> Sally Rodrigues +61 3 9696 2111 48 TRK Digital & MF3 + Digital Workstation			
Mandy Moore	Keith Thomas	Bill Whittington(E)	Film S/Track Mix
Tonic	MCM Austered	Ern Rose (E) TV Special & Webcast	
Live	MCM Austered	Ern Rose (E) TV Special & Webcast	
3RRR	N Rogers/A Cuthbertson	S Pavone	CD Mast
<b>Moose</b> Franc Tetaz +61 3 9417 7712 Music Post Production			
Paul Schutze	Paul Schutze	Francois Tetaz	DVD
Bitter	Skeltys/Crawford	Francois Tetaz	Album
Ray Moore	Ray Moore/John Castles	Francois Tetaz	Album
Luke Smiles	Luke Smiles	Francois Tetaz	Muusic Post
Sensory Overload	Sensory Overload	Francois Tetaz	Album
<b>The Ranch</b> Norman James +61 3 9712 0136 Residential Farm Studios			
Shenanigans	Gary King	Norman James	Album
Fouad	Fouad	Norman James	Demos
Ian Blackeny	Ian Blackeny	Various	Radio Single
Various	Australian Music Marketing Abroad	N James	Promo CD
<b>Ripple Digital</b> Justin Connor/Chris Cullen +61 3 9525 9945 16 TRK Pro-Tools Digt Rec/ Mast			
Tectonic	Gavin Charles	C Cullen (E)/J Connor (E)/G Charles (P)	EP
Vessel	Vessel	C Cullen/J Connor	Album
Ja'Dor	Charles/Cullen/Connor	C Cullen/J Connor/ G Charles(P)	EP
Dharma Yoga Health Centre/J Alain		Cullen/Conner	Guided Meditations
<b>Sing Sing</b> Phil/Kalju +61 3 9428 4622			
Motor Ave	Craig Harnath	C Harnath/D Coulthard-Clark	Album
The Mavis's	Kalju		Album
The Avalanches	Band	Tony Espie	Album
28 Days	Kalju		Album
Body Jar	Kalju		Album
<b>Studio 52</b> Paul Higgins +61 8 9417 7707. 2 x 48 TRK Studios. Studio A-24 TRK 2" + VST			
Delta	Trevor Carter	T Carter/A Meakes	Album Mix
Maurice Frawley/Working Class Ringos	A Meakes/T Cohen	A Meakes	Mast Album
Freak Jason	Hayden Watt	Mitch Kenny	Album
The Music Men	Ron Bates	A Meakes/M Kenny	Album
Inside Blues Project	Barry Hills	A Meakes/M Kenny	Compilation
<b>True Form Recording</b> Neil Gray +61 3 9391 0907. 24 TRK Analog, Digital and H/D.			
Azucar	Band/N Gray	Neil Gray (E)	Soundtrack for TV
Preachers Daughter	Neil Gray	Neil Gray (E)	Demos
Kutcha Edwards Band	Band/N. Gray	Neil Gray (E)	Pre Prod
Playground	Bruce Gayther	Bruce Gayther	Live to DAT
<b>Wombat Rd. Recording Studio</b> Barrie Clissold +61 3 5145 4204. 24 TRK Digital + 16 Analogue, Digital Mastering, CD & Cassette duplication.			
Renee Little	Karen McCaskill	Barrie Clissold (E)	Demo CD

ARTIST	PRODUCER	ENGINEER/PROGRAMMER	NOTES
Anna Melville	Barrie Clissold	Barrie Clissold (E)	Demo CD
Briagolong Bush Band	G Rose	Barrie Clissold	Alb. Mix/Mastering
Julian Browning	Julian Browning	B Clissold (E)	Demo CD Mastering
David Arden	David Arden	Barrie Clissold	Demo CD Mastering
<b>XTEK Studios</b> Nic Moore +61 3 9646 8833. 2" 24 TRK & 24 TRK Digital			
Donald Hirst	Nic Moore	Nic Moore	Demos
AKA	Band	Nic Moore	EP
Mind Riot	Nic Moore	Nic Moore	Album
Cold Shots	Nic Moore	Nic Moore	Demos

### Queensland

<b>Domenic Sound</b> Shane Hughes +61 7 3216 5187 ADATS & Pro-Tools			
Janie Shrapnel	Janie Shrapnel	Shane Hughes	Album
Paul Vautier	Paul Vautier	Shane Hughes	Album Demo
Wilf Montan	Wilf Montan	Shane Hughes	Single
Talisman	Shane Hughes	Shane Hughes	Album Tracking
GC Advertising	S Hughes/G Chapman	Shane Hughes	Payless Shoes Jingle

<b>Stargate Music Productions</b> Dash Mclvor +61 7 3260 6294			
Mark Tempany	Dash Mclvor	Dash Mclvor	EP/Re-Mixes
Rub Black	Dash Mclvor	D Mclvor/D Champion	Album
Tanya Self	Matt Fell	Matt Fell	Tracking Vox

<b>Vandersound</b> Eric Vandersande +61 7 5546 8100 All Digital + Valve - 02R-ADAT, H/ D+Mastering			
Jeremiah	Eric Vandersande	Grag Allford Demo/Rec/Mix/Master	
Jobs	Eric Vandersande	Jonas Summers	Demo Record, Mix,
Master			
Mitsubishi	Eric + John + Katrina	John + Katrina	TV AD Demo Post
Lieth Davies	E Vandersande/L Davies	E Vandersande	Demo/Rec/Mix/
Master			
Dave Witmer	E Vandersande/D Witmer	D Witmer	Dem/Rec/Mix/Mast

### Western Australia

<b>Bonsai</b> Tom Thorpe +61 8 9246 4408 Pro-Tools Digital Recording + Mastering			
Outcast	Tom Thorpe	Tom Thorpe	Demo's
2 Ins	Tom Thorpe	Tom Thorpe	Demo's
Garry Handford	Tom Thorpe	Tom Thorpe	Demo's

<b>Planet Sound Studios</b> Trevor Sponser +61 8 9382 2211			
Frenzee	Boyd Wilson	L Williams/B Wilson	Singles/Album
Sony Morgan Island Massive	Sony Morgan	John Villani	CD Album
Lee Bradshaw	Lee Bradshaw	John Villani	CD Album
Hank Marvin	Hank Marvin		Mixing CD Album

<b>Poons Head</b> Rob + Sam +61 8 9339 4791 Boutique Music Recording			
Klippspringer	R Grant & Band	Rob Grant (E)	EP
Jefferson Morrow	Robert Roget	Rob Grant (E)	Album
T.Cells	R Grant & Band	Rob Grant (E)	Album
Leanne Chinnery	L Chinnery + R Grant	Rob Grant (E)	Album
Luna Fair		Rob Grant (E)	Mastering

<b>Revolver</b> Vic Manfrin 32 TRK Automated Analogue and Digital			
Afterburn	Ben Glatzer	Ben Glatzer	Tracking
Bordello	Band/ Ben Glatzer	Ben Glatzer	Tracking
Smokin' Billies	Band/Ben Glatzer	Ben Glatzer	EP
Storm	Artist	Vic Manfrin	Demos
Rumpus	Band	Vic Manfrin	Demos

<b>Satellite Recording Studio</b> Darren Halifax +61 8 9470 4003 Pro-Tools 64 TRKS x 24 Bit			
Jet Girl	Band	Darren Halifax	Demo
Nicola	Nicola	Darren Halifax	Demo
Mistress Suzannah	Suzannah	Darren Halifax	Biography on 5 CD Set
Another Light	Band	Darren Halifax	Album
No Flowers No Wedding Dress	Band	Darren Halifax	Album

# Studio ROUNDUP

## BASF National TRACKING Guide

ARTIST                      PRODUCER                      ENGINEER/PROGRAMMER                      NOTES

### South Australia

#### Disk Edits Catherine Linke +61 8 8340 1377

Audio Mastering+ Post Prod +CD & Cassette manufacturing

Canvas	Canvas	Neville Clark	Mast/CD Manufacture
Terminal Zero	E James/Terminal Zero	Neville Clark	Mast/CD Manufacture
Nun Nicer	Darrell/Nun Nicer	Neville Clark	Mast/CD Manufacture
Samba Suave	Renato Leone	Neville Clark	Mast/CD Manuf.
Peter Combe	Pascal Records	Neville Clark	Mast/CD Manuf.

#### Fat Trax David Grice 40 TRK Music & Post

Vinod & Chandran	David Grice	Chardron	Album
Terandynol	Noel Bowden	David Grice	Album
Crymson Fall	David Grice	Matt Williams	EP
Trevor Lambshed	Trevor Lambshed	David Grice	Demo
Fred Grice	David Grice	David Grice	Album

#### Mixmasters Mick Wordley +61 8 8278 8506 24 TRK 2"

Yak Spit	Matt Henley	Mick Wordley	Warner Battle/Bands
Timothy	Geoff Stapleton	Mick Wordley	Album
Terminal Zero	Evan James	Evan James	Album
Bergarac	Jed palmer	Jed palmer	Album

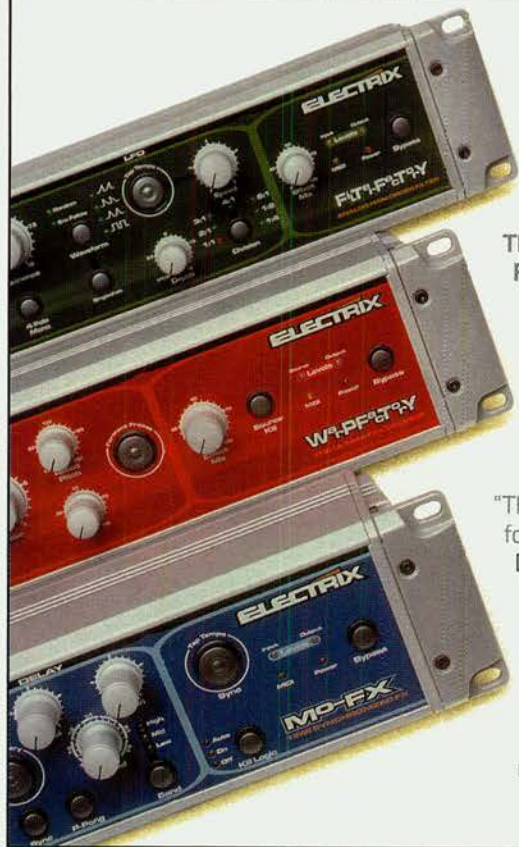
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SA:	Adelaide Tape Duplicators (08) 8212-7111 Pro Media (08) 8276-6793
WA	Ausmag (08) 9314-1953 Pro Copy (08) 9375-3902
QLD:	Musiclab (07) 3252-2188 Tek (07) 3239-4000

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George Petersen - Mix Magazine- U.S.A.

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Daniel Duffell - DJ Magazine- UK



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# L I V E

## PRODUCTION REPORTS



PICTURE BY CFT FORCE 3

sound engineer Bruce Jackson to place the stage in each venue with best results

To minimise secondary and multiple audio reflections, the latest in ultra high Q PA systems was imported into Australia for the show. The Clair Brothers i4 system is swathed in secrecy, being brand new.

Australian born and LA based sound engineer to Ms. Streisand, Bruce Jackson, says of the i4: "It's been wildly successful for Clair Bros. and they can't get enough to satisfy their own operation - let alone their subsidiaries in Nashville, Europe and Japan. They are far busier this year than ever before".

Only by the treatment measures, and by using a high Q (tight dispersion) PA could the notorious acoustics of the Sydney Football Stadium be controlled. The irony of the Barbra Streisand show is that the sound worked a treat, it was terrific. But because of the cost involved in getting it that way, no future tour could

## BARBRA STREISAND - WAS THIS THE LAST OUTDOOR ARENA TOUR?

*THE STREISAND SHOW DELIVERS ON PROMISE*  
AUDIENCE SAVOUR EVERY WORD IN POOR VENUE

BY JULIUS GRAFTON

The last mega outdoor stadium tour that the region will see was well executed last month. Lashing rain forced the cancellation of the first show, which was staged the next evening in good conditions. The second Sydney show was a wet one, which marred last minute ticket sales. This concert was, in technical terms, very well executed.

Barbra Streisand is the last of the 'must see' entertainers, only a reformed Beatles tour could sell tickets at the prices Ms. S achieved. Concert goers were very happy with the show, which ran in two parts for almost three hours.

Because of the performer's appreciation of production values, the venues were extensively treated for acoustics issues. In Sydney, Staging Rentals hung drapes over vast areas of the South end of the Football Stadium, opposite the stage. Balcony edges were also dressed with drapes, as were large blocks of seating which were not saleable due to sightlines.

An acoustical survey of the venues was done by David McGrath, ENTECH award winner and acoustics guru. His findings enabled

*Extensive production kills seen in this picture from the stage. The black areas were draped by Staging Rentals!*



achieve a ticket price high enough.

Bruce Jackson headed a crew of seven from Clair Brothers, with sound crew chief Jim Devenney and patchmeister Chris Iacune. An additional FOH engineer (Chris Carlton) mixed the orchestra on a Midas XL 4, while Jackson took his feeds and the main channels.

The show featured an 80 piece orchestra conducted by Marvin Hamlisch and a 70 piece choir. A large Egyptian themed set was enveloped in the largest outdoor stage yet built by Frank Greer's World Stages. The roof trim was aligned with the top of the stadium roof, at about 65 feet from the ground to the underside of the roof.

While Jackson and Carlton assumed FOH duties on the tower out front, a second mix position was located hundreds of metres away in a disused room. There, Australian's Wyn Milson (2 time ENTECH award winner) and John Simpson mixed the Orchestra and Choir. The strings were sub-mixed to the house, the orchestra was sub-mixed to the monitors and the choir was mixed to both.

On stage were two monitor engineer's positions. Jim Devenney handled the three stereo in-ear mixes to the orchestra, who all used a wired system. He also send main monitors to Ms. S, who doesn't use in-ears. She sings through a modified Shure Beta 87 wireless mic, and expects about 90dB from her front wedge line.

Up one level in the back stage labyrinth, Don mixed 10 in-ear mixes and 4 wedges mixes for the rhythm section - and also in-ear to the conductor (Marvin Hamlisch).

Overall there are 168 inputs at the stage, split through transformer isolation to the six consoles.

The choir room was most remote from the stage - at over 300m away. A Klotz fibre-optic multicore took the mic signals from the room, where four Schoeps mic's on booms did the whole choir, conducted by Bob Estes. He also wrote Ms. S's big hit, 'Main Event'.

The fibre optic core also looped through and carried miscellaneous program to the dressing rooms, and foldback returns from



## i4 PA detailed

### CLAIR BROTHERS DEBUT NEW VLA SYSTEM

Connections attempted via correspondents are sources around the world to get more information on the new i4 virtual line array PA ahead of the Barbra Streisand tour. Nothing obtained could be independently verified, and Clair Brothers themselves would not talk.

