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From the editor...

Working Hard

As I browse through the 'almost complete' electronic version of the magazine you are now reading, I have come to the conclusion that these are very interesting times for any technician out there who has buying power. Almost every time I put together the new products for any given issue, I'll come across something that will stir the thought, "I wish I had THAT when I was working on such'n'such show."

The wealth of new gadgets to choose from to make our jobs easier/different/efficient is growing exponentially, and it reminds me of that old saying that goes something like: "junk expands to fill available space"

A good friend of mine collects antiquated equipment - much to his wife's displeasure. I certainly didn't help things when I off-loaded two old J-Matic VCRs to him when the company I was working for was going to literally throw them out.

At the new end of the scale, I can easily remember becoming a victim of my own gadget frenzy. Through careful purchasing at a company I used to work for, I was able to massively increase the quantity and quality of the production output. Through the nineties, I added the ability to edit, and master CDs to increasing quality, upgraded and improved lighting facilities, introduced long term planning for major works, replaced projectors, all the while training and improving the technicians under my control.

Another variation to the saying is: "work expands to fill available time".

For me working at that company, these two sayings are very intertwined. While I would happily seek out and purchase anything that would reduce my workload. Suppliers must

have liked me, but unfortunately my increased efficiency simply freed up more time to spend on other projects.

It didn't take too long before my hours were blowing out of all proportion. By the time I left, my work hours far outstripped the amount of time I was paid for - I can remember working several 100+ hour weeks on my fixed full-time 38hr a week wage.

So while I was as happy having the budget to buy/hire and play with some of the more interesting gadgets I could find, I came to the conclusion that I needed a different job.

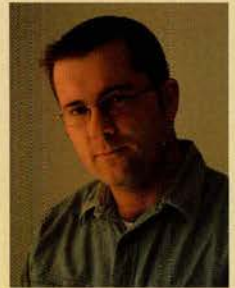
The point of all of this is that, in this industry it is very easy to get into a situation where you are working far beyond your paid worth. If you own the company - then great! If not, your boss is receiving a gift of free hours from you.

I can see that for some positions this sacrifice could be justifiable to keep the job - to a point, but remember that if your boss had to replace you and it would take two people to do your old job, then maybe the company would have been better off giving you a significant pay rise instead.

NEW FEATURES IN YOUR MAG:

We are never actually totally happy with Connections - the poor old girl. So this issue we've made some gentle changes, some obvious, some very subtle. As always, we welcome your feedback.

- John Grimshaw



Publisher writes...

It couldn't happen. Could it?

Humans get complacent quickly. Then something happens and we ask ourselves, 'how did we get here?'

John Grimshaw's expose on Mercury in this issue flags a potential problem most people in Lighting think will just go away. That discharge lamps could be banned.

Cast your mind to the massive automotive industry, and remember how many bright paint colours existed 15 years and more ago. Then lead was banned in paint, and the colour chart for whatever you currently drive became deadely dull.

Bland metallic colours, with one or two non-metallic choices like primary red. The car

makers didn't say much about it publicly at the time, but it's taken until now to invent bright non lead pigments.

Suddenly the road is filling with new cars painted in bright, iridescent hues. Rich yellows, bright blues, burnt orange. You've probably seen them.

Car paint went dull because of environmental laws. Lights will too, if discharge lamps are banned. Mind you, it won't be the lamp that is banned, rather the need to carefully recycle the tiny amounts of Mercury inside a spent discharge lamp could make using the thing unviable.

- Julius Grafton



Tweenies Live - Tour Australia! Page 53



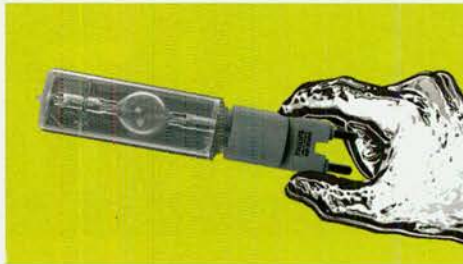
Mark Howett - Award winning LD: page 43



How this innocent mLAN card spells a new era in recording. A Protools alternative explored: see page 32



Independence Day in East Timor Page 44



The Mercury Question. Page 41

30 YEARS OF ROCK SOUND & LX!

The Daze of our lives continues... Page 61

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MARKET REPORTS

On the Cover...

We call this picture "Pacific Blue".
Thanks to Wayne at Jerkes Electrical for supplying the fitting.



• Photo by Dario Gardiman +61 2 9698 0700

UPCOMING REPORTS:
July - Wireless Audio, Video Distribution
Aug - Analogue Mixers Intelligent Lights
Can a light be intelligent? Find out!

•See www.conpub.com.au for future features
NEXT ISSUE:
Onsale 10 July, subscribers earlier. See pullout card for EASY cost saving sub!



Technical Training

"This course is exceptional value for money"

"I didn't think you would have equipment this good!"

Connections Magazine presents **technical training**. We come from the live audio and lighting production industry, and have compiled these courses with exhaustive feedback from employers and venues. These are PRACTICAL, PROFESSIONAL INDUCTION courses.

Courses are properly structured to provide a learning outcome for each lesson. In NSW, our courses are partnered by TAFE. And, we supply lots of modern equipment.

"I am enjoying myself so much that I am already looking into more courses." **Patrick Currie, Home Nightclub, Sydney**

"Excellent information, very good flow. Practical and theory content a good balance." **John Mitchell, Carnarvon Civic Centre, WA**

"Excellent presentation of Occupational Health and Safety. Content was well chosen and centred on the basics of Entertainment Industry safety. I would like to recommend your course to any person, at any level, involved in any type of live entertainment presentation. It could save a life." **Tim Kirkland-Morris Peak Events and Entertainment, Sydney**

"Frying my brain! Most courses I can turn off a while. This one keeps my interest" **Wayne Brennan, Gilgandra, NSW**

"I think you are all very capable and knowledgeable. I like that it is all very relaxed" **Courtney Rich, Fetersham, NSW**

"Chance to benefit from vast experience" **Phil Dodd, Holder, ACT**

SYDNEY: July 2002

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- Five day block, Monday 8 July to Friday 12 July

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Lower price above is for 21 days or more advance booking. Higher price is standard course fee, booked less than 21 days before. All prices include GST.

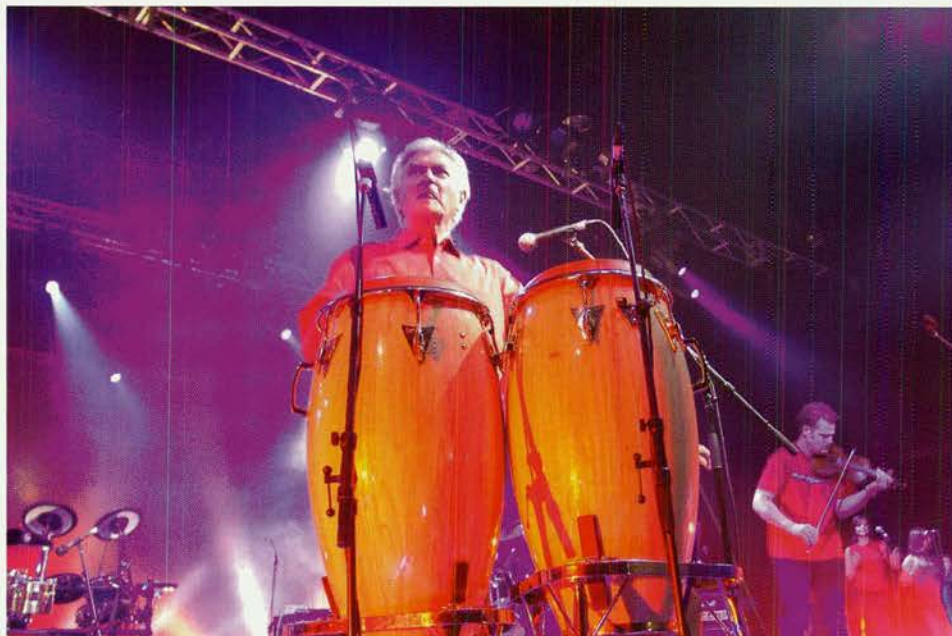
Connections

The Asia/Pacific Professional Audio and Visual Technology Monthly

JUNE 2002

CORPORATE ROCK: MONEY NO OBJECT

Battle of the bland? Business moguls come out to play at Corporate Countdown



Desperate to win, they rolled out all the help money could buy. Former prime minister Bob Hawke appears for the Mojo band, 'The bad and the beautiful'.

Corporate Countdown was a great idea waiting to happen. Imagine a company titan so loaded with bucks that his corporate jet delivered him for soundcheck, then flew back to Melbourne to collect his wife from her hairdressing appointment. Or, a band put together from the corporate ranks with Jeff 'Skunk' Baxter flown in from Hawaii and Jimmy Barnes lending a hand on lead vocals?

This show was always going to sell out, once John Collingwood-Smith from Harrow Events put the idea to Marty Rhone from the Alzheimer's Association. A fundraiser that enlisted 14 corporate bands, with solo performances from the CEO of the ANZ bank and Visy Group, would easily sell out the 1300 dinner seats at the Hordern Pavilion. And, in keeping with both the sense of fun and competition, raising lots of cash via sponsorship and auctions would be simple.

Keeping the corporate egos in check was presumably a nightmare, but the organising committee had some clout, with the CEO of Arnott's, John Doumani involved. This guy

fronted the Arnott's band, All That Jatz, who almost stole the show. A full stage including 30 backup singers and enlisted help from singer Jenny Morris didn't go astray – but, for a suit, the guy can really command a stage.

The corporate event A-list of production suppliers put on great sound, lighting and vision for cost. Chameleon supplied the crème of lighting inventory with plenty of new Vari-Lites, a new MA Grand console, and leading LD Peter Lothian to make it all look very slick. Norwest put EAW KF 750's in the air, and rolled out a great crew headed by leading FOH engineer George Gorga. And Technical Direction Company ensured there were lots of visual distractions with large screen reproduction and cubewalls. Technical Direction CEO Michael 'Hairy' Hassett put in copious hours as the events Show Director.

Norwest, Chameleon and Technical Direction tend to turn up at the same shows very often, typically staging extremely

Please turn the page

Mercury falling as discharge lamps face premature failure

In a shock move, environmental laws may result in discharge lamps being banned worldwide, leading to catastrophe for the lighting industry. Discharge lamps are used increasingly where high output is required, and any move to ban them would throw the industry back into the dark ages.

The problem is disposal of mercury, which exists within all discharge lamps. Industry bodies in the USA and Australia have framed responses to different proposed laws.

The Lighting Industry Council of Australia are heading the industry response here.