We can now confirm - having seen it first hand - that:

- The i4 virtual line array is slightly larger than the French V-Disc system,
- Each cabinet contains 1 x 18" bass driver, 4 x 10" mid-high drivers, 4 x 2" high frequency drivers, and as many as 9 Piezo devices.
- The cabinet comes in three dispersion patterns, each delivers 90° wide, but specific cabinets produce 2.5°, 5° and 10° vertical dispersions. Variable shims allow tighter than 2.5 degree spacing between high C boxes if required. Each virtual line array hangs on just two main motors, with a third for variable pullback. Setup is said to be very fast.
- The system drive uses factory preset XTA AudioCore DSP units, each of which drives two sets of i4 boxes, each stereo input goes to three outputs - low, mid and high.
- Amplification racks are identical with two Crest amplifiers in each rack driving four i4 boxes. The Crest 10004 provides 4 x 1,225 watts at 4 ohms, while the Crest 9001 delivers 2 x 2,200 watts into 4 ohms. With 20 racks on hand, the 80 boxes had 186,000 watts of available amp power - or 2,325 watts per cabinet.

> please turn page



## Barbra Streisand

the stage to the choir. It had a 400m run of fibre optic cable, with each channel running at line level.

Prior to the tour, the orchestra rehearsed at the new 301 Studios with Wyn Milson and John Simpson. Wyn passed favourable judgement on that new room's acoustic.

On the stage the drums, percussion, trumpets and trombones up high so they shoot sound over string

world. "It's nice to be able to separate the orchestra to optimise bleed" Jackson told me

Out in the stadium, Jackson's pedantry paid off with a staggering 29 different audio sends. The four columns of 14 boxes were treated as four columns of six sends with the top 8 boxes being the ultra tight, long throw 2.5° models. The next four or so were 5° models, while the lowest produced 10° vertical spread.

Every group of boxes had its own control, with each XTA

Jackson's personal effects racks (left), with mystic touchscreen device on top left, and TC Electronics EQ master unit on right. Each of many system EQs are controlled here.

14 Crest amp rack (below)



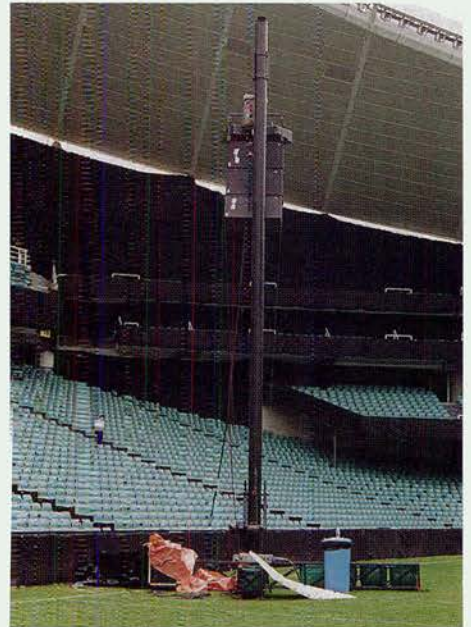


AudioCore system processor handling two channels of i4. Each group of boxes thus had separate EQ via the TC Electronics EQ rack which Clair Brother's favour.

There were 16 zones, or sends overall, to the four main line arrays of i4 boxes. This much control is what you need if you are to optimise sound distribution in a poor venue.

Additional to the staggeringly impressive i4 arrays, were a collection of Jackson standard tricks out in the field, acting as time delay zones. Just

*XTA AudioCore signal processors (left), each controls a pair of i4 sends (2 inputs x 2 groups of 3 outputs from each device). Clair Brother's R4 boxes and HF aevie atop delay tower (right).*



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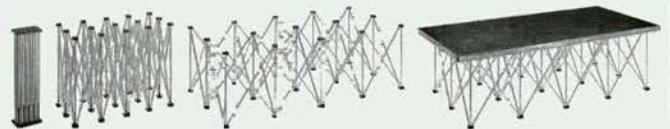
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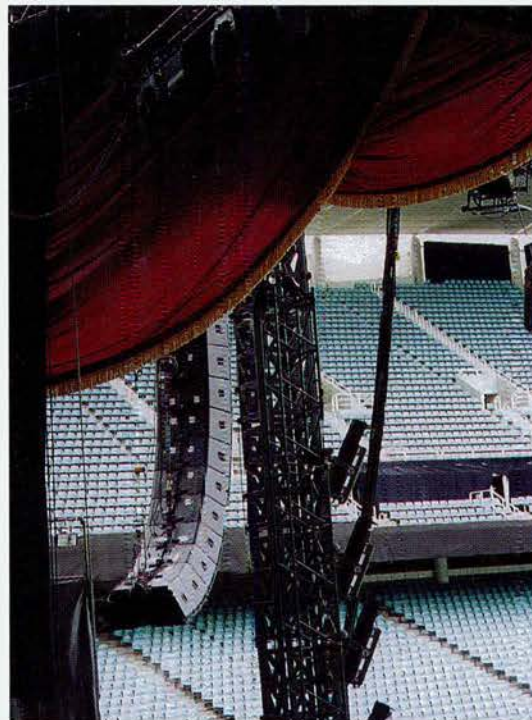
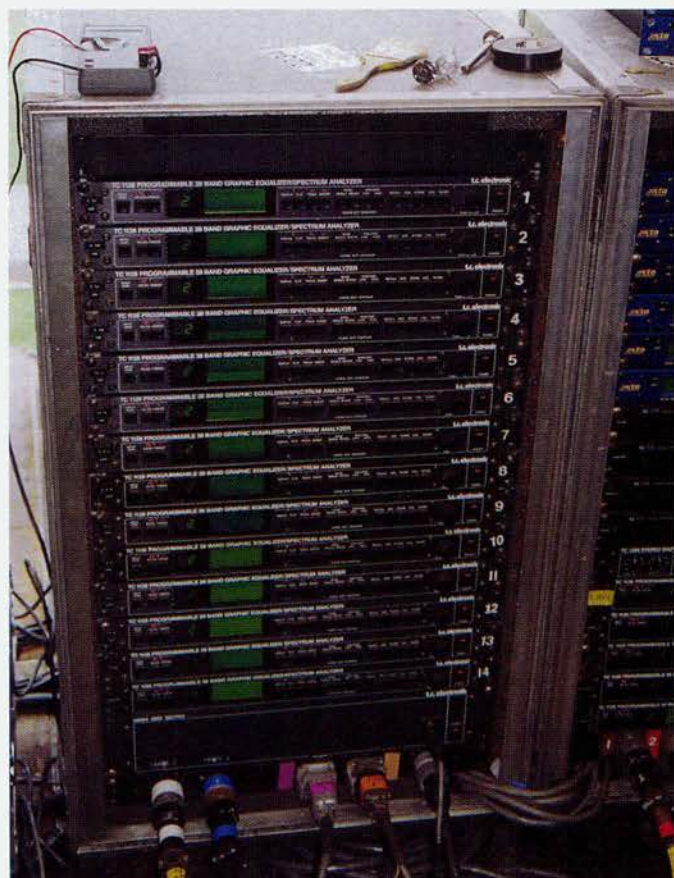
# Barbra Streisand

behind the house mix were some weird 'AfterBurner' high frequency devices, and more of these were scattered about with a respectable collection of Clair Brother's R4 boxes up on poles.

13 separate sends were created and used for the various delay zones.

Throughout the time Connections was on site, Jackson was totally relaxed and in complete control. His crew all knew their jobs, there were few questions being asked, and he spent time with various guests (ourselves included) that he had invited. The atmosphere wasn't typical of a huge production about to go into afternoon rehearsal. Only a visible tightening of what was already the toughest security we have ever seen at a concert indicated time was counting down towards a show that night. That security, we might add, included bag searches and metal detectors for everyone coming on site.

*(continued over page)*



*John Simpson (left) and Wyn Milsom in the orchestra mixing room. TC Electronics equalisers (top left), more views of i4 (top right), and an interesting woodwind mic system (right).*



*Exclusive*  
**New Clair Brother's  
 technology revealed**

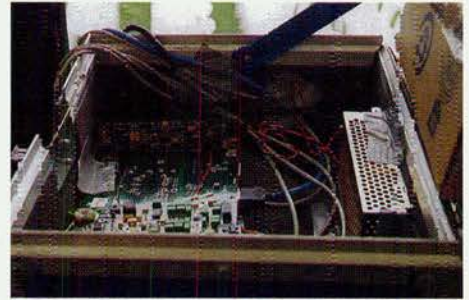
A mysterious touch screen was plainly visible to the right of Barbra Streisand's sound engineer Bruce Jackson during Sydney concerts last month. The thin profile LCD touch screen featured 3 dimensional graphical renditions of the concert sound system in situ in the Sydney Football Stadium.

Jackson was seen referring to it, and making on-screen adjustments during the show.

We can confirm it is the front end of the next generation of dsp show control, where every element in a sound system is on a network - microphones and speakers included.

The development project was first revealed in Connections last May, where we reported on a 'skunk works' project funded by Clair Brothers and based in Sydney. The company, known as Clair Brothers LLC Ltd, has employed Bruce Jackson, David McGrath, Marcus Altman, Stewart Bartlett, Gary Jackson and Val Udovenko amongst others.

In development for almost two and a half years, the project, known as 'The Module' is about to go into limited pre-production. It centres on a dsp control box with eight channels (in or out) - not



*This is 'The Module'.  
 David McGrath (left)  
 and Marcus Altman.*



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## Barbra Streisand

### SECRET PROJECT (continued)

unlike a Peavey Media Matrix 'BOB' - break out box.

Where The Module differs from anything yet developed is in the extent of its potential development. Every device in the audio chain is either connected in or out via the eight channels in each box, which can be located anywhere on a network.

Microphones will be plugged into the box. Each of the 8 channels in a box has dsp control, so any EQ, time alignment, effect, or line switching is done at the box.

Ultimately, Clair will have every device in the PA networked - including the monitor wedges. Hand held PDA devices, maybe even a Palm Pilot device, will communicate with nearby boxes or devices by infra-red.

A monitor engineer will be able to point and adjust or reconfigure any monitor speaker - remotely.

Signal processing equipment like equalisers, delays and crossovers will all disappear.

The LCD screen seen at the Barbra Streisand concert clearly showed the full potential of the system, as individual i4 boxes in the array could be accessed and processed. The system was not, however, hooked up to anything more than one prototype box - which we have pictured.

Very cool 3d graphics are a feature of the system, which is understood to run on a mixture of Cat 5 and fibre optic cabling. The network connection between devices is still unclear, as a really road worthy network connector is not yet commonly available.

Bruce Jackson would not comment on the system at presstime.



### Troy Clair visits Sydney, while Jands decide on V-Dosc or i4 VLA system

The son of Clair Brother's founder Gene Clair, and Clair Brother's company CEO Troy Clair (*top left*) visited Sydney for the Barbra Streisand concerts last month.

Accompanied by wife Katy (*right, with Bruce Jackson in the middle*), Mr. Clair inspected developments at the secret Clair Brothers LLC project which the company has funded for the past two and a half years.

He also met with Australian concert production legend Eric Robinson, head of Jands Production Services. Jands are about to announce a major acquisition of a virtual line array PA, thought to be from V-Dosc in France. Jands Production Services Audio Director Peter Ratcliffe was in Paris in late February.

Jands operate over 200 Clair Brothers S4 TL boxes in the region.

Troy's father Gene used to take him out on the road when he was a kid. One night Gene fell asleep at the wheel of a big 15 speed (GMC Astro) prime mover - and rolled it, pinning Troy in the wreckage within an inch of his life.

Another time Gene was mixing the Rolling Stones and had to answer the call of nature. He let Troy mix the next number while he absented himself.

it will be executed with such precision as the Barbra Streisand show.

A new and almost unattainable standard has been created for stadium sound.

'After Burner' high frequency delay device (*left*). Orchestra members were on wired in-ear monitors, with Sony ear pieces (*below*).

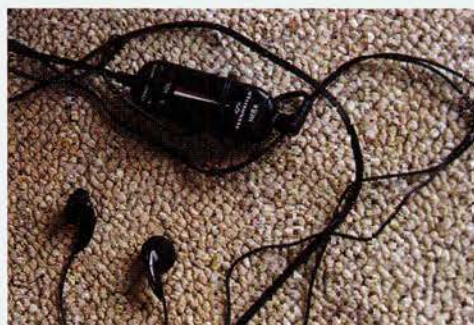
At showtime, the orchestra kicked in and the mix sounded relaxed. We were seated hard to one side in the second worst audio zone of the venue. Once Ms. S raised her microphone, her every word was intelligible, and her vocal mixed at a comfortable level above the army on stage.

A walk, albeit in pouring rain, to the flat area alongside and to the rear of the mix tower produced more of the same, although better sound and a sensation of fullness from Jackson's left - right - left - right treatment through the four columns of speakers.

When Ms. S talked between numbers (using video cube auto cues located in three positions including on the mix tower!) the sole voice did reverb back from the house - but never with enough intensity to muddle the message.

What had been created from a poor venue, was one more in keeping with the acoustic of a concert hall.

I don't expect to ever hear a concert in the Sydney Football Stadium again, and if I do, I cannot imagine



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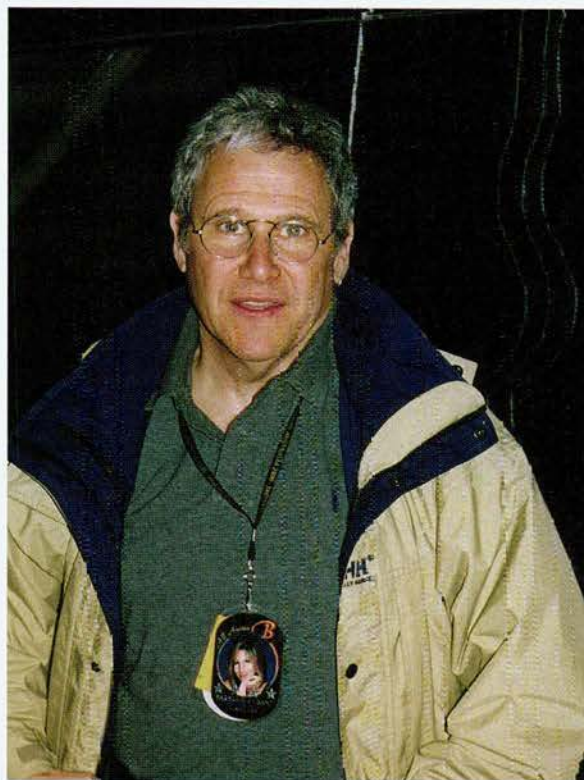
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## Barbra Streisand

# PETER MORSE AND the eclectic lighting rig

"PETER SEEMED TO BE KEEPING EVERY LIGHTING MANUFACTURER HAPPY WITH AN ECLECTIC LIGHTING RIG. "THAT'S SO I CAN HAVE A FREE DINNER IN ANY CITY I VISIT!" HE JOKED"



**W**ith torrential rain threatening the first Barbra Streisand 'Timeless' concert at Sydney's Football Stadium, the newspapers were having a field day with titles such as 'Hello Broly' and 'You Don't Bring Me Showers, Anymore'. A late afternoon meeting was held on the day of the first show to determine whether the show would go ahead or not. At 5pm, it was broadcast that the show had been postponed until the following day. 25,000 disappointed fans had to wait a day and, fortunately, they encountered a fine, pleasant evening.

BY CAT FORCER

Not so lucky were the punters going to the second show the following day. The rain was heavy and steady but the show went on. There was no option to postpone this show as the Super-12 rugby game was in on the Saturday. Ironically, it was the punters who were in the VIP and Gold Reserve section, having paid around \$1,500 per ticket, who were out in the rain. Those in the cheap seats may not have got such a good view but at least they were less wet.

Organisers admitted that metal detector and bag searches slowed the crowd as it tried to make its way into the stadium, delaying the first show for about half an hour.

Still, Barbra thanked the sea of plastic-coated fans for coming and, in the second half, abandoned the white evening gown in favour of a more practical outfit - trainers, trousers, rain jacket and akubra hat. She even adlibbed about the weather a couple of times - shock horror! The rest of the show was scripted onto two screens so she always knew what she was saying, don't you just love these American superstars.

The event boasted the most expensive tickets in Australian concert history and it was organised by promoter Kevin Jacobsen. Refunds were offered to those who were unable to make the postponed concert. Mr Jacobsen said the tour organisers were disappointed with the cancellation but had no choice, given safety reasons.

Lighting designer was the renowned Peter Morse who has

worked with Barbra since 1994 when she did her last tour which became the basis for her TV special. Fresh from the Ricky Martin tour, Peter also designed Barbra's infamous New Year show at the MGM Grand in Las Vegas to see in the new millennium.

"I rescripted and reorganised that show for the Australian dates," he said. "The basis of it is a show that would have worked whether it was New Years Eve or not. Obviously we eliminated the New Years Eve references and filled it with more music and dialogue"

Peter seemed to be keeping every lighting manufacturer happy with an eclectic lighting rig.

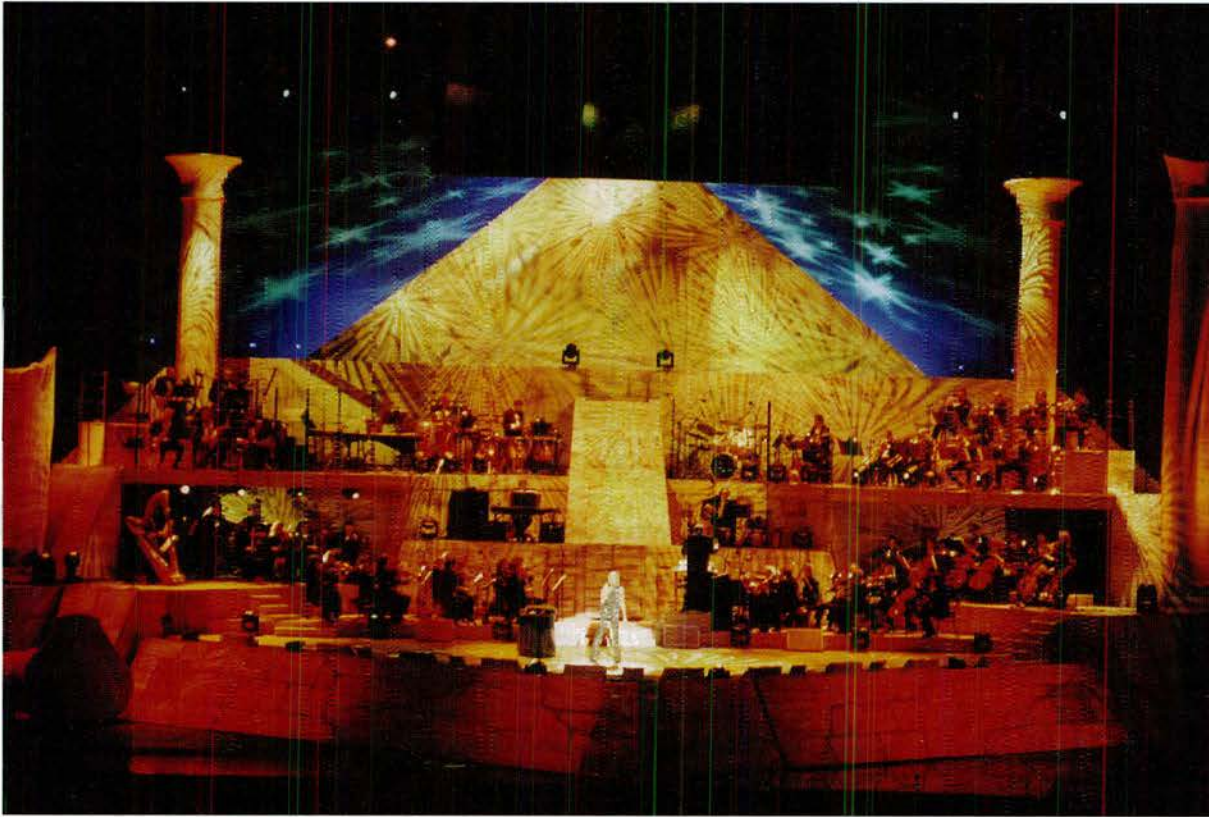
"That's so I can have a free dinner in any city I visit!" he joked. "It's mostly High End with some Vari-Lites. I have the new High End 575W Studio Colors, the Turbo Cyberlights, Technobears as well as VL7's and VL6's. The Studio Colors are the main portion of the stage wash."

The stage, designed by David George, is laid out in a pyramid design with the orchestra tiered in diagonals giving a false perspective and Peter followed the shape of the stage with his trussing.

"On her last tour six years ago, I had radiating trusses over the orchestra at a very low trim, much lower than her trusses and way behind her where the orchestra was actually dropped down in level to her," explained Peter. "I had so much positive comment on that, I wanted to retain some of that feel so I kept the same shape of trussing over the orchestra. But basically the trussing is mounted wherever it will do the most good."

"I wish the show had more backlight, it's difficult because normally there's a 55ft high trim and, because of the scenic elements that are in place, it has forced us more in to more of a 'top light' situation than I would normally care for. The secret to Barbra is staying away from top light or side light, she's very sensitive to that and doesn't like it."

Peter has two people to programme and operate the two Wholehog II's including Australian David Arch.



Peter said the main problem with the Sydney Football Stadium shows were not venue-orientated.

"This show was originally designed as a one-off to play at the MGM Grand in Las Vegas and I would like to think that, had they known this was going to go outdoors, they might have reconsidered how the set and lighting was getting put together," said Peter. "It's perhaps as large a rig that has ever been produced for an outdoor tour. That's the biggest problem. Putting all this under a portable roof has really been an obstacle. Of course, the biggest obstacle has been the weather otherwise we've got a great crew and, immense as it is, it's come together pretty well."

The show has very little in the way of gimmick although there are a lot of Robert Juliat followspots because they are needed for backlighting Barbra whenever she goes.

"With the soft drops that come into position and the moving video screen there are times when we have to move our position around," said Peter. "We have hard edge specials for backlights - VL7's - but no tricks or gimmicks. It's all pretty straight ahead and theatrical."

"We're generating smoke but we're not getting much of it here! We're real careful with it, not that she's ever disliked it but we don't want to give her worrying about it."

Some of you might recognise Brisbane-born David Arch, Peter's programmer and operator, as he used to be Ice House's lighting designer back in the 80's. Other tours he did were DoRaE Me, Hoodoo Gurus, and Mental As Anything. About ten years ago he moved to the US where he did a lot of club bands including The Smithereens and, coincidentally, Air Supply. He then designed for the Black Crowes before deciding to settle down and do more programming. After meeting Peter in 1993, he has done Bette Midler, Ricky Martin, and Reba McEntire.

"I still do the odd tour like Michael Crawford where I don't go out for long," said David. "I now live in New York but I

would like to come back to Australia - but it would have to be something good to bring me back. My wife has lived in New York all her life and Australia is a long way to go.

"Australian crews are the best in the world, it's just because of the work ethic. The American crews come from a different background. Australian guys have to make it through the pubs and clubs, all those years of grind. Although I believe there's not much of a circuit anymore. When I left the country it was starting to decline, but you could still do two weeks of gigs around Sydney. When I first went to the States, I was a 'working' LD which was an unknown thing!

Bytecraft and Jan's Production Services supplied the lighting gear for the Sydney and Melbourne concerts.

## LED SCREENS

Clipsal Vision provided the two full colour LED screens either side of the stage which were mounted on a scaffold about 3 metres high. Initially the proposed size for the screens were 20 square metres (5.2m wide x 3.8m high) but after further discussions with the JSB crew it was decided to make the screens slightly larger to compensate for the huge stage.

As a result, the screens used for the show were 6m wide and 4m high each with the frames custom designed for the show. Also, because the video for the show was in NTSC format, it was necessary to ship in specially designed supervisor units to adapt.

Each screen took around 5 hours to set up and test. The viewing angle on the screens is very wide (140 degrees) and this was important for the show because of the number of seats located on either side of the stage and screens. People could still see what was happening on stage by allowing a clear view of the screens.

The show also used the screens as part of the act - not just to show close-ups of people and what was happening on the stage. The screens were used as a vehicle to show Barbra's career throughout the ages - hence the tour name 'Timeless'. •

# How to do it

## TOM MISNER'S PRACTICAL STUDIO TECHNIQUES

- DIGITAL AUDIO (Part 23)

### PRACTICAL TIME CODE

In video production it is common to assemble the best takes of each scene onto a master tape. Individual takes are recorded during the actual video shoot and may be located on various sections of the videotape. As individual video takes are transferred from one or more playback machine to the master recorder, we must be able to accurately control the start point and length of each video segment, and its position in the final program sequence.

This requires frame-accurate tracking of both source and destination recorders. It also means that all recorders used in the editing process must be precision-locked so that each begins to scan a new frame at exactly the same instant, allowing complete pictures to be passed smoothly from player to recorder.

For time code to meet both of these requirements, it is important that each time code word corresponds exactly to one video frame. A code recorded on an audio track of a video recorder must be synchronised with the video signal, so that each time code word begins simultaneously with the vertical sync pulse that indicates the start of a new video frame. When this synchronisation is accomplished, each picture will contain exactly one complete time code word. Most SMPTE/EBU time code generators provide an 'external sync' mode which can detect the vertical sync pulse in a video signal and use it as a timing reference.

The most common types of (linear) editing procedures are:

#### Assemble Editing

The final program is built up by adding the next appropriate segment to the master recording, and progressing gradually from beginning to end. In this case, all signals (video, audio, cue, time code, CTL pulse) can be passed from the player to the recorder. A minimum of two transports - one player and one recorder - is required.

#### Insert Editing

In this technique, a new segment is recorded over (or inserted into) part of the existing program, but preserving the CTL track and time code that already existed on the master recorder. Again, at least two transports are essential.

#### A/B Roll Editing

This method requires two playback machines which, during normal editing, are run alternately; both operate simultaneously to achieve mixing. A third machine is needed for recording and compilation.

During assemble editing care must be taken when recording time code to tape. This form of editing does not allow for subsequent automatic or manual re-editing. It is customary, when assemble editing under time code control, to source the recorder's time code from a generator which, during the pre-roll period, locks up to the previously recorded segments code in both timing and in numeric value. At the edit point, the generator continues counting from the address at which the previous code left off, yielding a continuous code on the master tape. This process is referred to as jam sync, and is an essential feature of full-function time code generators.

A variation of the jam sync concept is applied when it is necessary to copy a time code from one tape to another, a situation that occurs with alarming frequency in both audio and video applications. Every time a code is dubbed from one recorder to another, its waveform is distorted due to the difficulty that analogue magnetic recorders have in processing square waves. After one or more dubs the time code may be rendered completely illegible. In order to copy time codes without distortions, a process of regeneration, or continuous jam sync, is applied. The code that is to be copied is fed into a time code reader/generator, and the output of that generator is locked to the timing and address value of the incoming code. A completely fresh timecode waveform, identical in content to the original, is thus available to the destination recorder. Regeneration should always be used when attempting to copy time codes.

### SYNCHRONIZATION

In the recording studio, it is common practice to synchronise two or more multitrack tape recorder transports together, by recording time code onto one audio track of each machine.

In order to synchronise these transports together, a device capable of comparing time codes and controlling the speed of one of the transports is required. This device is called a synchroniser, and contains two time code readers, a computer that compares the output of these readers, and a controller capable of speed and function control over one of the tape transports (known as the slave). In addition to providing readout of the time code values and basic transport control, the unit may also offer the ability to program a time 'offset' between the two recorders, and offer control of overall system function.

Because time code can provide extremely accurate position and elapsed time references, it is common for a synchroniser to provide auto-location features including locate, loop and programmable punch in/out, all referenced to time code.

Some of the advantages of synchronising are:

- increasing the number of audio tracks
- automation in editing
- synchronising tape transports with Midi sequencers
- lock-to-video for postproduction work.

### Desk Top Video

With rapid advances made in computer technology, desktop video is the current growth area. A computer is used as the main processor, and contains a video card which locks and tracks two playback machines and one master recorder (A/B roll). Because the video signal is in the digital domain, effects and editing can be performed faster and without the need for any external synchroniser units.

- THE END -

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 1800 635 514. Tom Misner is the owner of SAE International.

# How to do it

## DUNCAN FRY'S LIVE SOUND MIXING SERIES

- EFFECTS (Part 4)

### Digital Reverbs - Without Knobs

This is the current design concept for all reverbs on the market today, and since as well as reverb they also handle digital delay effects, compression, gating, and pitch transposing, there's a new name for them - Digital Effects Processors.

One of the first, and perhaps the best known, was the Yamaha SPX 90. You'll see a lot of these around, and nearly every other Digital Effects Processor follows the same operating protocols.

#### SPX90: How to get it to work

The only knob is on the left hand side, the Input level, so as usual start with it at about 2 o'clock. Next to that is a LED level meter, then Red program memory numbers from 1 to 90, and then 2 lines of green words.

There are 2 sets of UP and DOWN arrow buttons. Pressing either of the RIGHT ones changes the red memory numbers up or down. When the program you want flashes up, press the Recall button and it stops flashing and the effect starts working audibly. Now you can use the LEFT set of arrow buttons to adjust the parameters of the program you have chosen. For example, if the reverb time shown was 3 seconds, pushing the UP arrow would make it longer, and the DOWN arrow make it shorter.

Press the Balance button, and you can adjust the Left/Right output levels; press it again and you can adjust the ratio of the Original Signal to the Effect Signal. Leave it on 100% Effect for mixing purposes, as you'll be doing all this at the desk.

Now this unit has 30 preset memories, and another 60 you can store yourself. Let's say you have C, Rev 3 Vocal, and you've increased the reverb time to 5 seconds. If you want to keep this, press the arrow buttons next to the Store button until say #31 comes up. Press the Store button and your customised #3 program is now #3 1, until you decide to change it.