• Go to page 41 for more.

Sony's Copyproof CD is unproofed in days

Touted as the recording industries answer to copy protecting audio CD's, Sony's new non-Redbook 'Key2audio' technology has hit a major snag within days of release.

Designed so a CD can't be played on a computer CD drive, and thus not duplicated, the technology relies on a bogus data track at the head of the audio files. The PC or Mac can't decode the data, so the CD doesn't play.

But according to C-Net and Reuters, running a black felt tip marker around the rim of the shiny side defeats the mega million dollar new technology. The disk can then be played on a PC - and thus copied in the usual manner.

11 million of the new CDs have been released in Europe.

Corporate Rock

(from previous page)

elaborate productions at events no practically one ever hears about. These are high-risk big dollar events where company reputations can be damaged with a missed cue or technical failure.

Chameleon supplied their warehouse for rehearsals a few weeks prior to the night, and Roland dished up a lot of backline equipment.

On the night the whole event flowed seamlessly, with the usual assortment of faded legends jetting in and fronting to help out, a slightly shabby Molly Meldrum less comprehensible than usual and Richard Wilkins from Network Nine talking far too much as master of ceremonies. But no one cared, the bands came on one after another and played two or three numbers. Their supporters crowded the dancefloor, but it was the politest crush. These people actually stepped aside for photographers.

Special commendations were due for bands from Mojo (who enlisted former Prime Minister Bob Hawke as guest congo stroker) and law goliath Malleasons - whose band of apparently underworked lawyer's allegedly may have uttered a swear word. Wild.

The Jelly Roll Blues Band, with Murdoch Magazine CEO Matt Handbury on guitar were less impressive than others despite some actual real world experience. Westfield mega mogul David Lowy needs to hire some new executives to replace some in his band, the Unguided Rockets.

His old man, Frank, seemed unfazed and whipped out the chequebook for a quick \$100,000 donation.

In technical terms the event was superb, with great theming and food. Sound was delivered well to all the tables in the beautifully restored Hordern Pavilion, the lighting was inventive and rich, and the big screens were, well, big.

Lots of money - \$400,000 or more - was raised for charity, and everyone had a lot of fun. - **Julius Grafton**



Arnotts CEO John Douran: can actually sing well - and command a stage. His huge band 'All that Jatz' enlisted Jenny Morris as guest vocalist.



Frann and Tony Davies, from Chameleon

Light Meister Peter Loth 'an looking alert late in the night at the Grand MA console. 'My new favourite' he exclaimed, perhaps indicating a change of console for the forthcoming John Farnham tour?



Norwest Productions' Chris Kennedy with lovely new partner Sarah Russell.

TDC's Michael Hassett contemplates a haircut - while calling the show.



Visiting old mate Jeff Baxter: CMC Music duo Nuala and Pat Eonham



Call to open up OHS Training

Conference on how to deliver industry safety training will open up processes

Huge fines imposed against employers for injuries has focused the production industry on safety, as new laws require venues and production companies to get compliant - and fast. A one day conference announced for Sydney and Melbourne will draw a concise picture of what is needed to properly train staff and crew in Occupational Health and Safety issues.

Hosted by Connections Magazine, the conference follows from heavy demand for staff and crew training in OH&S, which Connections introduced earlier this year. The company has been unable to meet demand for OH&S training outside its professional lighting and professional sound induction training courses which are held in conjunction with North Sydney Tafe.

The OH&S course that Connections has written runs for one day. It is held as the first day of the one week induction courses, and contains material specific to the stage and performance environment. It was constructed to avoid, wherever possible, boredom inherent in any course with a preventative message.

"We found the course to be thorough yet fun, informative and reinforcing, with ample supplementary material. An enjoyable, thought-provoking day which has moved us further towards our OH&S goals. John and Julius had a wealth of experience and

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knowledge to impart, in a structured yet light fashion", says Lucy Kelly, Operations Manager for Haycom Staging (NSW).

Tim Kirkland-Morris from Peak Events and Entertainment did the Connections OH&S course in April. "The course will play an important role in the future safety of persons working within the industry and is also one of the few OH&S initiatives which is pre-Accident rather than post-Accident."

"Even though Peak Events and Entertainment has distributed an OH&S manual since 1998 there were still a lot of reasons to warrant my attendance and I would like to recommend the course to any person, at any level, involved in any type of live entertainment presentation. It could save a life."

Connections seeks to open up the process and state that the material contained within the course can be made available for wider use. The company isn't resourced to deliver the OH&S day of their course

separate to their one week induction courses held every couple of months at TAFE.

The Conference is scheduled for November 6 in Sydney, and November 13 in Melbourne. It forms part of a one week New Technologies conference which is aimed at industry professionals seeking concise information on new technologies and work practices.

Other technical training issues are also conference topics. See www.conpub.com.au.

Broken Dreams as mobile rig stolen

Jenny Davidson sunk her life savings into a mobile stage and production rig at a time of life when having a baby was the alternative. "It was the truck, or a pram" she told Connections a few years ago.

Last month the Moon Mother rig was advertised for sale in Connections when Jenny found herself pregnant at 37. The chance to have a good go at both sides of life - work and family - had presented, and Jenny was content.

Then the dream was shattered when the rig was stolen.

It was parked in a yard outside Geelong, and hotwired at dusk. Less than an hour later, the e-Tag in the truck registered on a City Link toll sensor at Toorak, and Police were able to identify a rented car driving alongside which was seen near the theft site.



Jenny Davidson with Iggy Pup in happier times.

Jenny is pessimistic about retrieval of the truck and the equipment within. A rumour has the system hidden somewhere in West Australia.

The truck was a black Volvo F12, pulling a black stage pan. Inside was a complete rig, made up of 15 Australian Monitor amps, EV Mongoose PA boxes and wedges, Soundcraft 500 and 400B consoles, Rane graphics, and a complete set of backline including Marshall and Fender amps.

Anyone with info should contact Geelong Police on +61 3 5225-3172 or Jenny Davidson directly on 0419 388-646.



Corporate Countdown winning band from advertising agency Belgiovane Williams Mackay enlisted some help from Jeff Baxter and Jimmy Barnes, seen here belting out The Doobie Brothers' classic, 'China Grove'.

Lighting Council of Aust

The Lighting Council of Australia is a new, powerful advocate for the industry, its key goal is to encourage the use of appropriately designed and manufactured high-quality lighting systems and components in the commercial, outdoor and industrial sectors.

For more information on Lighting Council Australia please contact:

- Lighting Council Australia / AEEMA +61 2 6247 8011
www.lightingcouncil.com

MOVES

The Showcorp Group have moved into their new purpose built offices and warehouses in Lane Cove.

They also have an adjoining building to lease.

Contact them at: Unit 3, 31-33 Chaplin Drive, Lane Cove NSW 2066. Ph: 02 9428 5888; Fax: 02 9428 5588 and on the Web: www.showcorp.com.au

Staging Rentals has relocated to Unit 6, 1-3 Burrows Road, Alexandria. All phone numbers, fax numbers and the website remain unchanged.

BIRTHS!

Norman & Vanessa Korte (Sound Advice Australia) would like to announce the safe arrival of **Hugo Benjamin** - a 4kg ANZAC Day boy! Lucky bugger gets a day off every birthday!

Jeff Shoesmith (Jands Electronics) and wife **Antonette** would like to announce the birth of their first child - **Lachlan Charles Shoesmith**. Both Mum and Baby are doing well.

DEPARTURES

Genichi Kawakami of Yamaha fame passed away last month.

Harry Widmer also departed, well known through the Sydney music scene in the 1970's as an agent. He ran the Windsun Agency and was one of the more endearing examples of the genre.

Audio Telex take on big three

Export success at last for Australian Monitor, as savvy Sydney firm build markets in Europe. 13,000 amplifiers this year, next year: the USA.

Sydney based audio distributors Audio Telex Communications Pty Ltd have secured significant export business with their Australian Monitor branded professional and commercial installation audio amplifiers. The firm expect to sell around 13,000 units this year, just two years into an export drive.

The surge in export sales initially took the firm by surprise, says Marketing and Sales director Stuart Craig (pictured).

Audio Telex had established a successful manufacturing facility in Sydney more than a decade ago, selling commercial audio amplifiers under their own Audio Telex brand. Some exports into nearby Asian markets encouraged the firm, founded by Roy Morgan and Rod Craig 26 years ago. But they were constrained by capacity, only able to build 5000 units annually at their Sydney plant. Then, Telex international objected to the use of the Audio Telex name overseas.

Then Australian Monitor, another manufacturer based in Sydney, came up for sale after the previous owners admitted defeat selling ultra high specification power amplifiers. The original A.M. philosophy of a Rolls-Royce product at a Volvo price ensued not a cent of profit was ever made. The founder says the first 300 AM1600 amplifiers sold in the late 1980's for \$1,200 per unit - at a loss of about \$3,000 each, because he lost a million dollars when he sold the firm in 1988.

Audio Telex acquired the remains of Australian Monitor at low cost three years ago, and at the time said it would fit well with their own manufacturing, giving their existing commercial product an additional professional range. They folded AM into their facility, and started making AM and K series amplifiers alongside Audio Telex branded commercial audio product.

But the real story was that A.M. had two intangible assets that Audio Telex wanted. First, a plant in Mumbai (India) run by Ashoke Mukherjee, which had recently started building KA series amplifiers at low cost and at very high quality. Second, an internationally recognised brand name, developed at vast cost to the previous owners who exported AM to a shrinking group of

international distributors.

The Mumbai plant was a potential goldmine. "Ashoke is educated in England, and most of his staff are graduates. They get better (build) quality than we can, building amplifiers here", said Stuart.

Stuart then did some research and discovered that the commercial audio market (for 100v line amplifiers and suchlike) was split between roughly three players in most markets, Inter-M, Mackie/RCE, and TOA.

But professional power amplifiers like Australian Monitor's then AM 1600 and K series, occupied a blisteringly competitive marketplace with upwards of 25 brands slugging it out in most countries.

After the relationship with Mumbai developed, Audio Telex took the hard decision to close their manufacturing line in Sydney, which they had run for upwards of a dozen years. Mumbai is half way to Europe, the factory there is now building all Australian Monitor products, at lower cost.

The range is split into two lines, AM Install (the commercial 100v line amps and mixer-amps) and AM Pro, which now only comprises KA series. Australian Monitor is no longer in the ultra high specification Crown - vs- QSC and-the-rest market.

AM Pro amplifiers sell at a competitive price, and are exported alongside the Install range, but it is the Install line that is making inroads against the three main brands in each European market. AT has good distributors, marshalled by a London based agent called World Marketing. Amplifiers are warehoused and despatched from a store in Rotterdam (The Neverlands) which is just three weeks sailing time from Mumbai.

With markets in Europe very receptive to the AM brand, low costs, and a low Australian exchange rate, Audio Telex see growth coming through introduction of installation loudspeakers sourced from Asia.

AT distribute a variety of lines in Australia, employ 18 sales staff and have offices in each state except Tasmania and the Northern Territory. Audio Telex turned over \$20 million this year, and employs over 30 people.



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Soundtracs Unveil Advanced Digital Broadcast Console

The well known UK digital console manufacturer, Soundtracs, have recently unveiled their latest creation – the DS-3B Digital Broadcast Console.

The DS-3B has been developed from Soundtracs' DS-3 Recording/Production console and incorporates a wide range of new features to make it an ideal, and cost-effective, choice for almost any broadcast application.

The DS-3B features 40-bit floating-point SHARC processing, 40 output busses and either 64 or 96 channels - each with 4-band Parametric EQ, Filters and Digital Dynamics sections. The innovative worksurface, with a choice of 24 or 32 faders, utilises the latest in digital touch-screen technology in conjunction with 100mm touch-sensitive motorized faders for outstandingly rapid & intuitive operation.

Operating at 96kHz or 48kHz with 24-bit

conversion, all 40 of the DS-3B's output busses are equipped with limiters for Stereo, LCRS and 5.1 formatting.

To meet the rigorous demands of modern broadcasting, the DS-3B also incorporates a dedicated per-channel Mix Minus menu, Networking capabilities, redundant PSU's, GPO & GPI control, rapid system boot (from Off to passing audio in 20-25 seconds) and the ability to perform a system re-set in under 8 seconds without loss of audio.

A comprehensive Digital Effects package is also optionally available.

Soundtracs digital audio consoles are distributed throughout Australia by Amber Technology Ltd.

- Amber Technology Ltd +61 2 9452 3600
www.ambertech.com.au



SOUNDTRACS RUMOURS

This is a company to watch. They have virtually quit building analogue consoles, floated to the public and used the funds for R&D of new digital consoles, and now appear ready for Something Big. At presstime the firm's assets were sold to DiGiCo, a US backed firm. We hear major players at another console firm are poised to jump to Soundtracs. With the hard yards of R&D done and paid for, the firm may now leap ahead with expanded offerings including a live console. Watch this space....

This is a scene from the new Queen-inspired musical 'We Will Rock You', written by Ben Elton, running at London's Dominion Theatre. It is the first time LED video screens have been deployed as the major staging effect in a West End musical. Eight separate screens, each configured as 4x5 panels – 160 panels in all – of Lighthouse LVP1010C Quarter Bin LED screen are used onstage.



Always Learn

Thanks so much for the in depth article on Elton John last month. I appreciated the comments about the i4 system. I feel like I always learn something from every issue of Connections!

- Fiona H, Paddington, Qld

We dislike our bank too!

Hear hear. The echo is heard everywhere. If it wasn't so farcical I'd say don't bother reporting it. Did anything happen?

- Geoff Morrow, Perth

• *Funny enough, we suddenly got 8 cheque books in the mail, all individually sent, and in various sizes. Stop! The Commonwealth Bank also quickly wrote and advised they had reconsidered and would grant the facility we asked for. "We are disappointed you have chosen to publicise the matter" they said. OK for us, but readers without a public forum may get less action.*
- Ed

Christian bias

What's happening at Connections? I've noticed a Christian slant arise in the past year or so, with stories about Hillsong, and Christian City Church, and huge claims that the Christian scene is growing like crazy. Where is this coming from?

- Name withheld, email

• *No bias, just facts, my friend. Do the math: 3 x PM1D consoles for Hillsong = \$1 million. Who else has the budget?* - Ed

Letters welcome! Email mail@conpub.com.au or fax to +61 2 9876-5715.

OH&S and irresponsibility Catty Comments re Tom?

Re the "PA in a Van" story (Connections May).

We as an industry are trying to clean up our act as regards to safety in our work place. It disturbs me to see an almost boast - that someone can stuff a complete PA and lighting system in to what seems to be a one ton van.

Along with the frightening picture of 4 array boxes almost balancing on top of a sub on its side on top of another sub, with the operator standing on a 3ru sleeve while a perfectly good ladder is against the wall.

This I find irresponsible to warrant as a story in a major magazine.

The industry spends thousands in tagging equipment, and sending people to OHS courses - of which some are taught by people involved in this magazine. We spend hundreds of dollars on relevant Standards, \$10,000 on safety equipment, on licence's for equipment, and an abundance of safety and green card courses.

It makes me wonder why we should, when it seems that there are some rules for some, and some rules for other's.

I'm not against the owner operator ...sure things cost these days ...But for NO reason should safety be a compromised ...and its those who do who cost our industry and other's ridiculous amount's in insurance.

I feel the story has put us back 15 year's when a roll of gaff tape was as good as a 2 ton ratchet strap. We need to be serious about safety and I believe Connections have written good articles about safety, and safety issue's before now, but I'm afraid this particular story should have been written in a different manner.

A picture tell's a thousand words and if we were given the picture of this PA in a OH&S class and were told to write down the hazards, what do you think we would write?

Safety is all our responsibility: I as a technician, you as a publisher, and others as owner operators.

Jeff Morgan, Sydney

Re "TRIPP ON TOM"; (May) and "WERE FIRED" (March) Connections:

I have sat back and read the above two letters with great mirth.

Firstly, Julius, you branch out and put Connections name and support on a new audio training facility which is in competition with one of your most loyal and consistent advertisers.

Then complain when he refuses to support you any longer!... hello!... is anyone home?

What did you expect?

At least he had the gonads to talk to you face to face, and your reply? You put a catty little comment in your mag. I don't remember seeing any other similar announcement when you have lost advertisers in the past.

As far as Phil Tripp's comments are concerned, Tom and Phil's disagreement goes back many moons and it's obvious from Mr Tripp's letter that they do not see eye to eye. If Tom doesn't like the way you go about your business are you saying he should still support it? Come on - get into the real world.

Also by your comments Phil, does this mean you will now stop trying to get me to advertise with you? If this wasn't so funny and childish I'd be a little angry at both of your hypocrisy.

Studios 301 is not the only big studio in the country that doesn't list with immedia! and to be frank, I find it hilarious that you could possibly have a shot at anyone else's ego.

The pair of you should have a good look in the mirror and grow up. Maybe if you stopped this school girl stuff and concentrated on your biz, then you too may be as successful as Tom Misner.

I'm sure that the extra couple of copies you sell to staff, will more than compensate for the loss of all his advertising. Right?

Steve De Fina
General Manager
Studios 301

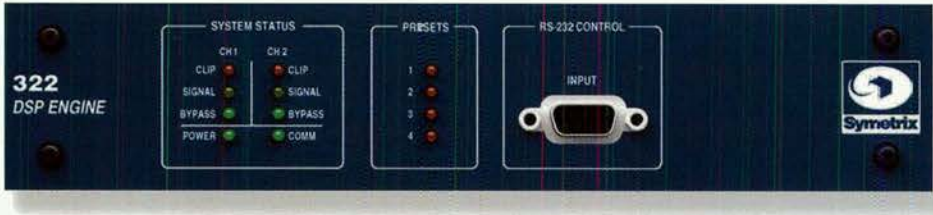
• Bless you Steve, for keeping this alive.....! -Ed



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Symetrix moves

After 12 years, Audio Telex has chosen to end its distribution agreement with Symetrix, the USA based manufacturer of audio processors.

The line is now handled by Production Audio Services, headquartered in Melbourne.

Audio Telex tell us that, "While we have always enjoyed a great relationship with Symetrix, the direction in which their product mix is heading does not suit our own future growth plans. So, we have reluctantly decided to resign as their exclusive distributor in Australia and New Zealand".

"Customers should note however that as this is a very amicable arrangement, we shall still be supporting a handfull of Symetrix products, which will be in our new catalogue, due out very soon."

"Additionally, we will continue to offer after sales service support for all Symetrix products sold by us" they said.

Over the past few months Symetrix have discontinued a number of their analogue products, as they strive to become a more DSP orientated supplier. As Audio Telex distributes Peavey MediaMatrix, with more than 270 systems in Australia and New Zealand, they have chosen to drop Symetrix.

Recently, Symetrix discontinued some lines that were key products for Audio Telex, so, with the exception of the four models listed above, they will no longer be offering Symetrix to their customers.

- Audio Telex Communications, call +61 2 9647 1411
- Production Audio Services, call +61 3 9415-1585

Entertainment Training Package Review

CREATE Australia is the national industry training body for the cultural industries.

They are currently managing the second phase of a project to review the Entertainment Industry Training Package.

The training package identifies the skills and qualifications needed by people working across the Entertainment industry including the areas of Audio-visual, Cinema projection, Sound, Lighting, Staging, Costume, Make-up, Scenic art, Prop manufacture, Set manufacture, Wig manufacture, Front of house, Event management, Production management, Stage management and Box office

To ensure that the reviewed package reflects current industry practice and provides the best possible framework for future industry skill development, CREATE will liaise with practitioners in industry and in training organisations to obtain advice on the content and structure of the package.

Working Parties of content experts will provide specific advice on the updating of competency standards and qualifications (May to July), including confirmation of changes already proposed in the first stage of the review.

National Consultations will include workshops across Australia, to be held in conjunction with the State and Territory Industry Training Boards in August and September. Further validation will take place in early 2005.

If you are interested in getting involved or need info, go to www.createaust.com.au

New at Soundcorp

New Staff Member: **Amanda Rodrigues**, joins as a Video Sales Consultant

Also Soundcorp have been appointed as a Digidesign TDM dealer for Victoria. Their product specialist for Digidesign products is Scott Jamieson. Call +61 3 9488 1555. www.soundcorp.com.au

Resource Corp expand...

The Resource Corporation (TRC) have been appointed exclusive Australian Distributor of Omnimount Systems. They manufacture a large range of both domestic & professional speaker mounting systems, along with a range of plasma TV monitor brackets & projector brackets.

TRC has also been appointed exclusive Australian Distributor of Trantec UHF Radio Systems. Trantec are Europe's largest designer & manufacturer of UHF systems, and although relatively unknown in the southern hemisphere are well known and respected throughout Europe and South Africa. Trantec's range of products include Handheld, Lavelier, Headworn, Guitar and IEM systems, along with Antennae & Power Distribution Systems.

Finally, TRC has also been appointed exclusive Australian Distributor of Ear Monitors Australia products.

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SmartLive is the professional audio industry's standard for sound system measurement and optimisation.