The later SPX 500, 900 and 1000 have a modified front panel design that groups the control buttons together in a slightly more 'intuitive' layout, more preset programs, and the ability to string up to 4 different effects together.

The Yamaha 2 rack unit Rev 5 and Rev 7 work almost the same as the SPX series, although the front panel layout is quite different.

#### Rev5/Rev7: How to get them to work

The major operating difference from the SPX series is that you can 'sub assign' your 4 favourite preset programs to the Rev 1, 2, 3 and 4 buttons. You can also call up any program by entering its number on the keypad, without having to scroll through all the other programs.

A current trend is towards Multi Effects Processors, like the SPX 1000, Alesis Quadraverb and a whole lot more, which can handle Compression, Gating, Delay, Reverb all at the same time. So if you want a compressed Chorus effect on your reverse gated Reverb, with a couple of repeats thrown in, you can have it!

#### Pitch transposers/Harmony machines

For a long time these have been effects looking for an application. Apart from special 'one off' guitar or vocal special effects, or adding in an extra low octave to drums, they haven't been too useful. A great sounding gimmick, but one that was hard to find

any real world applications for.

The problem was that they weren't 'smart' enough. Real vocal harmonies are not always a fixed percentage higher or lower than the original - they can vary with the particular note or mode of harmony.

However, with the advent of better digital technology, all that has changed. Today's harmony machines will recreate soaring 3, 4, or 5 part harmonies in real time, from a single instrument or voice. You can use existing Beach Boys, Carpenters, Eagles or traditional presets, or you can make up your own.

Used intelligently, they can make an average singer sound great, and a great singer sound fantastic.

Set them up either as a standard effect, from one of the Aux sends, or as an 'effect in place' on a single voice, although if you try the latter I'd recommend a fairly 'believable' setting most of the time.

#### How to get one to work

Set the Input slider to three-quarters up as a start point, and scroll through the presets until you find one you like. Unless you have a super good ear for harmonies I'd leave it right there. Harmonies are not a good thing to experiment with at the gig because bad ones leap right out at you and make you cringe!

As a final hint on this type of effect, I'd strongly recommend that you gate the send to its input, otherwise the it tries to add the effect on to all the background noise the microphone picks up, and usually not very successfully. By gating it you make sure the effect only works when there are some vocals.

#### Unfamiliar effects units

When you are faced with an effects processor that you haven't seen before, don't panic. They are all there to do a similar job, so take it easy and just try it out. If you get really stuck, don't be afraid to ask whoever is running the system. There is nothing people like talking about more than their new toys, and if you explain the effect you are after, most will be happy to show you.

Well, that's about as straightforward as I can make it. It's beyond the scope of this book to list all of the various effects available, since they are continually evolving, but whatever the brand or model, the same process of parameter adjustment applies to nearly all of these 'knobless' digital effects processors.

I've tried to stick to representative models that are available worldwide, since basically they all work along the same lines. It doesn't matter whether they come from ART, Alesis, Korg, Lexicon, Roland, Yamaha, or anybody. If you can master one, you can master any of them.

Yes, setting them up can be time consuming, but there is no other way to have complete control over all aspects of the effect sound without a front panel about 8 rack units high! My advice is to start with the factory presets until you get the hang of manipulating the parameter options.

And you thought you were just going to sit there and wait for the band to come on!

This is extracted from the top selling book: LIVE SOUND MIXING, by Duncan Fry. © D.R. Fry 1998. ISBN0 646 11235 X. Retail: \$39.00. Available from book stores and music shops everywhere, also through the Connections Shop, call 1-800-635-514.

# THE ULTIMATE ROCK SYMPHONY

## TESTING NEW VENUES

**T**erence Boyton told me every tour gets one curve ball. But on the recent Ultimate Rock Symphony tour of Australia, curve balls were coming at the rate of one per show - cancellations, truck delays, union pickets and all the problems that go along with using new venues. I caught up with a surprisingly calm Terence at the Colonial Stadium on the day of the Melbourne concert to talk about the ultimate in rock concerts.

Terence's company Design and Logistics devoted six months of pre-production to the Ultimate Rock Symphony tour. Tour promoters International Touring Company brought Terence in as Production Manager to put together a production design and to assemble a team of specialists to head each of the departments. Together with Tour Manager Michael Dibbs, he structured the entire tour making it a wholly Australian produced show.

The show itself is based loosely on the British Rock Symphony which played one-off shows around England. The nine-show Australian tour featured an amazing line-up of rock legends: Roger Daltry, Alice Cooper, Peter Frampton, Paul Rodgers, Gary Brooker and Nicky Lamborn, with local legends Billy Thorpe and Jimmy Barnes not looking out of place in such esteemed company.

A core rock band were combined with the 28 piece Australian Pops Orchestra backed by a twenty-strong choir to give the classic rock songs an epic symphonic feel.

Terence designed a mammoth freestanding stage which was essential for the Colonial show as lighting and audio equipment could not be suspended from the retractable roof.

The show had a production budget of approximately three quarters of a million dollars including trucking costs. Jands provided the lighting and the audio.

"I designed the show with four trusses so they could go in and out quickly," said Terence. "We go in a cam for a pre-rig and the lighting is flown by 9am which gives us ample time to set up 34 risers on stage, a 28

piece orchestra and 23 monitor stands.

"I did the basic lighting design for its efficiency and capability of lighting the stage with 54 people on it. I then handed it over to Steve Saunders along with a video of the British Rock Symphony as a basis. I'm so happy with what Steve has done with my design because he ran with it, I gave him the brush and he put the paint on the canvas. That's the best way to describe it. He's done an amazing job, and as he's taken more and more cut of the show it's been getting better and better."

Terence speaks highly of his crew. He is quick to point out their achievements and ready to compliment them on their professionalism.

"Michael Dibbs, Steve Saunders, Paul Sherrit, Harry Parsons and I have worked together on a number of other tours so it was great to bring such a strong team on board after setting the basic parameters of production. I put the production design together and then let the guys who specialise in all those different departments do their job.

"This tour is the first time Roger Daltry hasn't used his in-ear monitors because the stage monitors are so good and that's due to Harry 'Boom-Boom' Parsons. That's a compliment in itself."

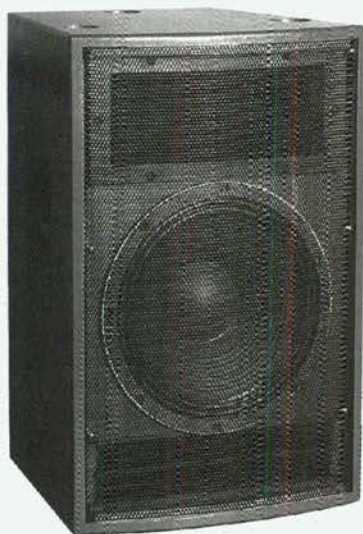
Trying to word it in a way so as not to offend the venues, Terence said the single biggest challenge of the tour was playing in new venues - the Bruce Stadium in Canberra, the Superdome



Jimmy Barnes and Nicky Lamborn



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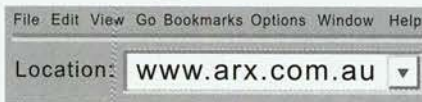
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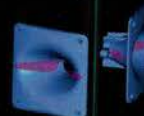


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**CELESTION**

## FILL YOUR CLUB WITH CXi SOUND

# THE ULTIMATE ROCK SYMPHONY *continued from previous page*

and Colonial Stadium.

"It makes it hard when even the house staff don't know where the light-switches are. And of course here at Colonial we're very much the guinea pigs."

The guinea pig experience included having to cross union picket lines in order to load in the show, and then having to evacuate the whole stadium each time the roof was opened or closed.

"The most important aspect of production management is how you deal with people and keeping the information flowing. When you've got great people working with you their professionalism really shows in times of stress and strife like when trucks show up seven hours late. Nobody got angry, nobody lost it and that's why I love working with these guys, because they're so professional.

"They're a great team and it really shows in the show, because we produced it. The crew produced it as much as anybody else. We didn't have a director standing in the middle of the stage saying which radio mic goes where, as does happen, we all put it together ourselves. I had the pleasure of expressing myself through design and I've been waiting for this opportunity since I began in the business."

## LIGHTING

The Ultimate Rock Symphony's lighting rig was made up of 23 VL2s and 15 VL4s, 120 par cans, 12 lekos, four followspots, two truss-spots and two oil crackers. For control, LD Steve Saunders used a WholeHog 2 which he described as "the best desk there is".

"I think this is the first time on an Australian tour that VL2s and 4s have been run without an Artisan. There's this new Vari-lite module out so you can use a DMX console and I think I'm the guinea pig for it."

Before the tour kicked off Steve used an Echelon to program the basic structure of the light show.

"I just did the pages, songs and cue lists, and because I knew what I was using I did all my addresses, groups and channels, so when I actually got to the first rehearsal it was semi pre-done. Even my positions were in the board so it was just a matter of merging all my positions and then just editing cues."

Using the British Rock Symphony show as a guide, Steve achieved many different looks ranging from the theatrical to the ultimate rock lighting.

"The looks are based on keeping it theatrical where



it needs to be and keeping it bright, and always the emphasis is on lighting 'the money', as in light the star, especially in this situation where you've got so many. There's hardly any blackouts because at the end of the songs they're still doing stuff. And the majority of the people are there to see what Roger Daltry and Alice Cooper look like now. So the main emphasis is on lighting the star as they come on, because they are 'the money'."

Steve said of all the performers, Roger Daltry was the only one who had specific lighting requirements.

"Roger has a lot of ideas for how he wants it to look when he comes out on stage. He doesn't want anyone to know it's him when he first comes out and then at a certain point of the song he wants a silhouette

of himself and it builds from there".

## AUDIO

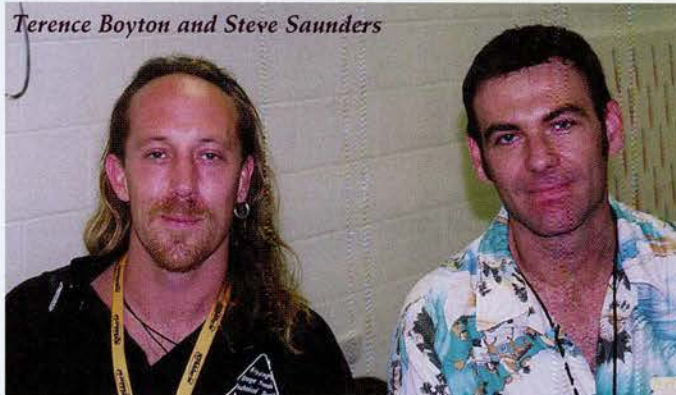
I spoke to FOH Engineer Paul Sherrit a few days after the concert for a comment on the much publicised echo at Colonial Stadium. The brand new \$460 million stadium was criticised by performers and audience alike who had to deal with the echoes produced by a lack of acoustic treatment in the stadium. One performer, Gary

Brooker, described the state-of-the-art stadium as nothing more than an "echo chamber".

According to promoter Andrew McManus the problem was due to the stadium management insisting on the closure of the roof after soundcheck when the system had been EQ'd for the characteristics of the venue in its open-roof configuration.

Colonial's demand that the roof remain closed for the concert due to noise pollution outraged Roger

Terence Boyton and Steve Saunders



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# THE ULTIMATE ROCK SYMPHONY

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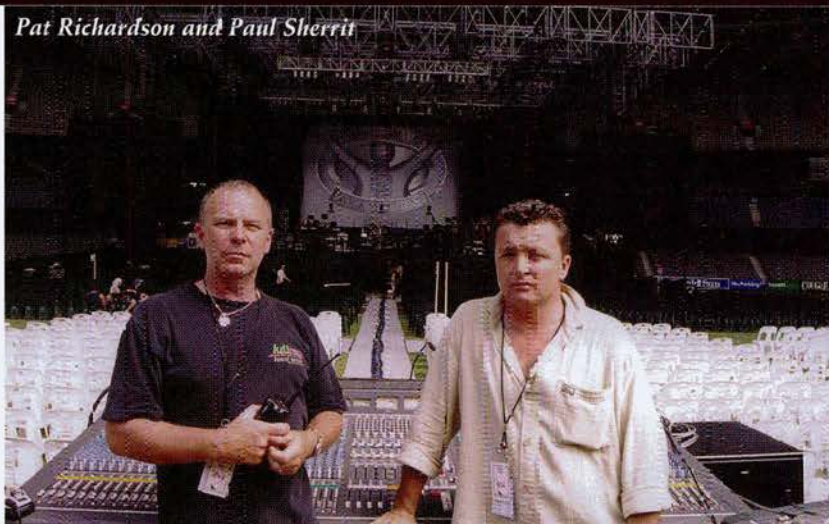
Daltry who questioned the double standards of the Formula One cars screaming around the Grand Prix track 10 minutes down the road without any restriction.

"Where I was at the FOH desk it wasn't bad at all but that's because I was in the middle of the oval, but the slapback on the stage was from the back of the stadium so it was confusing for the artists hearing themselves coming back," Paul said.

"The only time you could really notice the slapback was when the band stopped and the performers were talking to the crowd between songs. But where I was at the desk I didn't have any of those problems at all, and in the stands where we had the delay speakers going that problem wasn't there either. There were just a couple of spots in the audience and mainly it was the performers who noticed.

"The stadium itself was great. I think you just have to be careful where you position the stage and you have to hang a lot of drapes. I think if you aimed the stage to the corners of the stadium it would be okay. It sounded a bit like the MCG with the slapback but over time they'll do some trial and error and eventually they'll nut it out."

Pat Richardson and Paul Sherrit



The Ultimate Rock PA was made up of 72 Clair Brothers S4s.

"The S4s are quite an old box but they're big and they made it look very rock, and that was the whole idea. There were a few different speakers boxes I could have used but the Clair Brothers were more appropriate for the overall look as well as how good they sounded."

Delay speakers were used at Colonial Stadium but weren't required for any other of the other shows. At FOH the consoles were two Yamaha PM 4000s, Clair Brothers drive racks, Carver amps, TC remote EQs, and Lexicon and TC effects.

"Because the stage was so wide we ran another PA, Pistons, at the front of the stage so the people in the centre of the room would get the vocals from where the singers were singing from."

## SHOWS WE'VE SEEN LATELY

### A Punter's Perspective JOLSON



Ah, the Jolson Story. For those of you who are not really familiar with the story (like I was before I saw the show), Al Jolson was big on Broadway in the 20's, playing a leading role in the original Minstrel shows. He was responsible for bringing such musical pieces like My Mammy and Swanee into the world, as well as being involved in the first films with sound produced, including "The Music Man".

It has been a long time since music of this

era was popular, and so I found the show interesting, but quite a bit dated. There is an audience participation aspect to the show as well with some singing to songs I didn't really know and some arm movements that the 90-year-old granny next to me simply did not seem interested in. Maybe she found it had dated as well? I wonder if Rocky Horror will be like this in 50 years?