The next 2 day training session will be held in Melbourne on July 23-24 2002.

Limited positions are available, please register now via our website, www.productionaudio.com.au or call for a registration form.

We are also seeking expressions of interest for training sessions to be held in other capital cities. Please register your interest by email, info@productionaudio.com.au



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Attend one or more streams in either city*

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Pro Sound Conference Stream

(Days 1 and 2)

- Digital Mixing - technology, signal routing, capability, expandability. Latest equipment.
- Audio Over Networks - state of the intranet, ethernet, getting audio in and out.
- DSP - controlling signals, cost effectiveness.
- Qualifications for audio technicians.
- Line Arrays - the up's and down's, suitability and reality, problems and benefits.
- LATEST EQUIPMENT PRESENTATIONS

OH&S Conference Stream (Day 3)

- Regulations, fines and laws. A look at how the state bodies (like Workcover) operate.
- Responsibilities, risk assessment, and what happens after an accident.
- OH&S Training. A look at some of the suggested procedures in the "Safety Guidelines For The Entertainment Industry" and how they need to be applied to companies and technicians. Portions of the Connections OH&S course will be delivered and discussed.

*OH&S for Production and Venues can't be purchased alone, it must be bought in conjunction with at least one other stream.

Lighting Conference Stream (Day 4)

- Automated Lighting – new technology and effects.
- Control Systems – Advances in control systems including wireless control, Ethernet distribution and integration, and the latest in conventional control.
- Australia's new qualifications framework for lighting technicians – how the system works. Includes who is providing training and how recognition of prior experience works.
- LATEST EQUIPMENT PRESENTATIONS

Vision Conference Stream (Day 5)

Big Screen verses The Budget – getting 'bang for your buck' in image projection is always the ultimate goal for anyone who has to buy video projectors. Vendors will be able to show the best image they can on a very large screen at two price levels – under \$20,000 and under \$50,000. Includes an introduction by John Grimshaw on "Assessing the Image" – a guide to what to look for in projection.

- WITH LATEST EQUIPMENT PRESENTATIONS

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Prices include GST, morning and afternoon tea.

Early registration rate ends closer to event. See www.conpub.com.au.

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Connections

Conference presented by Connections Technical Training, a business unit of Julius Grafton Projects Pty Ltd, ABN 62 098 850 036
*OH&S for Production and Venues can't be purchased alone, it must be bought in conjunction with at least one other stream.

More Evolution with twin wireless system

Sennheiser have released an addition to their popular Evolution 500 series of touring radio mic systems.

Its the EM550 twin receiver, which consists of two complete true diversity receivers in the one 19" 1RU rack housing.

Some clever features have been added to simplify power and antenna hook up, and save valuable 'racking up' time for production companies. Each rack has its own internal power supply, so a single IEC lead is needed per rack unit, no need for messy wall warts.

Also an integrated antenna splitter allows multiple receivers to be daisy-chained with the RF feed. Powering of active antenna boosters is via the antenna cables. The EM550 also shares features common to the Evolution 500 range. 1280 selectable UHF freqs, to be stored in 16 memories, transformer balanced XLR outputs, Headphone socket on the front, check TX batt levels at receiver, peak hold LED display.

New also from Sennheiser, is a plug on RF transmitter, that also supplies 48V phantom power to your favourite 'wired' condenser mic, turning a great mic, into a great RF mic! This is available in an Evolution 500 RF transmitter/receiver system, the EW501.

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Showtech Australia - Introduction to Rigging Courses

Showtech are offering their Introduction to Rigging Courses towards the end of July.

The course will be conducted at Showtech's premises at 510 Williamstown Road, Port Melbourne.

Dates and times are: 27 & 28 July (0900 - 1800) and 29 July (1600 -2000). Cost is \$385 for this 20hr course.

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The Gyuto Tantric Choir tours to raise funds to feed and house fellow students at the Tantric Universities in northern India. The rituals they perform are sacred music for prayer, not entertainment. Please visit www.gyuto.org to find out more about the Gyuto Monks.

The Sydney Symphony SuperDome Spectacular

Director:
Andrew Walsh, Accolade Event
Management

Lighting Designer:
Brad Gander (below)



Moving Lights Operator:
Michael Simpson

Lasers:
Chris Walsh, Light Design

PIGI Projection:
Peter Milne, The Electric Canvas

The Sydney Symphony Orchestra made an unusual departure from its standard concerts, recently delivering a spectacular performance at the Sydney SuperDome. It laid on more more popular 'classical style' music including Tchaikovsky's 1812 Overture, some of the score from Star Wars, the Triumphal March for Aida, and Strauss' tone poem. Music from Carmen, LaBoheme and Turandot was also included in the programme.

Promoters Creation Entertainment and producers Accolade Events used a very large lighting system, which included lasers and an immense PIGI projections.

The production was a careful combination of three elements - moving lights, conventional lights and projection. Lighting designer Brad Gander was told that a rock'n'roll type rig was required and then it was left to him.

Mac2000 Performance moving lights were placed on the floor to project onto three diagonal panels that were the main feature of the lighting rig. Rimming the panels were MAC 500s and 12 MAC600s. The panels

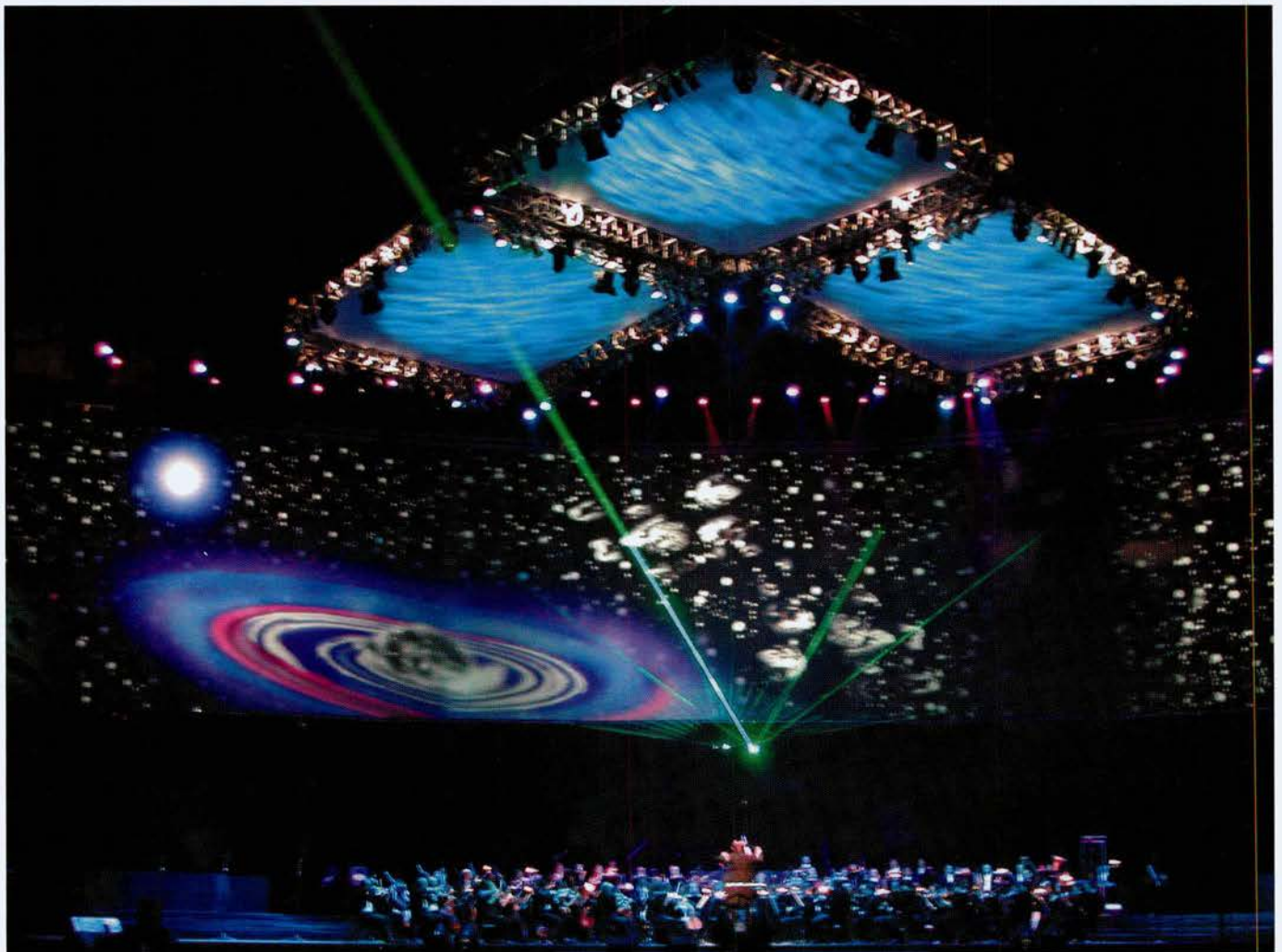
were hung directly above the orchestra. During the show the MAC2000 Performances projected a variety of effects such flames, water, squares and clouds onto them. Brad was particularly pleased with their contribution to the show.

"We were a bit worried the orchestra might stress out with the fan noise from the MACs but their feedback has been fine."

Eight Studio Due CityColors were used to colour wash the projection screen when there are no images on it.

Chameleon Touring Systems provided the lighting which included two grandMA control desks. Michael 'Simmo' Simpson used the main grandMA for the moving lights whilst Brad, who designed the show, used the other grandMA for the conventional fixtures.

"I've used the grandMA on three shows and so far, so good," commented Simmo. "I usually use a Hog and on this particular show, I'm using the grandMA like a Hog. That's one of its capabilities - you can set it up to what ever way you want to use it."



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The Tape/CD level fader is also white but separated from the channel faders. Intended to give 'mixing at a glance', every channel has both a Level Set and Overload LED to indicate at a glance if one of the inputs is too hot.

Digital effects and a graphic equalizer are built in. The desk also has log-taper 60mm faders, accurate 32-bit EMAC digital effects, Effects to Monitor and a Vocal Eliminator. The DFX6 has a retail of \$1095 inc GST, and the DFX12 \$1395.