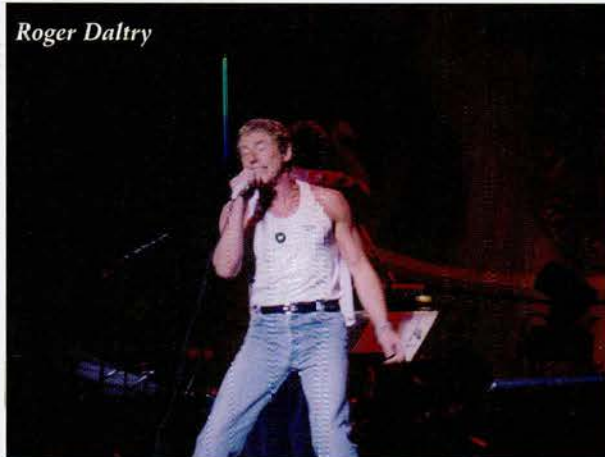
Technically, the show was presented quite well. It certainly was the most amount of rope light I have seen in one room before. Gavan Swift's interpretation of the lighting design was complex without being intrusive, and fitted seamlessly into the show. Congratulations must go to the spot operators who have to perform some very specific and complicated cues. The set was a little unstable in parts (the cheap sit-com wobble syndrome) but this is probably due to the fact that they had to fit so much set onto the Her Majesty's Theatre stage.

Audio for musical theatre has to be one of the hardest audio problems to solve well, so I always go expecting the worst. That way I can be pleasantly surprised. In this case, the mix was well delivered and problems of phasing radio mics were adequately coped with. However the overall EQ of the show was not particularly inspiring to my ears.

It has to be said the Rob Guest and the other cast members perform their roles exceptionally well, but this is definitely a show to send your older relatives to see. My biggest gripe of the night has nothing to do with the show - but with the numb bum I developed during the show. Her Maj really need to do something about their seats - keeping the audience uncomfortable for three hours can't be good for business

John Grimshaw

Roger Daltry



Paul had 154 channels at FOH and he said a lot of different microphones were used. Having so many different requirements for the performers, the band, the orchestra and choir, Paul used a lot of AKG, Sennheiser and Shure mics. And of course one of the most important requirements was that Roger Daltry's mic was properly taped up so he could do his trademark twirling microphone routine.

Maná Jones

#### Key Production Crew

Production Manager Terence Boyton Tour Manager Michael Dibbs Stage Manager Cameron Batten FOH Engineer Paul Sherrit Monitor Engineer Harry Parsons Lighting Steve Saunders Gear suppliers Jands, Staging Rentals, Billy Hode Transport Slow Freight

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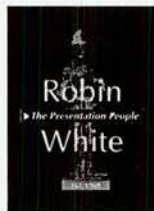
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# LIGHTING

EDITED BY CATRIONA FORCER

# ENTECH

Entech 2000 brought many of the industry's suppliers and buyers into the one room for a very intensive, three day feast. Mandy Jones and Catriona Forcer roamed the floor to see and hear what brought these various people out of the venues, back rooms and sales offices and drew them to the show...

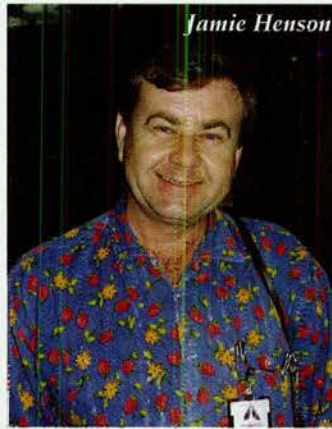
"We're looking for a lighting desk for the Melbourne Concert Hall, as we have a very old manual desk, as well as for our new venues including the Blackbox experimental fixed grid theatre with 48 channels, another stage which has 12 channels and the Upper Terrace which has only a patch system. So I'm looking for a desk which we can swap between all venues - small, light, portable and can handle up to 300 channels. The new Strand 300 Series desk certainly lives up to the criteria, the only thing it didn't have was a handle!

"I was impressed with the simple connections between each pod, if you want it bigger you just add more sections to the desk. It's simple and compatible with the 500 Series (we have two 530's and one 430 which can upgrade to a 530). There is a slight variation on the layout of the 'Dim' button which is good because there was a problem with hitting the 'Dim' button twice and freezing the desk.

"We have quite a large budget to spend on lighting, we have a list of what we need - lots to do with the theatre but because of the three new small venues plus the upgrade of the Melbourne Myer Music Bowl, we are here to buy equipment. The Myer Music Bowl used to have a lighting desk and 100 Par cans so we need to replace that equipment and the Blackbox still has a Duet desk, that only about 20 people in Australia know how to operate, which needs to be replaced."

**Jamie Henson, Operations Manager, VAC - Visitor**

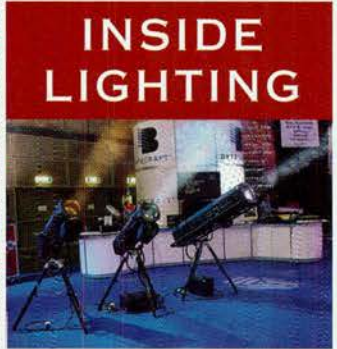
*continued over*



Jamie Henson



Jands Stand



## INSIDE LIGHTING

### ENTECH COMMENTS

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### Film & TV Lighting



### LIGHTING THE WOG BOY

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### COLD AT THE CHAPEL

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### CONTEMPLATING LIGHTING IN THE NEW MILLENNIUM BY ROHAN THORNTON

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### MICHAEL CRAWFORD

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### THE CLOCKTOWER

page 89

## Amazing demo on Opera House

full story page 73

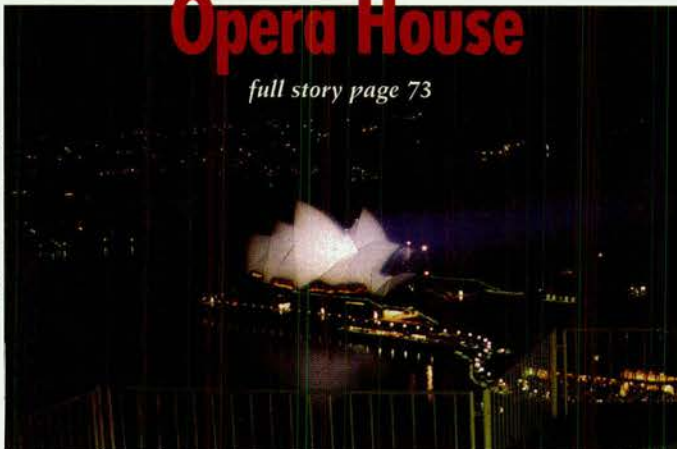


Photo: Andrew Spilberg

## SOH DESK UPGRADES

The Sydney Opera House will be replacing all their lighting desks within the next few months. Out go the old Strand Galaxys' for a new set of Strand desks. The Flayhouse will receive a Strand 530 with a 510 back up, the Drama Theatre will receive the same. The Concert Hall will have a Strand 550, again with a 510 for back up. The Opera Theatre will have a Strand 570 with two 510's as a dual system. Bytecraft are the suppliers.

## ENTECH

### Just what did you think?

continued from page 71

"A.C. Lighting are enjoying a great Entech 2000. The new venue at Homebush Bay has provided a great change and enabled us to spend more quality time with the right people, without having the time-wasters that the Darling Harbour venue attracted. We will definitely be back in 2002."

**Mark Ravenhill, A.C. Lighting UK - Exhibitor**

"I'm here to look at moving wash lights and the differences between a couple of new ones as we have nothing in that range and we want to get something that has full colour mixing, is lightweight and versatile. We have a low ceiling

so it doesn't need to be too bright. I like the Clay Paky Stage 300 and the Studio Color fresnel and new PC. The Studio Beam PC is versatile, lightweight, easy to get at the lamp, has full colour mixing and you can get the rotatable beam like on the normal fresnel type washlight but it has the PC-type qualities - you get a sharper beam and you don't lose the edge so much. Also, you can take some of the lenses out to get 15% more output from it."

**Glenn Parry, Staging Connections, Crown Casino, Melbourne - Visitor**

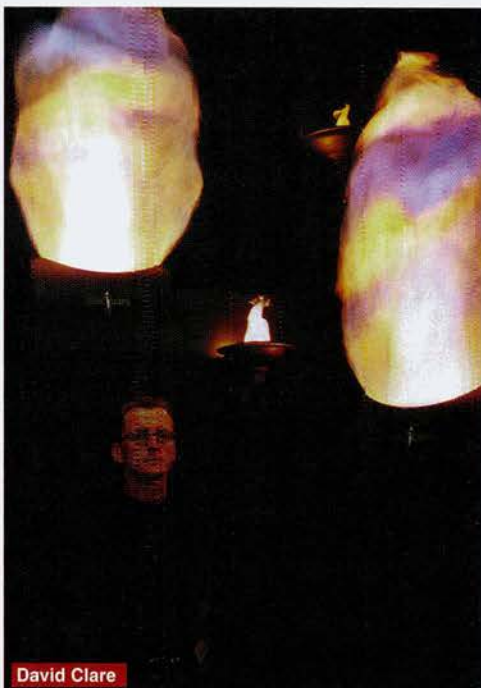


Glenn Parry

"The trade show has been phenomenal, we have been very, very busy - non-stop every day. There's a lot of genuine interest even though, with the exchange rates, it ends up a fairly expensive product."

"The obvious immediate use for these is with the Olympic Theme again in any area where a naked flame cannot be used for safety reasons. We have also had a lot of response from RSL clubs who wish to have an 'eternal flame' burning and yet the uses are so vast that it encompasses anything from an Ice Cream Shop to a dungeon style retail set up in an up market high street adult shop."

**David Clare, Unique Flame Light Company - Exhibitor**



David Clare



Show Technology girls

"It's good for catching up with people and seeing the direction they are taking in lighting. Nothing particular has taken my attention, it's still just variations. I look around and then keep in the back of my mind what is available, then when the appropriate job comes up you know where to source the gear."

**Mick James, Mick James Electronic - Visitor**



Chris Wynne and David Kett

"We've had lots of interest from all over Australia, New Zealand and overseas as well. It's been a fantastic response, within the first hour of opening we'd paid twelve-times for doing coming over from Perth to do Entech. Within the first hour we'd sold our stand. We have \$140,000 worth of stock in Perth and most of that is all gone now."

**Chris Wynne, Director, Meteorlites Designer Mirror Balls - Exhibitor**

"I've been here the whole three days, it's been fabulous - the best Entech ever. Although I prefer to see Entech every twelve months it is obviously a better formula to see it every two years - it gives manufacturers a chance to get a newer and bigger range of product out. Considering the size of the industry in Australia, the show is extremely credible."

"I'm looking for new and interesting products and I've found one or two. The Flexi-Light sheet lighting will be very good for architectural lighting but also, because it's 12 volt and can be battery back powered, very good for theatrical costuming. It's nice and simple but the beautiful thing is I don't think the man knows what a winner of a product he has because it's so reasonably priced! If I was doing electrics in a set that required a neon look I'd certainly look at that

### INDUSTRY NEWS

#### SHOW TECHNOLOGY'S ENTECH SUCCESS

Show Technology's MD, Emmanuel Ziino, reports a highly successful Entech exhibition this year, with the company signing a record number of deals during the show.

"By far our most successful product launch ever was the new MiniMAC from Martin," said Emmanuel. "We took orders for over 120 units and we expect double this in the weeks to come."

The interest in these new products did not diminish the sales momentum for the rest of the Martin range, in particular the MAC family. Entertainment Lighting Supplies, Chameleon Touring Systems, Concert and Corporate Productions, Skypak, AVI, Jazzright, IJS are just a few of the companies to order more MACs for their inventory or for projects.

In other news Entertainment Warehouse of Melbourne become the newest member to join the Clay Paky Production network with fresh orders for Stagelight and Stagecolour 300 products while the Miniscan HPE continues to sell in large quantities to existing clients as well as attracting new ones. Avsound of Sydney have placed orders for over 30 X VIP 300 DIA units complete with a range of accessories for a long term hire contract with Carlton and United Breweries, whilst Nightshift of Sydney have supplied several VIP 300 DIA units to the new ASIC store at Circular Quay in Sydney.

product if we were travelling the show.

"The prototype of the Showcraft dimmer shutter on the Chameleon sand was interesting and very nice. Showcraft in combination with Sylvania Lighting have come up with a 1.2K pan/tilt architectural fitting with a IP67 weather rating and that's tucked away on the Lightmoves stand. I'm very disappointed there's no new product from Clay Paky but I'll be interested to see if they release anything at Rimini."

**Alan Stone, Lighting Designer - Visitor**



"I'm catching up with technology in general. We're very interested in the Robert Juliat followspots particularly the 1200's. I'm also looking at video screens for the foyer replacements and the new flat screen technology is fabulous, the Fujitsu screens are wonderful. The trade show has been great and I've really enjoyed it. It's wonderful being out in the open here at Homebush and to see the Olympic site. I think people seem to be enjoying themselves out here and the show seems to be really well run."

**Richard Stuart, Queensland Performing Arts Trust - Visitor**

"The show looks great, it's really well organised and it's actually been a joy to be here.

"Entech has always been a three day process for all the exhibitors. Everyone comes to pretty much have a look at everything on the first day and then the people that are serious about it come back on the second and the third days to really do some business.

"We've done some great business over the three days. The problem with Showtech is that we quite often don't see any results out of Entech for between 3 and 18 months. A lot of people go away and buy through the equipment manufacturers and distributors and design it into a venue and then further down the track they realise they've got to get it all into the air which is when they come back to us. So for a service company it's more of a networking and profile raising exercise than trying to sell things. That's the reason why companies like Chameleon, the PA people and ourselves are here."

**Tiny Good, Showtech Rigging - Exhibitor**

"We've been very happy with the quality of the people coming through so it's been a good show. The James Thomas Baby Tower small ground support system has had a lot of attention as have the Mastercut animation wheels and the outdoor Parcan."

**John McKissock, Clearlight - Exhibitor**

"I thought the show was pretty good although I was surprised at a couple of gaps in exhibitors mainly Lee Conlon from Showcraft. I hated the venue, it's too far and inconvenient to get to - many of the Opera house crew didn't get there. Darling Harbour is so much more convenient for them.

"We were fortunate enough to get a preview of some of the gear here like the Robert Juliat followspots which I really like. At trade shows followspots always shoot onto the roof, as they have too, so they are balanced up instead of down as in a theatre. We've had problems with that in the past.

"I was interested to see the ETC PARNel on the Jands stand although they didn't make much of a deal of it. I got a bit peeved with the Unique Flame Company as they wouldn't turn off one of their flames so I could see what it was like switched off. So I wouldn't recommend it - it would have been good for operas.