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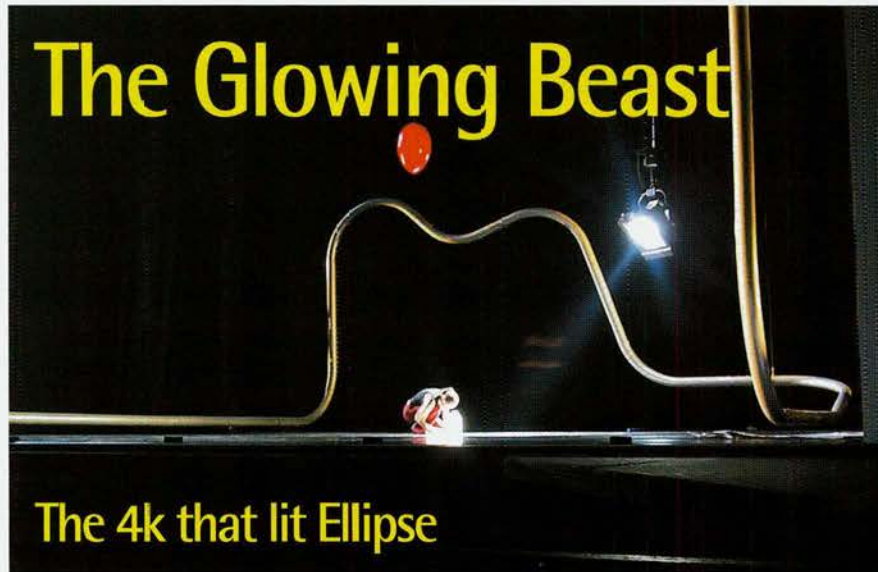
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Onstage Technology



By Madeleine Murray

The star of Sydney Dance Company's new show, *Ellipse*, is a light. For 80min, the visceral, vivid dancers do amazing contortions of space on an almost bare stage to frenetic, disturbing music.

The set is a simple chrome tube that squiggles its way around the stage at different heights. But the real star is the 4kW HMI. Hanging above the dancers, it snakes its way through the air, creating a dramatic effect that has held audiences spellbound...



So what is it?

The actual lighting system from De Sisti is a Rembrandt Piccolo 4kW HMI fresnel in a motorised pan-tilt-focus Icarus housing. The fixture is mounted on a De Sisti motorised telescope for raising and lowering the unit and the telescope is mounted on a motorised trolley that runs along a 14m I-beam at a trim height of 12m above the stage. For touring, the head fits in a 1x1m case and the telescope is 1.5m long when compacted. The I-beam was assembled locally, and runs diagonally from upstage prompt to downstage OR. The total system is controlled by DMX512.

The light is based on the Coemar De Sisti Icarus remote control automation system used in film and TV studios. It allows computer and DMX control of fixtures including luminaires, hoists, telescopes and trolleys. The latest version, Icarus 2000, was released last year. Because it uses an HMI lamp, the scroller used also has a mechanical dimmer 'shutter' system.

The colour scroller is always moving, even when only the one colour is needed, as the gel would burn out in five minutes. The whole system can travel 14m horizontally, and has a 9m lift. All parameters are 16 bit control. It has pan and tilt, spot flood, and remote control of the ballast for lamp strike. The angles of spot flood are 5.6° beam angle, and flood is 53.6°.

A wild idea

About four years ago, Graeme Murphy, artistic director of the Sydney Dance company, and lighting designer Damien Cooper started talking about a light that could move like a dancer. Tracking along an I-beam, it would move up, down, and diagonally – and be an integral part of the dance.

"They originally came up the concept of someone just to make a DMX control system of horizontal tracking and lifting," said Richie Mickan, technical products manager at CDS Australia. "But then the idea got more elaborate. Sydney Dance Company head electrician Hugh

Hamilton had the wonderful job of figuring out how to make it happen, finding a supplier that could make it all work. So they talked to us. They'd been talking to a few companies who had ideas about how to do it. When they came to us, we said, you mean one of these, and we opened up the catalogue to page 25. We showed them a picture of an installed system up and running."

Mickan and Hamilton finalised the details of the lighting system which now included the addition of a Compulite Sunset douser/scroller to the fixture for added control and variety in the show. SDC had specific requirements for the system with detailed specification for things like motor travel speed, and 16 bit accuracy for all movement parameters. "We then worked very closely with the Coemar De Sisti factory in Italy to customise a unit for the SDC," Mickan said. The light was ordered, built and flown out here.

A few teething problems

Normally the CDS factory in Italy allows 90 days to build something, but this was done in 30 days, and included the special customised software. So there were a few problems during the first few days of the show. The telescope didn't work perfectly at first. "The schedule was just a little bit tight," Mickan said. "We had some problems getting the system up and running – calibration and configuration issues. Once we'd worked those out we were fine, it was a matter of learning the system. We brought in a very complex system, and had 24 hours to learn it, which is not enough time."

LD Damien Cooper loves the light. "It's a wonderful tool to play with, it's amazing to have such a powerful HMI source on stage. It's fantastic to focus in on a moment onstage with such a bright source, to be able to zoom in. HMIs are gorgeous lights, they put out the most intense white light that you don't really get with moving lights. Most MSR lamps have that greenish tinge. Having it in a fresnel was wonderful – to be able to light the entire 12m square dance area with one light was amazing. It was bright enough to pull out the dancers.

"The 4 kW was really the only source of light, definitely the primary source. We added just a few odd sidelights in plotting. It was a good challenge to set ourselves. When you light dancers from the side and top, you get sharper muscle definition and more body shape.

"Richie Mickan and all the guys at Coemar De Sisti were great. A light like that is very expensive. We had to buy it, as the SDC has to be able to tour on its own. Coemar De Sisti did a lot of sponsorship which allowed us to get the light."

The SDC will take the I-beam, and the light on tour around Australia in the next month.

Control

When I saw the show, in early May, Hugh Hamilton was operating a laptop running Icarus and a Strand 300 Series desk. He had to work from a perch backstage so that he could see the



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Onstage Technology



full length of the I-beam and watch the light as it moved above the metal tubular set, which at times swung quite violently when dancers hung off the tube. There was a danger of the whole thing getting out of control, but the system has many safety mechanisms. If the 4kW loses weight or gains extra weight, it will just shut down. Crew members were positioned with emergency stops on both sides of the stage.

"The system is running the way we'd like it to run at the moment. It runs off DMX, we plotted it through a lighting desk," Hamilton told me on the phone as he was bumping in the show to Canberra. "I have to look at how the light gets somewhere, as there's a set in the way. If I directly drove DMX levels, it would be quite possible to drive the light through the set. So I had to be careful about how I programmed. We've also got a degree of backup and safety factor because we're running Icarus, so that if the DMX does fall over, Icarus will hold it where it is.


"Another complicated programming thing is the way the system works. There's an aluminium telescope which raises and lowers around the wire pickups. You can't pan the lamp as you are lifting or lowering. The process of making the lamp move is four or five different steps. The lamp has to pan, then it has to raise or lower, although it can tilt while it's raising and lowering. You've got different time parameters. It's a bit of a process to get it anywhere. It's been a fascinating exercise to try and program something like this, because it's an entirely new process.

"I did lots of offline editing on it. I'd pretty much worked out in my head how it was going to do its moves. I basically put groups into the cue so I didn't have to have the positions already recorded. I just went ok, when I work out where downstage is, I'll put downstage into this cue, so it just knows that it will go to this group called downstage, although downstage doesn't exist as a location at the moment. It just existed as a dummy value."

Hamilton then sat on the stage and defined downstage, midstage, upstage, and all the other positions he needed on the travel. He chose the lift, pan and tilt positions and made himself a 3-D theoretical grid through which he could move with the telescope and the trolley. Then he plotted the pans like a normal moving light. "Then I incorporated the two together, and split the pan and the tilt apart from each other so that we wouldn't damage the telescope in the show. I'm looking forward to the light [choreography] getting better and better the more we can play with it."

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Dirt Music in the Studio

Recently Satellite Recording Studio had the pleasure of recording a number of songs for the CD for author Tim Winton's new book 'Dirt Music'.

It became very much a who's who of the Perth music scene involving dual Grammy winner Lucky Oceans, Cowpersons- Jim Fisher, Ian Simpson and Fred Kuhn - former Chain front man Matt Taylor, and guitarist Dave Brewer.

The project was engineered and produced by WA Symphony Orchestra live engineer -and local all round guru- James Hewgill who achieved a fantastic result in the short time he had allocated.

Most of the songs were recorded live, in the one room, as Tim wanted the songs to reflect a laid back mood and to be very much an open jam session with a country flavor.

- Satellite Recording Studio
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Pictured at top:

Lucky, Fred, Ian and Jim (left to right) with Matt Taylor in the reflection

Below:

Tim Winton and Lucky chatting with Ian Simpson (sitting)



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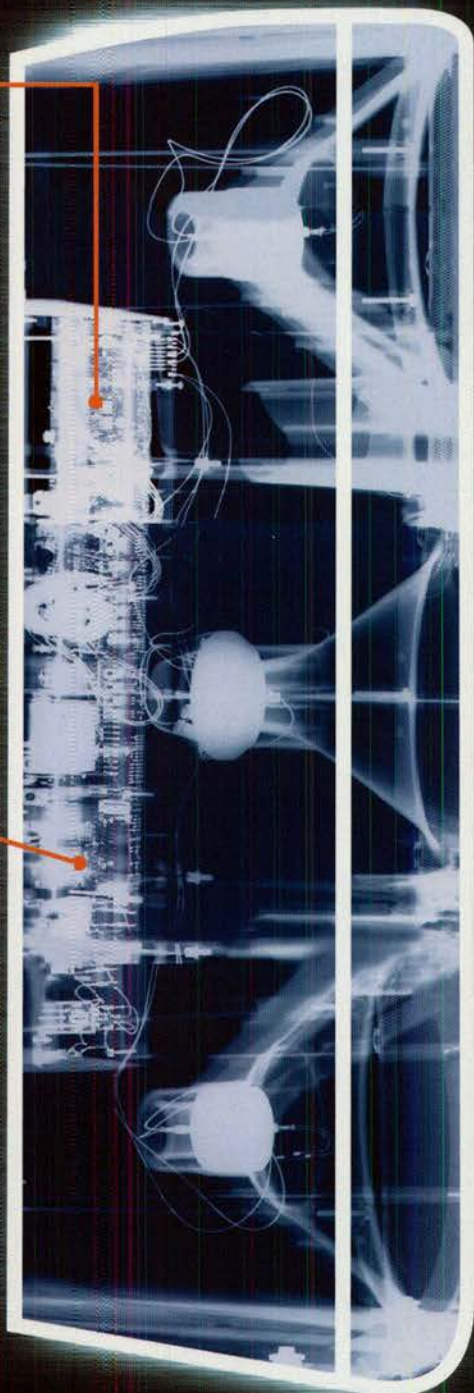
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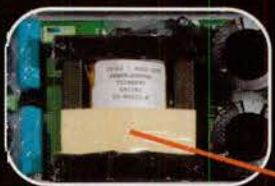
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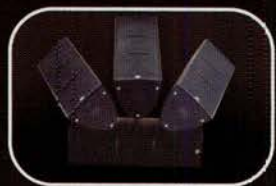


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HIGH END CATALYST AT LOGIES

High End Systems Catalyst featured in the annual Logie Awards- Australia's version of the Golden Globes.