**Peter Marshall, Manager Theatre Technical Services, Sydney Opera House - Visitor**

### PROJECT NEWS



Photo: Richard Hart

## Amazing demo on Opera House

*continued from page 71*

Xenotech-Strong International's big 7000 watt P3 projector, which first showed itself at LDI 98 in Phoenix, Arizona, was recently called to duty for a major demonstration in Sydney.

Set up on the rooftop of the Regent Hotel, the unit lit the Opera House, at a projection distance of 906 metres, to dramatic effect as the accompanying photograph shows.

Supervising the project was the company's head of technical services Andrew Spilberg who is pictured at the projection location - with the assistance of daylight!

Now in production, the P3 will be available for delivery within the next three months. The P3XL version will have a rotatable multi gobo holder for six gobos. Control is via DMX and color options are available in both models.

Call: Xenotech +1 818 255 0620.

## ENTECH

Just what did you think? *continued from page 73*



Ziggy Zeigler

"I don't have any money to spend here because we just bought a new ETC Express console for studio 1. But it's great just looking around and seeing what's on the market."

"I'm very interested in looking into WYSIWYG and finding out more about that system. It would be very useful in my department."

**Andrew Veitch,**  
Channel 9 Sydney  
- Visitor

"We came looking for followspots, some house

lighting and what's new in effects lighting. I like the new Color Kinetics LED stuff and the Robert Juliat followspots, we really want to get some. There's not much house lighting although Jands had the ETC Unison system. We also liked the new Strand 300 Series lighting desk.

"The show is really tightly packed this year which is good, last time was a bit spread out. We're having an absolute ball, really enjoying it."

**Ziggy Zeigler,** Sydney Convention & Exhibition Centre - Visitor

"We've taken three sizeable orders from rental companies, two as a direct result of the show whilst one was a follow on from work we've done. The whole range of moving lights are popular. The Coemar Broadway Cyc unit and the Color Kinetics LED range have been very popular too. It's been a very good show."

**Peter Kemp,** Director, Coemar De Sisti Australia - Exhibitor

"There are probably two products that caught my eye - the 2x Broadway cyc unit on the Coemar De Sisti stand. It has full dichroic colour change facilities and it's incandescent so I'm very interested in that."

"The other was the tiny little followspot made by Picolo on the Mediavision stand. A lot of the Picolo gear probably isn't that good but this little unit just looks amazing as an MSR light source. It's very, very bright and really small and compact and I can see there being a real use for that: when you're working in a tight space."



Steve Wickham

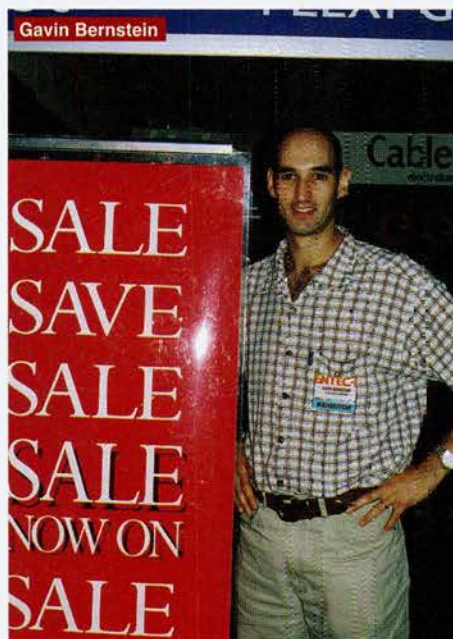
It's quite an amazing amount of light actually for something that's not much bigger than a Pattern 23.

"I definitely think about the next shows I'm designing when I'm at Entech. And once I find something new that I want to use then it's a matter of working on the hire companies to buy it so I can use it. I'm already trying to get the hire companies to buy what I need but it depends on the availability. It's often difficult because it's easier to buy a lot of the new products than hire them."

**Steve Wickham,** Lighting Designer/Technical Manager The Lyric, Sydney - Visitor



The staff on the Lighting By Design stand get younger and younger



Gavin Bernstein

"I'm hoping to brush up on safety equipment. Over all, I like what is here and it's a good show. I'd prefer to see the show back at Darling Harbour."

**Noel Anthony,** Director Wild Gravity - Visitor

"I have been talked off my feet! I knew that people would be interested but such an interest by trade people has been really good. Essentially it has been people who are technically orientated and can see the advantage of the product. I think orders will come down the track when it's appropriate to use it."

**Gavin Bernstein,** Director Flexi-Glow Lighting - Exhibitor

### INDUSTRY NEWS

#### SYDNEY FLAMES

The Unique Flame Light Company will have an operation open in Sydney this month (being April) stocking the Full Range of Flame Machines and Freestanding units for Hire Only, as demand is so strong Additional Product for Hire & Sale is currently being manufactured in London.

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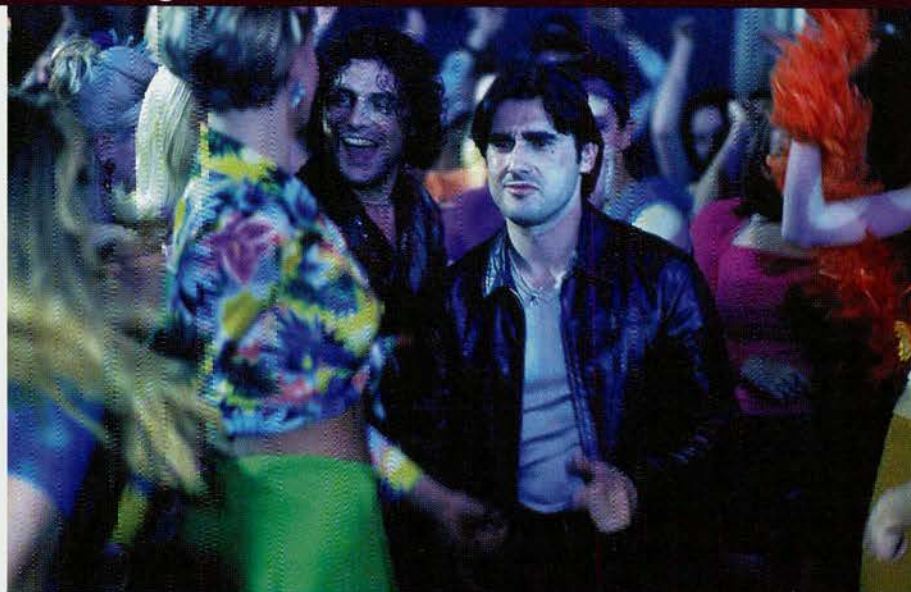
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# Film & TV Lighting

new regular feature

## THE WOG BOY



Photos: Skip Watkins

Of all the Australian films released in the last twelve years it is hard to believe that *The Wog Boy* is the first to break the box-office record set by *Crocodile Dundee II*. In its first weekend of release to 198 screens *The Wog Boy* pulled in just over \$2 million, which when combined with the sales from preview screenings the week prior, easily covered the film's \$3.5 million production budget.

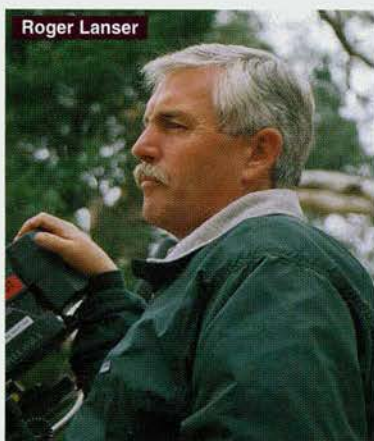
Co-written and produced by Nick Giannopoulos who was responsible for the 'Wog' phenomenon of the 80s and 90s with shows like *Acropolis Now* and *Wogs out of Work*, the film deals with issues of race, class and politics, with a few love-story sub plots thrown in for good measure.

not the big widescreen format. Most cinematographers prefer to shoot as wide as they can go because it makes the pictures look bigger and better. Films tend to go to the wider 235 format if there are a lot of landscapes in it, and this being an urban comedy the producers didn't feel it was necessary. We photographed it with Panavision film equipment provided by Panavision in Melbourne and shot it on Kodak film stocks."

Roger had a typical range of camera rigs at his disposal but was careful not to over use the crane rig.

"We used it in the nightclub scenes and for some street scenes, but as a camera tool you have to be careful sometimes not to over do it. It's very easy to end up accidentally creating a style because of a wish to use every tool available to the cinematographer. You can end up with too many high sweeping shots when the film

*continued over*



Roger Lanser

### THE DOP

Roger Lanser has been a Director of Photography for eight years following thirteen years in TV drama, and in that time he has built up a diverse list of film credits including Oscar nominated short film *Swan Song*, *Peter's Friends*, and *Much Ado About Nothing* as well as local productions *Billie's Holiday*, the soon to be released *Muggers* and most recently *The Wog Boy*.

Regarding the shoot, Roger described *Wog Boy* as "no more challenging than others". Perhaps the only real difficulty was Melbourne's unpredictable weather which caused a few setbacks and continuity challenges during the seven week shoot which wrapped in June last year.

Shot on location around Melbourne Roger created a contrast between the small ethnic community of Yarraville where the main character was from, and the cold corporate world of the CBD.

"We photographed it on the screen format of 185 which is

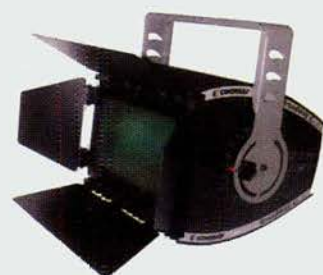
### PRODUCT INFO

Coemar's new **Broadway Cyc 2K** is designed with the studio in mind and features electronic dimmer as well as infinite colour mixing with a CMY dichroic colour mixing system.

A FEX 2000W amp is used for high output producing a luminous flux of some 50,000 lumen, with a colour temperature of 3200K and a continuous distribution of light through the visible colour spectrum, allowing the creation of 'hot' colours which are difficult to obtain when using discharge lamps. A symmetrical reflector is used to maximise lamp output. Two individually selectable focal positions for the lamp allow the user to choose maximum output of the lamp or to produce an extremely flat field output. A four leaf barn door allows the beam to be further controlled and directed.

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## THE WOG BOY *continued from previous page*

doesn't really need it so you need to look to the script and work out where the camera can help in the key moments of the storytelling."

Roger explained the biggest challenge shooting Australian feature films is working to a limited budget, which for a cinematographer can affect the quantity and quality of camera and lighting equipment

"American films always have a higher gloss look to them because they've got these massive budgets and shooting schedules so a film like that can become all about the lighting. A lot of Australian films are budget driven in terms of lighting and the overall look are concerned, so Australian cinematographers often have a much harder job.

"But that's why Australian cinematographers get work overseas because we're not only very good, but fast. Working on feature films you're given a certain amount of time and you're working in a very bright harsh sunlit environment and you have to move quickly. A lot of the more studio based cinematographers overseas haven't had that experience."

### THE GAFFER

Ken Pettigrew has been a Gaffer for 18 years and has worked with Roger Lanser on many projects in Australia and overseas, and again on *The Wog Boy*. Roger says Ken Pettigrew is one of the best Gaffers around.

"Ken and I have had a great relationship over the years and in a lot of cases I couldn't have done it without him. The Gaffer is an extension of the DOP so the more we think alike the faster the shoot goes, so there's less need for dialogue and he can be working ahead of me getting the next scene ready to be photographed."

Ken explained the stylistic lighting requirements for *Wog Boy*:

"It was completely a location shoot with very little studio component in the schedule which creates its own lighting style. And being a comedy dictates the lighting style to some extent - comedies tend to be bright and colourful and cheery,

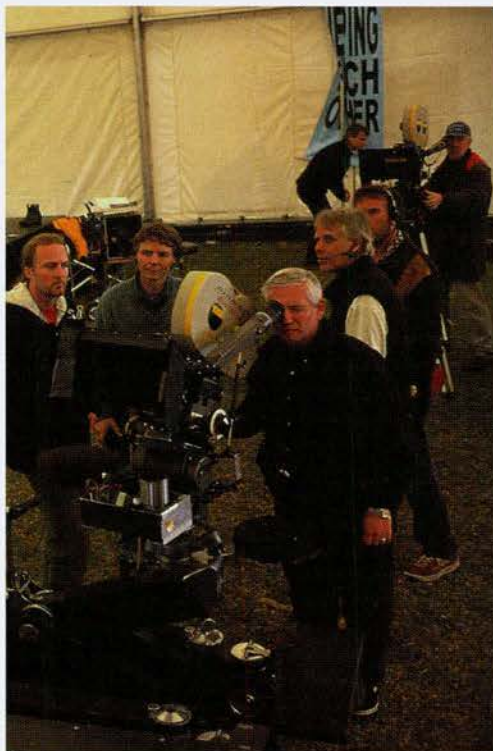
whereas for a dramatic piece the lighting style would be more subdued and subtle. But I'm not suggesting the lighting I did for *Wog Boy* wasn't subtle!"

The gaffer equipment was supplied by John Hughes Lighting and was mostly Arri including 6k pars and a couple of 12ks which were used in most scenes. HMI lamps were relied on to recreate bright sun when Melbourne's unpredictable weather threatened lighting continuity.

"We used KinoFlos for all the motorised and travelling rigs. We had a full kit of Kinos on board the truck and we used the Wall-o-lite quite a lot which was good because it doesn't give off much heat or noise and it's great for getting into places where you can't get big units. And it's a nice quality light as well - a nice soft light that can be balanced to either daylight or tungsten so it's very versatile.



Ken Pettigrew



"We had Chimeras for pretty much every lamp, and we used them on the two 12k's a lot for bringing up the ambience and it's just such a nice light, it gives a nice treatment to it. But we used a lot of frames and 12x12 and 10x10 silks, and bounceboards, and what we call Lisa-Maries which are gold and silver lamae reflectors which make a nice mixture of warm and soft light. It's basically a gigantic 12'x12' reflector that comes in handy for exteriors and places where you can't possibly get power to, like tops of buildings."

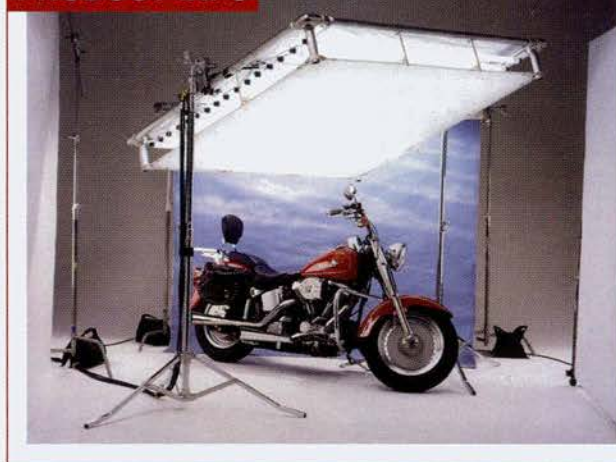
Ken's Best Boy Darryn Fox organised automated lighting and followspots through Premier Lighting for the disco scenes where 'in shot' lighting effects were required.