Lighting Design for the event was by leading LD Rohan Thornton. Rohan specified the recently released High End Systems Catalyst Media System for the event which is broadcast live to air on Channel Nine. (The set is pictured below beforehand).

While it was intended that Catalyst would feature graphics and animated effects on all the videocubes for the musical acts, once the directors had had a demonstration of the powerful and dynamic effects of the system, it was decided that Catalyst would feature throughout the evening event.

Catalyst operator Megan McGahan, whom also operated the Catalyst for Fight For Life earlier this year, says "Catalyst is such a powerful tool, and has really brought together technologies for live production".

"Catalyst is as big an important technological jump as the advent of moving lights", said Rohan, also commenting that the system requires of lighting professionals a whole new level of thinking.

"One of the real strengths of Catalyst for me is, that now video can be controlled not only simultaneously from the same console as intelligents lights, but hues and colours can be put through the video to match lights also - this fantastically powerful in creating a seamless look".

The Catalyst was run through a Computite Sabre console.



Top End Sounds Flies 34 Cabinet W8 Rig For Human Nature

Top End Sounds consolidated their position as the leading sound reinforcement in Australia's top half, fielding a rig of 34 Martin Audic Wavefront 8 cabinets for the recent Human Nature tour.

"Now that we've flying the system we've make another leap in sound quality" enthused Colin West TES Managing Director "Human Nature were the first act to benefit from the flying hardware - and it's been an enormous success."

The flown array consisted of a top row of three W8's, the second row was a W8 with a W8C on each side with the third row three W8C's. The combination of W8's and W8C was seamless as all the cabinet components are virtually identical with the W8's having two 12" low mids rather than the W8C's single driver.

All the sub-woofers were ground stacked with four W8S and four WSX on each side.

With power to burn the system runs on 20 QSC PowerLight amplifiers, twelve PL4.0's and eight PL2.0HV.

Control from FOH was courtesy of a Midas X_3 with an Allen & Heath GL4000 at foldback.

Top End Sounds have currently the largest Wavefront 8 inventory in Australia.

Fairlight Receives Australian Design Award For Dream

Fairlight's DREAM range of pro audio equipment has received a prestigious Software-Electronics Design Award from Standards Australia International.

The DREAM range was produced in Sydney by the Fairlight R&D team in conjunction with industrial designers Design + Industry.

Amongst the criteria the judges look for in assessing a product for the granting of an Australian Design Award are functionality, ergonomics, aesthetics, creativity and originality, safety and environmental considerations, manufacturing and price.



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TC, Dynaudio Award Amber

TC Electronic and Dynaudio distributor in Australia, Amber Technology Pty. Ltd., has been honoured with the "Excellent Partner of the Year 2001" Award from TC Electronic. The Award was given in recognition of outstanding efforts in Marketing and Distributing TC Electronic and Dynaudio Acoustics products.

Amber have represented the lines for some years now.

Pictured at right: Back row L to R: Chris Royal - Regional Sales Manager, Professional Products NSW/ACT John Fitzpatrick - Divisional Manager, Professional Products Thomas Marcher - General Manager, TC Electronic Asia Tony Woodhead - Service Manager Mike Sanders - Regional Sales Manager, Professional Products VIC/TAS/SA



New Neutrik LX Series Speakon

With millions of connectors already in use across the world, Neutrik's Speakon series are highly regarded for high-performance loudspeaker and amplifier connections. Neutrik have now launched the latest LX Series 4-pole models.

Like the original Speakon, the new connector continues to offer high current capability, rugged construction, easy termination and arc-proof connectivity.

Improvements include 50 amp rms continuous current rating and a new compact design with only 3 parts for quick & simple assembly.

Completing the new LX range is the NL4MMX in-line coupler. This new design offers several improvements over the previous version including a more compact, rugged design and the ability to lock one end of the adaptor onto a Speakon line connector.

Neutrik professional connectors & patchbay systems are distributed in Australia by Amber Technology and are nationally available from numerous professional audio dealers.

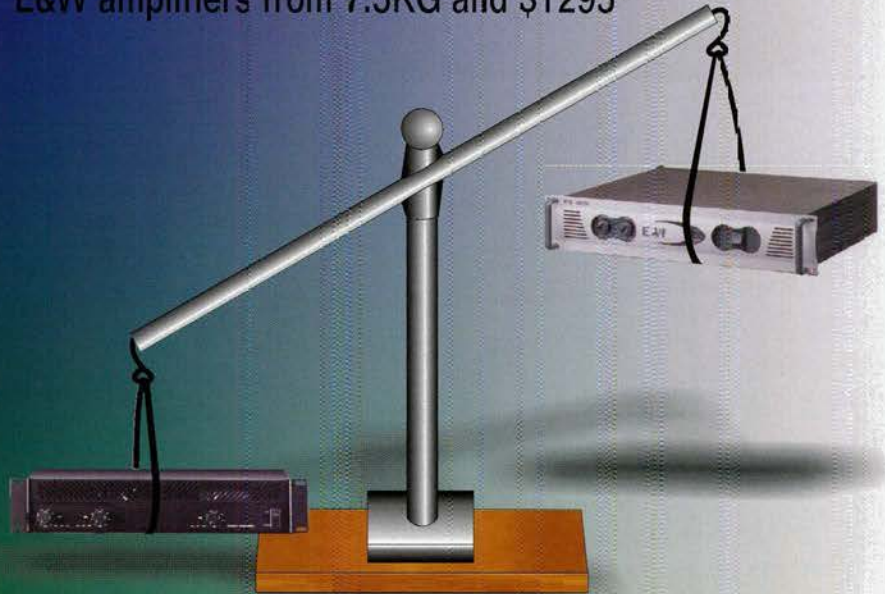
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MLAN REFINES THE DAW WITH ASIO. CONFUSED?

By Chester Ludbrook

Choosing your digital recording and editing package has never been harder. You can go the 'turn key' route, and have a Protools dealer fit you up with a Mac, hardware and software - or, you can be a little more inventive.

Chester went the latter way, and has a neat solution.

Have you seen that list on the net headed: "You know you spend too much time with midi gear when....." ?

It boasts examples like "You know you spend too much time with midi gear when your desk at work has an "in" tray, an "out" tray and a "through" tray. Well, as far as I'm concerned you spend too much time with midi gear when you A. can understand title to this article at all, and B. actually lust after one.

So to explain. "Mlan" is Yamaha's version of "Firewire", the high speed computer communication port that has single handedly turned the video post production world upside down. These days you no longer need to pay any bugger to edit your video production. You get your nifty little DV camera, plug it straight into your G3/G4 Apple Mac, and use Final Cut Pro (or similar) to edit your film/doco together in a most professional and elegant way. Even if the end result is not all that elegant (that's up to you), you can actually set up to do all this for the cost of what the just the edit session would have cost a few years ago.

You then plug your DV camera in to Mac again to dub off the master copy of your finished gem. This process has changed the way small to medium sized film and video projects are carried out for ever. AND, given that the audio mixing functions within such programs as Final Cut Pro and Adobe Premier are quite comprehensive, the face of the audio post production industry has taken a bit of a battering as well.

So, is there a "Firewire" equivalent revolution in the audio industry?

The answer is yes, there is. The audio post industry went through one upheaval a few years ago when the cost of setting up a non-linear "Digital Audio Workstation", dropped sharply from about a quarter of a million for an OPUS or similar device, to well under twenty grand for a basic system. Something like an entry level Protools system became affordable to anyone with an even mildly personable bank manager.

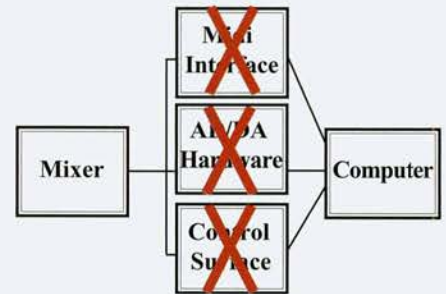
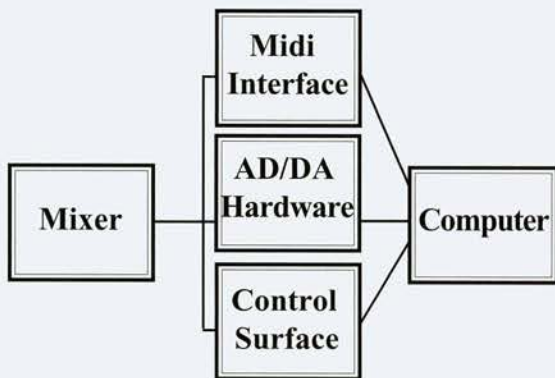
Currently, the standard DAW studio set-up consists of; a mixing desk (to route signals in and out of

your computer system, and to make it possible to monitor the audio), a rack of expensive AD/DA hardware, a software package to actually do the editing and mixing (such as the Protools application or - my favourite - Logic Audio), a "control surface" (to enable mixing to be performed on actual faders that talk to the computer system, and avoid the use of a mouse to point and click on virtual faders on the computer screen) and a computer to run the software on. (The software packaging said "requires Windows 95 or better" - so I bought a MAC!)

The new upheaval that is brewing in the audio industry is based around that same little cable that sent many video editors back to their preferred professions of waiting tables and landscape gardening. Firewire.

Or more precisely, Yamaha's variant on the theme, "MLAN" (which I believe stands for Musicians Local Area Network).

Mlan is a Firewire cable that has an expanded set of protocols that define a set of audio and MIDI based networking issues; such as clock master, component identity, sample rate, bit rate, etc etc. This means our block diagram now looks something like this:



If one uses a Yamaha digital mixing desk (which 1000's of us are already), and adds a simple little MLAN interface card, the rest is alarmingly self apparent. Your mixer not only mixes, it (in "remote" mode) also functions as





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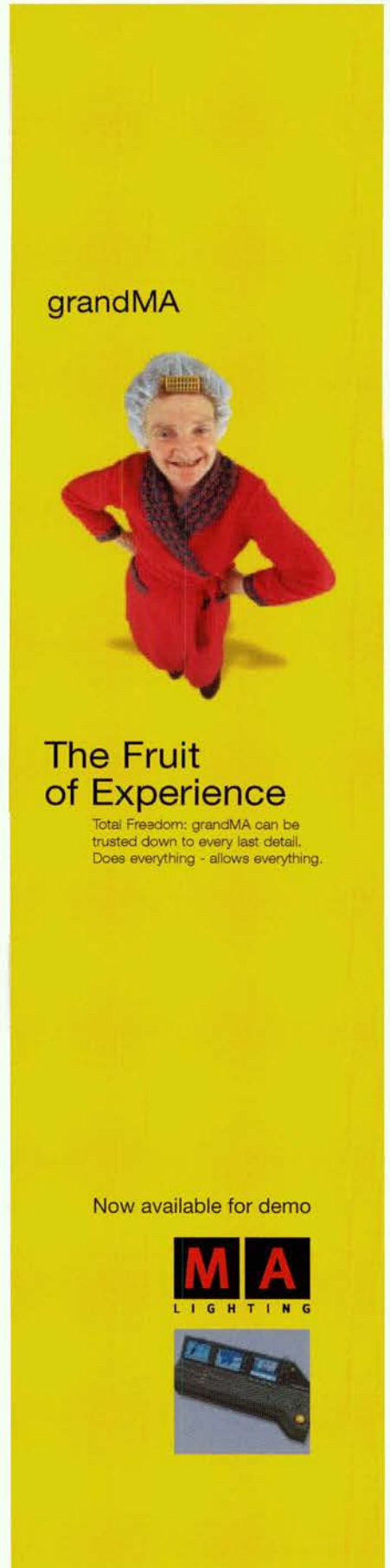
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Studio sound

a control surface, MIDI interface AND as your AD/DA hardware!! So you end up with a mixer, a cable and a computer (running something like Logic Audio with "ASIO" drivers. See, nothing to do with our secret service at all. It's a software "driver" system that allows different manufacturers' hardware to talk – in civil terms – with different manufacturers' software).

So, all very good in theory, but does it actually work? Well having just bought my new G4 Mac the review idea I've had kicking around for some time now started to become much more interesting.

So I borrowed an O1V – the baby of the Yamaha brood of digital mixing desks – and set about proving to myself that it could be done, and if so, how well.

First I had to upgrade the operating system in the mixer (panic panic) which, once I had a terminal style program for the Mac of the appropriate type, proved to be remarkably straight forward. (It's encouraging to note the manufacturers shying away from those good old EPROM upgrades to downloadable user upgrades – much easier.)

Then I had to load the Mlan card into the O1V. Very simple, remove the filler panel, slide the card in, tighten the ever-present knurled nuts. Then go to read the part of the manual that explains the very important dip-switch settings on the card, but all is well, the factory default settings are all I need.

Next we have to install the "driver" software onto the Mac. Like any install script these days, one has a quick browse at the "custom" install options just to suss out what these people are putting where on my precious new baby, and then hit "easy install".

Then tell Logic Audio to look for the ASIO drivers. Then away we go, not. One then picks up the other manual I haven't read yet to discover we actually need to configure the MLAN I/O on the Mac – in

much the same way as one sets up an "OMS" environment (to use MIDI-speak for just a moment). Having done that then rebooted, lo and behold, the level meters on Logic start dancing a jig (as did I, "you know you are spending too much time when") etc).

So it was that simple. The MLAN patching program is pretty straight forward once you spend a moment or two on it.

The O1V is, as I say, the baby of the Yamaha range and a such, is only a four buss desk. I took this to mean (when I first read about MLAN quite some time ago) that one

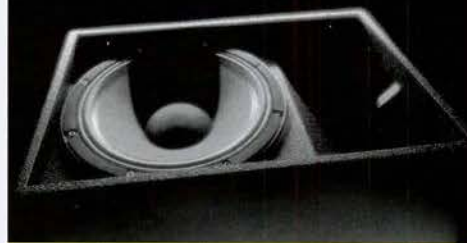
could only get four tracks out of a system such as this. Not true. The O1V has four busses, but also allows the use of the first four of it's aux sends as sends up the Firewire cable as well, giving 8 live sources of input sound.

In terms of outputs, the O1V will output however many tracks your computer can play. If you can get fifty or sixty tracks out your computer, then that is how many will come back out of the O1V. These tracks return via MLAN 8 busses, and these busses can be routed and processed independantly.

I hear with my little ear, something beginning with E: The E-Series.



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Studio sound

You can use some VST effects on your PC on some of the audio tracks and apply the O1V's internal effects (and save some coveted CPU overhead) by routing other tracks through the internal O1V effects. You can also route signals through the O1V's assignable outs for external processing. Flexible looks like being the key word here.

Any of the bigger Yamaha mixers will give you 8 busses, and given that the MLAN card has two connectors on it, maybe even more.

Result: I had numerous tracks of audio playing (and sounding just fine thank you very much), with the O1V performing the task of AD/DA admirably, although one does quickly learn to not monitor back from the computer on the same busses one is recording on. These really are bi-directional busses!!

Another bonus is the SPX style on-board effects as well as a compressor and parametric on every channel. So to compress and EQ the vocals a little, and feed a bit of verb to the cans for the vocalist – not a problem.

The O1V also has a "remote mode" (mentioned earlier) that, when one uses one of the Logic Environments freely available on the net, (and OMS), enables you to hit a single switch and turn the desk into a very comprehensive control surface. The motorised faders have multiple modes allowing remote control of volume, pan, efx sends etc, and selected switches on the front panel become transport remotes – way cool!!

The only down side? In the limited time I had on the desk (you always read that comment in these reviews don't you?) I didn't have sufficient time to explore the ASIO driver timing offsets thoroughly, so I can't say for certain that the bit of timing latency I was experiencing on VST Instruments can't be "tweaked" out. On my dear old Emagic

AudioWerk-8, the VSTi latency can be tweaked to inaudible, once you know what you're looking for. In a multi-track recording environment any latency is not an issue, one simply monitors the input signal at the desk, not back from the computer.

Final conclusion. In short, the "Firewire" catharsis is about to happen to the audio industry in exactly the same way as it already has in the video industry. When one skinny little cable replaces thirty grand worth of hardware (or more), ya just gotta love it!



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HITACHI CP-X275

The latest portable projectors from Hitachi – the CP-S225 (SVGA) and the CP-X275 (XGA) are intended for use in smaller installs and are portable enough for general lug-about use. We bench tested the CP-X275 to see just how good it is...

good electronics driving the imaging chip).

There were only two main issues I had with this projector, and one was with the optics. The manual focus and zoom lens (F=2.0-2.3) is designed for a quite short throw to the screen and does not have a very wide amount of zoom. Optically, a very short throw lens makes it difficult to get a precise focus in the corners of the screen – unless you have a curved screen. While this certainly was not a serious issue with moving images, when using the computer generated focus grid, I was not able to achieve a “perfect” focus across the entire image. However, I could get it very close – close enough for a good display of text, and PowerPoint type

imagery. Anyway, if you really wanted super high end graphic display, you should be looking at models at least twice this cost.

The other issue is the design of the rear vent. Obviously, this vent is located immediately next to the lamp – unfortunately, if the projector is placed on a shiny surface (like a table), some light that escapes through the vent bounces off the table and therefore becomes quite visible to anyone sitting behind the unit - see picture below. As the optics are designed for short throw, it means that most viewers will be sitting beside or behind the unit, making the light escaping a bit of an issue. This can be solved if you happen to have something like a black mouse pad (which I did) to alleviate the problem.

The Results: I think this projector does what it does quite well. Despite the two issues I have raised above, it is a very good unit that would do well in school or boardroom environments. One of the key features of the unit is its quiet mode, which allows for quieter operation at a slightly reduced brightness level

The Hitachi CP-X275 has a recommended retail price of \$7,495 including GST and an optional case is available that accommodates both the projector and a notebook computer - and is suitable for airline cabin transport.

These reviews used the following test hardware and software:

- DisplayMate - software for display evaluation (www.displaymate.com)
- DGTEC Set Top Box from Anderson Audiovisual +61 2 9586 3230 (www.andersonsav.com.au)

Brightness (lumens):	1200 ANSI (spec) 765 ANSI (measured)
Contrast:	350:1 ANSI contrast
Native Resolution:	1024x768
Imaging Type:	1 panel LCD (0.7")
Lamp Type:	150W UHP
Dimensions:	289x84x215 (WxHxD)
Physical Weight:	2.4kg
Speakers:	1x 1W
Vision Inputs:	4 total - RGB, Component, Video and S-Video
Vision Outputs:	none
Vision Source:	All standard TV, and computer signals up to UXGA
Operating Noise:	41dB SPL (quiet mode) 34dB SPL (‘A’ weighted at 1m from air vent)
Price (RRP):	\$7,495
Sales Enquiries:	1800 789 799
Internet:	www.hitachi.com.au

This projector is right in that optimum size that keeps the unit itself reasonably small without sacrificing too much image quality and brightness. It uses a single 0.7" LCD 1024x768 panel as its image source, has a 150W lamp, a footprint slightly larger than an A4 page and weighs only 2.4kg. As soon as the unit was plugged in and fired up, it was obvious that this projector was going to do well in testing. Good, saturated colours, reasonably dark blacks giving a good contrast, simple and (optional) quiet operation – immediately impressive features.

Initial setup of the image allowed a quite good brightness, contrast and colour balance. Broadcast, HDTV, and DVD testing showed where this particular unit has its main strength. Able to accept any input format I could throw at it, this device does a very good job at scaling up and down moving images to achieve very ‘watchable’ images.

Testing using the Displaymate software showed this device to be able to show definition to the darkest and lightest greys. While ‘black’ itself was not perfect, I would class it as one of the better LCD projectors I have seen with its ability to show a dark black. Further testing led to discovery that the unit can display the 256 levels of grey in a very smooth ramp (Plasmas, LCDs and DLP chips usually show some variations in this ramp – a smooth ramp indicates very





FUJITSU PDS 6101

When Fujitsu asked us to take a look at their new 61" Plasmavision display, it was obvious that the unit was too big to do a normal review in the Connections test rig, so we paid a visit to the Fujitsu headquarters in Sydney, and ran a cut-down version of the test sequence to see if we could determine how good the display was...

There is something about a +60" Plasma panel that is immediately impressive. At the moment, only LG, NEC, and now Fujitsu offer this size model in this market (Samsung also make one, but they do not bring them into Australia yet). The Fujitsu model has a pixel display size of 1366x768, thus allowing the unit to show Standard Definition Digital TV uncompressed. It also handles quite well High Def (HDTV), with the compression not really identifiable. Fujitsu had their panel hooked into a DGTEC STB, and running the Channel Ten HDTV test broadcast. The images were fluid, with no noticeable problems dealing with movement.

Unfortunately, I was not able to run the full battery of movement tests on the unit, but there was every indication from the HDTV broadcast that it performed well.