The Gaffer truck had a 150 kVa generator on board and four ten-way dimmer racks giving Ken and his crew greater control of the light sources. A Hog 250 was used for basic control and recording of scenes.

"We went through dimmer racks for quite a few scenes, especially the cafe scenes where we had to rig quite a few smaller units up in the existing roof. By putting them through dimmer

*continued over*

### PRODUCT INFO



The **BLANKET-LITE 6x6** is Kino Flo's largest portable softlight. The BLANKET-LITE 6x6 boasts a trim profile of 10 inches and weighs in at 30 pounds with lamps loaded. A cool, flexible lighting system, the BLANKET-LITE can easily be hung on a wall, wrapped around a set piece, mounted overhead as a base light or rolled up like a rug for effortless transport.

A frame-mounted BLANKET-LITE can be used on a pair of century stands as a soft key or hung on a grid for a top light. No tools are required for the frame assembly. Lamps can be controlled in half f-stop increments with switches to operate two to 16 lamps at a time. Like all Kino Flos, the BLANKET-LITE is high-output, flicker-free and cool to the touch. The BLANKET-LITE takes Kino Flo True Match 6ft HO lamps: KF29s (2900 Kelvin), KF32s (3200 Kelvin) and KF55 (5500 Kelvin).

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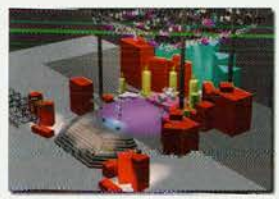
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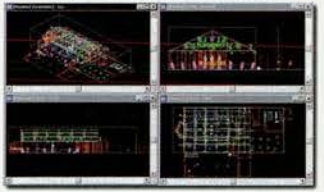
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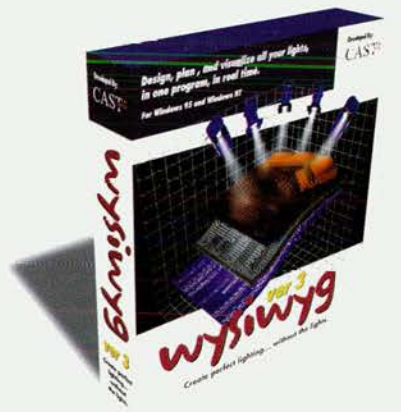
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## THE WOG BOY

continued from previous page

racks we could control them once they're up there without going back on the set with ladders all the time."

All other practical lightsources were supplied by the design department based on Ken's brief for them to be "beefed up" to withstand higher electrical loads.

"These days everything we use on set has to be tested and tagged - we can't just buy a lamp from Freedom and plug it in. So we usually ask for it to be mechanically beefed up so we can put higher wattage lamps in it and then use the dimmer to bring them down to a shootable level."

Ken said, apart from the weather, Melbourne was a great place to shoot.

"There were something like 16 trucks that needed parking each day and all the problems that go along with a location shoot in the city, but Melbourne seems to be quite used to it. And there weren't as many problems as there are in Sydney for getting access and blocking roads off. Even the nightshoot in Chapel Street wasn't a problem."

One scene that did cause a few problems was in a multilevel carpark which had limited access.



"We had a few interesting challenges trying to get the gear up and down some of those inner-city carparks. Anything longer than 10 foot we couldn't get up there so we had to think of other ways to do it. We had to use smaller lighting units and we slung power up from the generator down in the street. We used utes and smaller pick up trucks to get the gear up there, and then there were night scenes too, but it looked great with the Melbourne backdrop which was all part of the location scout brief."

● Mandy Jones



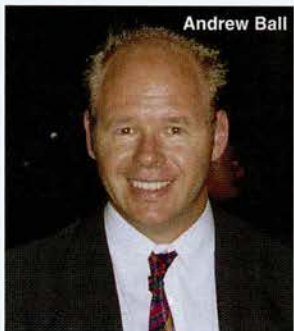
## INDUSTRY NEWS

### BRIGHTLINE ESTABLISHES ASIA-PACIFIC OFFICE

U.S. fluorescent lighting manufacturer brightline announce the opening of brightline's Asia-Pacific office with Andrew Ball heading the office as Regional Manager of Asia-Pacific Sales Operations. Andrew previously worked as National Sales Manager for Miller Professional Products, establishing the import and distribution section for tripod manufacturer Miller Fluid Heads.

Andrew is one of the earliest pioneers of the acceptance of fluorescent technology in Australian studios, and with C-tick certification imminent, Andrew will be focusing on Olympic Game work, new T-series market development and support outside the region. Miller are still the exclusive Australian reseller of brightline.

Andrew can be contacted on +61 2 9456 6830 or 0417 337 757.



## PREMIER OPEN STUDIO

Premier have recently opened a new studio for hire in Port Melbourne with a working studio area of 18.5m x 10m. The studio has a full lighting grid at a height of 5 metres, is airconditioned and has adequate power for most productions.

There is a continuous curtain track around the studio (height 4.8 metres) and a 5m high x 10m wide hard Cyc wall is fitted. Truck parking area at the rear is 16 x 8 metres. There is also a Makeup/Office area of 5m x 7m and costume, dressing/office areas measuring 5m x 7m.

1kw and 2kw lighting is fitted on the grid and can be set up prior to arrival to studio if required. 10 metres of blacks and a 14 metre white Cyc cloth is hung from the curtain track for use, again if required. Rostrums, lighting, drapes, and crew can be arranged for most production if required.

"The Premier Group has over the years worked in many Studio and Location situations and we understand the problems associated with film and television production," said Eric Prosser. "This is why we are offering (if required) a total package from bare wall studio hire right up to supplying sets, lights, TV cameras and associated equipment, to catering and crew."

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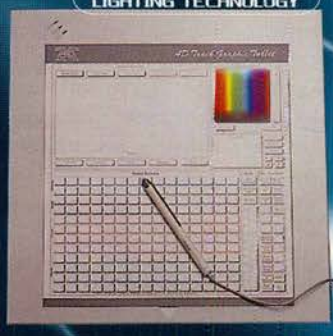


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**99 live!** SILVER Award for NEW LIGHTING PRODUCT OF THE YEAR



# Cold Live at the Chapel



Photos: Tabitha Sargent

The Chapel Off Chapel has been put on the map as a versatile new band venue after being featured in the Austereo network TV program *Cold Live at the Chapel*. The thirteen episode music series sponsored by Carlton Cold showcases acoustic performances from local and international artists in a stripped-back and intimate format. Very much in the vein of *Sessions at West 54th Street* and *Studio 22*, *Cold Live* combines the three essential elements needed to make a good TV music show - quality bands, an enthusiastic audience, and free beer.

The Foo Fighters, The Whitlams, Killing Heidi and Paul Kelly are among the thirteen artists featured in the first series of *Cold Live*. At a recent live taping, the second last in the series, the featured band was American group Tonic visiting Australia on a promotional tour. Described rather harshly as 'one hit wonders' after the huge success of their 1998 single *If you could only see*, it was great to see the band members have a sense of humour about it. Lead singer/songwriter Emerson Hart admitted he calls his luxury LA home "If you could only see my house" because that one song paid for it. The band used the one hour performance to prove there's more to their repertoire than one hit song.

John Olb is the third Director to work on the series and said the Chapel was an excellent venue choice for the series describing it as "a great space that shoots really well."

John explained most shows have used a four camera set up expanding to five for larger bands. All cameras and broadcast facilities are supplied by Broadcast Rentals.

"We used four Sony digital betacams, all of which are portable. We usually have one on a jimmy-jib, one fixed on a tripod which usually looks after lead vocals, and two roving portables. It's hard because it's really a five camera shoot, but fortunately today isn't so bad with only three performers."

"The whole set up is digital and it's edited digitally as well so they're all running time day code and we usually run a couple of ISO's as well so we can

get around song transitions and things like that. The bands usually play for an hour and we do a live cut of the entire show and the band gets that tape and we then cut it down for a 25 minute TV show."

John explained the majority of the show is unrehearsed and the amount of rehearsal varies from artist to artist.

"We do a very rough

camera rehearsal on three or four songs, so the lighting guys pretty much do their own thing to a certain extent. I get the song list the night before so I spend some time listening through the albums to try to learn the songs so I'm probably the only person on the crew who knows the songs. The lighting guys put their own interpretation on it in terms of colours and looks. Usually I'll ask for it to be brightened up or toned down a bit but otherwise

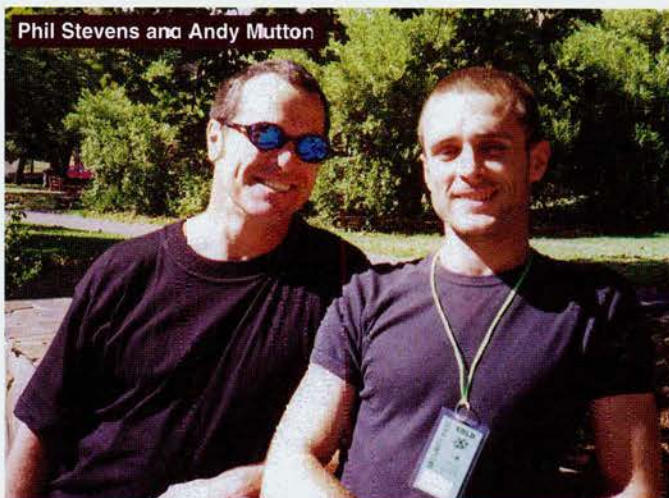
it's up to them. We're our third LD and they have all had their own style which is great."

Jands Production Services were contracted by the Austereo Network to provide production and to handle production management of the series. Production Manager Steve Davidson explained they brought all their own gear in to the Chapel - truss, dimmers, lighting fixtures and control, plus a five man crew.

"We chose Vari-Lites because they're such a versatile light and we can do a lot of different things with the same fixture depending on the director, the type of act and the crowd. We're using an



John Olb, Director



Phil Stevens and Andy Mutton

Echelon for control. It's great for this because it's so versatile and that's the trick with these shows, and all our guys know it so well."

"The bands don't have a great deal of input into the lighting," Steve said. "Because when you're doing something like this for television, the television requirements always take priority. The director is the one who really has the final say on the looks and the bands are generally happy with that."

Lighting for the series has been shared between Peter McKay who designed the standard rig and operated the first few shows, and Jason Saunders who operated for six episodes. For this episode, Andy Mutton has been dragged away from the dance party circuit to design and operate for *Tonic*.

"This is a lot more straightforward than dance parties," Andy said. "It's a nice little rig. They've already got a design laid out so I've just added a few little changes. It's still twelve VL5's but I've changed their positioning a bit."

To supplement the Vari-Lites, eight 1k lekos with dot break-up are spread around the rig as front and back fill light, and eight 1k fresnels on dropper bars add to the colour washes. Source Fours are used as key light on each of the band members.

"They want it pretty static but I'll try to get a different look for each song by sneaking in some movement by changing the position of the VL5's heads between the songs.

"The band didn't really specify what sort of looks they wanted. The only words I had were from the producers and they just wanted a lot of light. We're going to leave the back curtains open this time to get some light through the stained glass window."



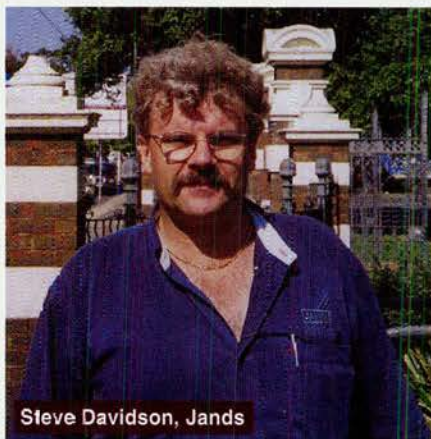
The stained glass window of the Chapel has been featured in a couple of the shows depending on the tone of the band and the logistics of daylight tapings. In a couple of episodes, Molefay 8-liters were used to add some punch to the stained glass window effect.

Without a full rehearsal or even a set songlist, Rigge and Systems technician Phil Stevens said the best way to approach the lighting is to record as many different looks as possible and then just see what works on the night.

And Andy was happy to be using the Echelon as it is his preferred lighting console.

"The Echelon is my favourite. I don't ever have any problems with it. It's laid out so much better than any other console and it's really fast to work with and you never get lost in it which is handy because I haven't been given a song list so I don't know what's coming tonight. At rehearsal they'll go through maybe two or three songs so I'll pretty much be winging it, but I'm used to that."

● *Mandy Jones*



Steve Davidson, Jands

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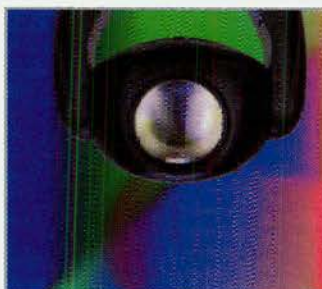
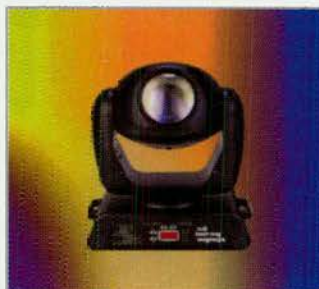
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# The Geoff Wilkins Story

## Tragedy strikes Lighting Director

Late In March SBS Television held a fund raiser at their Social Club for former Lighting Director Geoff Wilkins. This is his story.....

"I joined the A.B.C. in 1971 starting in the mail desk while attending a Tech course at North Sydney Tech. It was a time when we still had black and white Television and fixed lenses on the cameras.

"GTK rained supreme as the then rockshow of it's time and Aunty Jack threatened to rip everyone's arms off. With the advent of colour a new era dawned at dear old Aunty A.B.C. and Alvin Purple decided that the audience needed a shake up and introduced risque nudity to the screen. I was fortunate in becoming a cameraman fairly soon after completing an A.B.C. trainee course and was able to work a great number of A.B.C. dramas, children's shows, sporting, news and current affairs (remember Bill Peach and T.D.T.—Bill who?—Some of you will).

"I gradually moved towards vision control and driving the lighting control desks for a magic mix of different Lighting Directors and learning all their secrets. After getting my technical qualifications I was able to become a Technical Producer/Lighting Director. Those were early days and you started out on Playschool, Mr. Squiggle and the like before getting a crack at something a bit more challenging.

"I was able to specialise in light entertainment programmes and loved the experience of putting so much effort into them. All the

Andrew Denton "Live and Sweaty" and the "Elle Mcfeast" shows were so much fun to work on and the "Mardi Gras" were always full of surprises.

"I finally left the A.B.C. after 25 years there and decided to work part time on the free lance market and was lucky enough to get a part time contract with S.B.S.television and had wrcked there for about 2 and 1/2 years before disaster struck.

"Unfortunately I was vulnerable to a bacteria called Pneomococcal and after being in coma for about 2 months and in hospital for a further 4 months it has left me a multiple amputee and my Television career seems to be over, but who knows what's around the next corner in medical terms. In the meantime I will continue on with my strange new lifestyle and watch with interest the changing world of television and stage lighting."

Any one wishing to donate to the fund can send a cheque (made out to "SBS Social Club") to: Joan M Swan, SES Television, 14 Herbert St, Artarmon, NSW 2064.

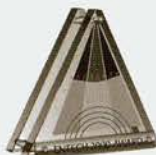


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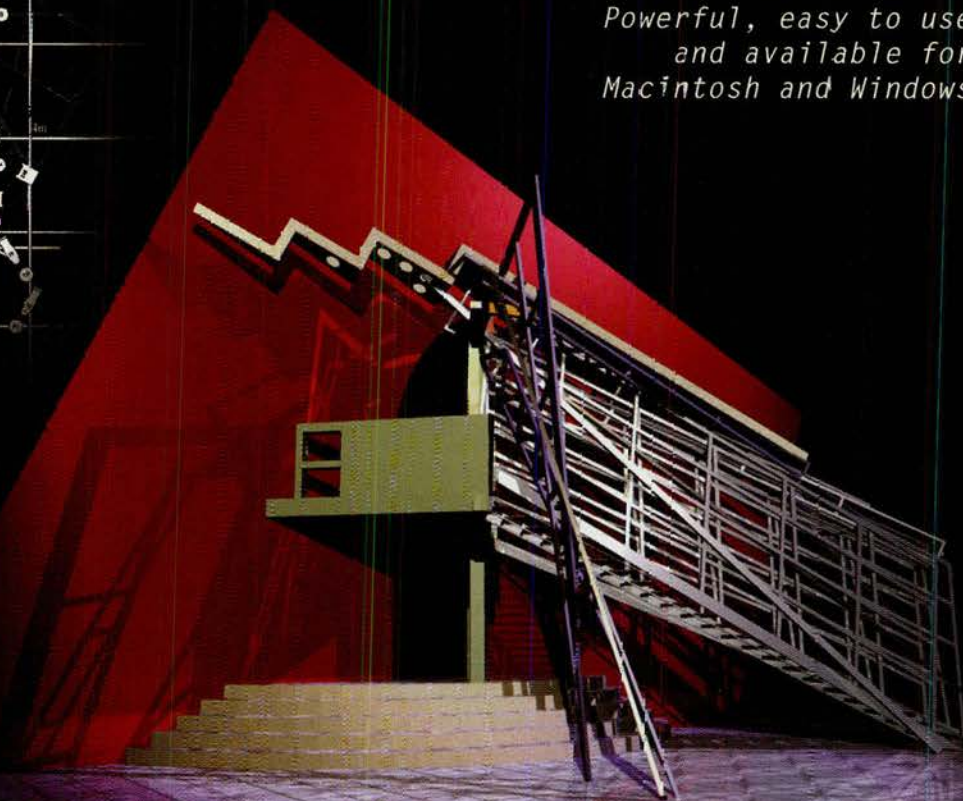
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The range of projectors include: fresnel, plano-convex PAR and ellipsoidal profile spots, followspots, cycorama units, special scenographic effect projectors and high intensity motorised spotlights. Previously distributed in Australia by Ashton Adro; the Spotlight range is now distributed by Mediavision +61 2 9816 4055.

# CONTEMPLATING LIFE AND (TELEVISION) LIGHTING IN THE NEW MILLENNIUM

by Rohan Thornton

**W**ell here we are in the new Millennium. Big deal! Same shit, different year! The only thing that has really changed, is that we all wish we had come up with the biggest scam since the plague, the Y2K bug. Then none of us would have to work, and we would not have to exist through the changes that are about to effect our industry.

Historically, we started with tube cameras. There were times when there was just not enough 10K's or 5K's around to get that picture looking semi-decent. Then there were CCD cameras, where we only needed 2k's. The digital cameras came next and the 2K's gave way to the new generation of lamps. Finally in television, LD's were able to start creating pictures for both the eye and the camera. Even most theatre Lighting Designers stopped getting scared that some Television Lighting freak would come and screw up the mood of their show.

Unfortunately, something is just around the corner which is to throw yet another spanner in the works. Digital TV, High Definition TV (HDTV), and widescreen TV.

I attended a demonstration of all of these new technologies recently and two things became blatantly obvious. Firstly, how much substantially better the vision and audio are, and secondly, how much more difficult it will be to light. The amount of detail that now is evident in digital pictures is astounding. Every little blemish, every imperfection will now stand out. Scenic detail and finishes will have to be perfect as mistakes will be apparent. Every imperfection in the human form will be exaggerated. For those of us who have ever lit newsreaders, this fact alone is enough to have us reaching for sharp objects.

As a consequence of the reduction of production budgets and the consequent increase in the production demands, a train crash is about to happen. More and more, video has become an integral part of all facets of entertainment. With the increased demand for product, particularly from the pay TV channels, someone has to make a decision. Do we put a bit more money into lighting or do we hope that the general punter will accept a reduction in quality?

I tend to think with the increased popularity of formats such as DVD and the high quality of other multimedia systems, that the average punter is far more discerning as to the quality of the product they view. We as a society are more educated as to what is good and what is bad.

For those of us who earn our living in Lighting Television, we have to watch these changes carefully, as they are already upon us. Most video is being shot in digital formats already, in fact free to air stations will be transmitting digitally within the next twelve months. Even shows like Neighbours is now being shot in Widescreen (16:9) partially to compete in the worldwide market. It is up to us to keep pushing those with the wallets, to forgo a couple of lunches in order for us to maintain the high standards we produce.

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# MICHAEL CRAWFORD



Photos: Cat Forcer

**W**hen Duet Entertainment initially asked for quotes on the lighting for the Michael Crawford tour (including a forty piece orchestra), Chameleon refused to partake because they believed Duet always went to Jands anyway. After some persuasion, they relented and, to their surprise, got the g.g.

"This tour didn't have a freight budget and they wanted to start it in New Zealand," said James McKenzie, lighting designer. "Starting in New Zealand without a freight bill to transport Vari\*lites made it very difficult for me because I couldn't programme a show in one night here. So I phoned New Zealand to see what gear was available and they had the Martin MAC's. Chameleon also had them so that really made my mind up for me."

James had three programming sessions in New Zealand, the show having about 300 cues. Once back in Australia they had one set up day in Wollongong.

"That was almost enough, it took us quite a while to put it up because of the venue itself - it has a low roof and cherry-picker rigging," said James. "There are only really four beams in the roof you can rig from so it's bridge city. It takes anywhere between six and nine hours to rig in there so then we had to tidy up the programming overnight. I'm glad I made the decision to use the MAC's because if we hadn't had been able to programme in New Zealand, the show would never have come together in Australia."



James McKenzie

Previously James had always been a Vari\*lite man and he is still more comfortable with them. Using the Martin MAC's was a big learning curve for him.

"I'm very impressed with their intensity and they do lots of great tricks," he said. "I need another tour with them before I'd consider myself an expert with them. This is my third tour programming with a WholeHog II console and I'm pretty swinging with it, however having to learn the lights as well this time made it a little more difficult for me."

"The main selling point with the MAC's were their rotating gobos, there are about 40 gobo combinations. Also having CMY colour mixing as well as colour wheels works really well too. Other than that, I can't see a great deal of difference between the Vari\*lite and the MAC. The MAC's move a little slower but that's because, with the DMX protocol, the console is intelligent not the light. Vari\*lites are intelligent in themselves so you're only sending three digits to a Vari\*lite whereas all the information travels from the console to the MAC's making them a little slower."

The show incorporated 18 x MAC 500's, 12 x MAC 600's as well as 200 x Par 64's - extra bars of pars were needed to cover the orchestra correctly. There were also 6 x DWE 6 lites, 4 x 200 Shakespeares, 6 x 5K

*continued over*





## MICHAEL CRAWFORD *continued from previous page*

scrollers, 36 x 1K scrollers, 12 x 4 cell cyc lights and 2 x DF50 hazers. Three truss followspots and four FOH were used.

"I ended up having to reduce the amount of moving lights on the tour," said James. "There were originally about 50 planned but the people in New Zealand were a little bit upset about budget so we came down to 30. To compensate, I added a load of Colourset colour changers which has been fiddly for the crew as there's about 50 of them. The Shakespeares are really just for the conductor so the orchestra can see him. The DF50's can get a little bit noisy so we keep them as far away from the orchestra as possible as they have complained about them.

"We also have a white cyc, black scrim and a star drop which was supposed to be fibre optic but the budget didn't allow for it so it's really just three 15 amp circuits. I only use it twice in the show as it's not my idea of a terrific star drop."

James tactfully pointed out that Michael Crawford, after having done years of theatre with installed lighting operated exactly the same every night, was not very used to touring and the variations it occurs.

"He certainly knows his followspots and if they're not exactly on time, he can give me a lot of grief about it!" confided

James. "This is my second tour with him and I remember being dragged over the coals on the third show of the first tour even though there was only a second or two in it. Once he realised that

I knew what I was doing in the arenas, he gave me free rein and he hasn't really approached me about anything on this tour.

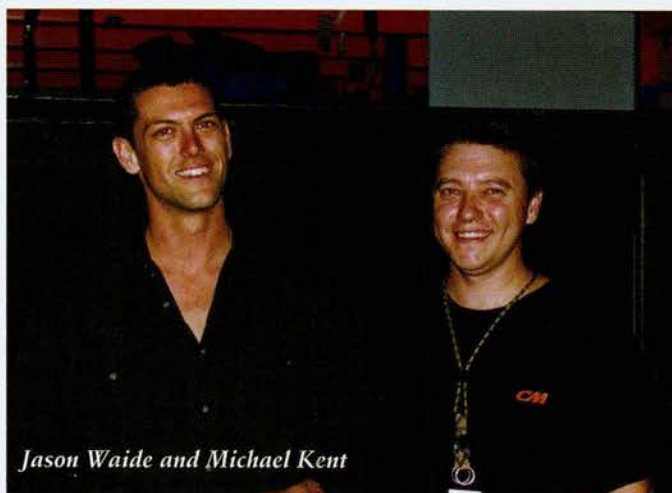
"The lighting crew have been terrific especially Jason Waide, without him I don't think I could have done it. Chameleon have also been fantastic. They're really interested in the design process so they gave me WYSIWYG for free down at their factory for a few days and that helped me immensely because I got most of my preset focus done and most of my chases built before we went to New Zealand. Just the fact that they're interested in the design process is enough for me to keep going back."

James must have been doing something right on this tour as he was offered the UK tour for a 'pile of money'.

Michael Kent, in charge of rigging for the show, described the tour as 'challenging'.

"It's just the combination of the schedule and how much gear they're using," he said. "It's not a huge show compared to other shows, but James has used every square inch that he can, there are lights everywhere! There are also a lot of drapes, which we all love.

On this tour we load in on show day which means we come in at 5am and go through to show time. It then takes three - four hours to dismantle the show. We have to get the lighting rig up very early so they can get the stage built as the orchestra do an hour and a half sound check, then Michael sings for almost an hour. That takes from 3pm onwards."



Jason Waide and Michael Kent

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#### LIGHTING CREW

Lighting Designer James McKenzie

Lighting Crew Chief Jason Waide

Lighting Crew Rod Baker, Brett

Mellour, Jason Watt.

# THE CLOCKTOWER CENTRE

The Clocktower Centre is a new performing arts and function centre created in the refurbished Moonee Ponds Town Hall in Moonee Ponds, Victoria.

The essence of this re-development is to preserve and enhance the proud heritage of the old Moonee Ponds Town Hall while creating a state-of-the-art facility for the community, performing arts, social events and corporate activities. This is the first venue to be constructed to the new Arts Victoria and Victorian Association of Performing Arts Centres benchmarking as well as being a project of best practice on "access for all".

The first step was to commission the team of Entertech (Denis Irving), Williams Ross Architects and Marshall Day Acoustics to undertake a review and re-design. Initially, the brief emphasised the function room, meeting spaces and a cafe with the old hall to be a low budget performance space. However, the advent of the VAPAC survey of performing arts centres seemingly sparked more interest and when the Moonee Valley Council appointed a full time Theatre Manager and Operations Manager, then the theatre priority rose considerably.

Although the site boundaries and heritage aspects of the old hall have limited the stage dimensions there is now a 503 seat theatre with a balcony; a forestage lift in the pit area; stage and understage and a 31 line single purchase counterweight system. The building contract included the appropriate cabling and infrastructure for DMX, stage communication and audio systems

ready to accept equipment selected and purchased directly by Council to meet the Operations Manager's scheduled requirements.

Matthew Pope, Operations Manager says "During the process for selecting theatre lighting systems for the new Clocktower Centre we talked to many manufacturers about their products. Due to the fact that many of the 'new generation' of lighting fixtures are quite radical departures from conventional lighting fixtures it was decided that a comparison test was required. It became apparent that it is very difficult to compare units based only on spec' sheets, salespersons blurbs and looking at the units in the office, we needed a test in a theatre environment. As our theatre was still under construction we arranged for what we

considered the three leading units to be delivered to St Martins Theatre, a 350 seat proscenium arch theatre, where we could put them through their paces under field conditions."

All the luminaires were rigged on FOH Lighting Bridge 1 and focused to the smallest sharp circle possible. A number of tests and observations were made before increasing the size of the pool of light in stages until the largest hard focused pool for each of the units had been reached.

The testing and operational observations were carried out in twenty areas including Brightness, Peak/Flat Control, Focus of Beam, Sharpness, Evenness of Beam, Focus on Shutter Planes, Shutter Design and Use, Temperature of Controls and Knobs after 1 hour of operation, Smoothness, Durability, Lock Off, Gobo Access, Globe Access, Can Unit Point Straight Down (pass/fail) and Can Tail be Stored on Uni: (pass/fail)

Each of the twenty categories was scored out of 10.

As a result of the testing, the Selecon Pacific 12°-28°, Selecon Pacific 23°-50° and the Selecon 1200 Fresnel came out best in overall performance and operation, said Matthew Pope. Matthew said he was delighted with their performance, particularly with the optics and controls on the new Pacific's and the new peak/flat adjustment.

In the end performance and value lead to the decision to purchase 72 Pacific's, 42 12°-28°'s and 32 23°-50°'s, with a mix of 1kW and 600w bases, to deal with all the Clocktower's profile needs. A complement of 86 other Selecon units including High Performance Fresnels and P.Cs, Cyc Battens and 1200 MSR Followspots make up the full lighting stock for the Clocktower Centre. To complement this selection of luminaires a Strand 520i 250 Channel Lighting Console will take pride of place in the control room and 162 channels of raw power will be made available by Jands HP series dimmer racks.

Matthew Pope, with the last word "our centre is still a construction site and all these fun new toys still lie in their packing crates waiting for the day they can be unleashed upon our new venue ..... it will be an exciting and interesting six to twelve months for us.



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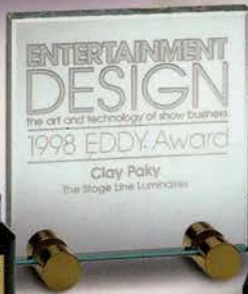


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