I was able to run a full Displaymate computer sequence to test the image quality. Initially, with the unit set to its factory settings, the unit's brightness and contrast were set to the best levels I could achieve. What was immediately apparent was that the

black level, while very dark, was not a perfect black.

On to testing for pixel accuracy, colour bleeding and other display issues, and the unit managed to pass most tests with flying colours. Excellent colour reproduction was complimented with extremely crisp clear pictures. Obviously, Fujitsu had built on their previous models when designing this one because this unit was extremely capable. It did have a very small amount of trouble displaying some of the darkest greys. This showed in the 256 Grey Scale ramp as bands of steps in the bottom third of the greys to blacks. Some of the bands looked like they were being achieved by dithering rather than a straight display of the grey level.

Further investigation of this problem in each of the three RGB colours showed that the main culprit for creating this problem were the green pixels. The Colour temp of the display can set to a user setting where the RGB can be set to levels up to 255. The factory setting had the Red and Blue settings at 255, but the green was set lower. This was likely to be the cause of the dithering effect. When the Green was set to 255, some of this effect was reduced – but not eliminated. However the resulting image was not an ideal colour balance.

The Results: For applications were you simply must have a display this size, then the Fujitsu would be a good model to look at, and possibly the best display of the +60" options currently available. However, no +60" model as yet has a better image than the best of the 50" and 42" models currently available.

NEW PROJECTION



Epson have released two new projectors into their range – the EMP-

TW100 and the EMP-TS10 (pictured). Both look quite similar and are claimed to be high contrast machines – at 600:1 and 500:1 respectively.

The EMP-TW100 is a native 16:9 image projector at the decent resolution of 1280x720. It uses the new 3chip 0.87" LCD panels. The EMP-TS10 is a more conventional SVGA projector (800x600) that uses the 3chip 0.9" LCD panels.

Both can handle projection up to around 7m, and use the bright 150W UHE lamp. The EMP-TW100 has a recommended retail price of \$11,999 and the EMP-TS10 is \$7,399.

Epson +61 2 9903 9000
www.epson.com.au



Panasonic have released two new models – the PT-LC75E and the PT-LC55E. They have

a native resolution of XGA and SVGA respectively, and Panasonic claim they are both 1200ANSI Lumen units. With a specified contrast of 400:1, both units are single chip LCD projectors, equipped with large diameter, very short throw lenses.

Panasonic have introduced an interesting feature to these projectors – a built-in gravity sensor. This sensor can detect angles up to 30deg, and automatically adjust the keystone accordingly. These projectors are very competitively priced – PT-LC75E \$6,495 and PT-LC55E \$4,995.

Panasonic 132 600
www.panasonic.com.au

Resolution: 1366 x 768 pixels

Pixel pitch (RG&B): 0.99 x 0.99 mm

Active area (W/H): 1351 x 760

Viewable picture area:

61"/1550mm (diagonal)

Weight: 61kg

Dimensions: 1452x862x119 (WxHxD)

Vision Inputs: 6 total - 2x RGB,

1x DVI, Component, Video and S-Video

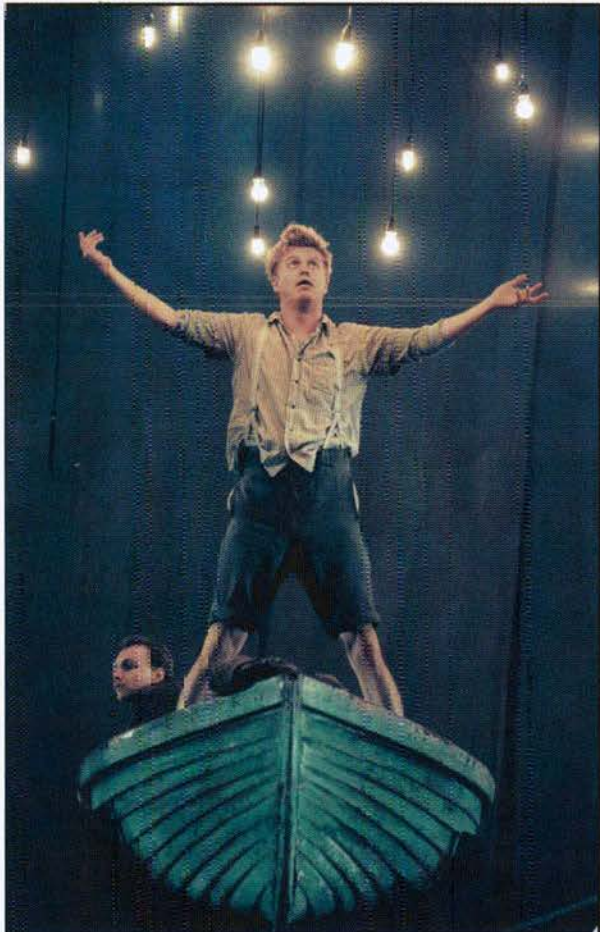
Vision Outputs: none

Vision Source: All standard TV, and computer signals up to UXGA

Price: \$42,400

Sales Enquiries: +61 2 8822 2555

Internet: www.fujitsugeneral.com.au



Helpmann Awards Recognise Mark Howett – Lighting Designer

The most recent winner of the Helpmann Award for Lighting Design, Mark Howett is certainly one of the most innovative LD's this country currently boasts. The award was for his work on last year's re-staging of *Cloudstreet* – a co-production between Sydney's Company B Belvoir and Perth's Black Swan Theatre.

Cloudstreet has had a substantial ongoing life since its inception in 1998, including an international tour in New York, Washington, Zurich and London to rave reviews. On winning the award, Mark was said to be quite honoured by the industry recognition of his work.

Based in West Australia, Mark Howett has been a designer for the last 15 years, working for numerous local national and international companies, including Bangarra Dance Theatre, The National Theatre UK, The Australian Ballet, Opera Australia, Sydney Theatre Company, Auckland Opera and Adelaide Festival of the Arts.

Mark has also been the lecturer coordinating the lighting course for WAAPA (Western Australian Academy of Performing Arts/Edith Cowan University) for five years as well as lecturing at NIDA (National Institute of Dramatic Arts).

In 1984 a travel study grant from the West Australian Arts Council enabled Mark to tour the United States of America and the United Kingdom. He was able to observe the lighting design course held at Yale University's Drama School in New Haven (Connecticut) coordinated by Jennifer Tipton.

According to Mark, this trip certainly opened his eyes to the differences in teaching lighting design internationally. Mark believes that the process for teaching production to students in Australia does not accurately reflect the way people actually have to work in the industry. Mark calls this "No onstage practise". He says that students do not learn how to interact and work with mechanists, nor do they work to timelines that the industry must use for commercial viability. There are other more

subtle differences, but these were the main two issues he was worried about.

With no strong mechanist department in schools, students do not learn the high importance of this area.

Mark goes on to say:

"In main-stream theatre, the head mech is the most important person on the stage, as that person controls how the lights (and sound) are rigged in the venue."

This issue leads to another of Mark's concerns for the industry – the draining of the talent pool. Most LDs agree that a really good Head Electrician makes the difference between a good lighting show and a great lighting show.

With a good Head Elec, the time taken to get a show in can be significantly reduced, thus allowing the designer the time and space to finesse the final look. According to Mark, there is only a handful of this precious breed of technicians out there. Once discovered, lighting designers will always hire and rehire them when they can because of the way they can make things happen.

On the lighting design side, Mark is exploring the use of moving light – and this does not mean intelligent lighting. Mark is exploring the effects of actually moving the source of the light for specific effects. Unlike the recent Sydney Dance Company show "Ellipse" (reviewed elsewhere in this issue), Mark uses more conventional lights and heavy duty tab (curtain) track to physically truck a light along a rail.

Mark says that the effect of doing this significantly increases the impact of an effect. For example, the impact of a sunrise where the point source actually moves to reflect the position of the sun is far better than anything that can be achieved with fixed or intelligent lights. Mark sometimes even goes to the effort of making the sunrise occur in the theatre in a similar position to where the sun would actually be if that particular theatre was not there at all.

All of this is controlled using whatever means the head mech and the head electrician can come up with, rather than expensive motorised systems.

"I see this kind of lighting as the way of the future," says Mark. In his opinion, we will see more and more of this kind of effect, as more LDs discover it.

Mark Howett, has most recently designed the Australian Ballet's production of *Totem* and the international tour of *Crying Babies* for the Marrugeku and Stalker Theatre Co, and is currently taking a well deserved break to spend time with his family.

- John Grimshaw



The Mercury Question



Despite the fact that mercury is a highly toxic element, it is also a fundamental component in many lamps used today. Without it, the entertainment industry's most expensive and impressive lights and vision projectors would become very expensive door stops. In the US, industry associations are fighting state bans on products containing Mercury - Connections takes a look at these moves and the local implications...

With mercury they can be bigger, uses less power and emit more light at the desired colour temperature. Metal Halide discharge lamps (which includes MSR, MSD, CSI and HMI) rely on small amounts of mercury to achieve bright levels for very little power consumption at useful correlated colour temperatures.

Halophosphate fluorescent tubes (generally Colour 33/Cool white) contain extremely large amounts of Mercury, and should be handled especially carefully. These will be banned in NZ (as of July 1) under the Minimum Energy Performance Standard. However, they are currently the main volume fluorescent products used in the general lighting industry.

Even the specialised fluorescent studio lights used in film and television studios around the world contain the element.

Night time sporting events will be near impossible to televise, as the only real alternative becomes tungsten incandescent lighting - talk about turning back the clock!

The US state of Rhode Island has already banned the import of materials containing more than 1mg, and other states are looking to follow their lead. Should this banning continue, and the largest consumer of these products stops buying, you could expect the cost to the rest of us to skyrocket as the 'economies of scale' are removed from the lamp manufacturers.

Fighting against these changes in the US is the Entertainment Services and Technology Association (ESTA). They are in the process of campaigning, providing information on repercussions and offering an alternative to simply banning the lamps. Below is an important extract from ESTA's position paper.

(continued over)

by John Grimshaw

Extract from ESTA's "Responsible Use of Mercury-Containing Lamps in Entertainment Lighting: A Position Paper" (reproduced with permission)

Eliminating mercury-containing lamps will make a huge, industry-wide investment in luminaires prematurely obsolete. Non-mercury lamps generally cannot be substituted for mercury-containing ones in luminaires. If mercury-containing lamps are removed from the market, the luminaires will become unusable. These luminaires range in cost from several hundred dollars to several thousand dollars.

The loss to individual lighting companies will run from hundreds of thousands of dollars into the millions. Manufacturers will have to redesign entire luminaire product lines and retool at enormous expense.

Switching to luminaires that use incandescent lamps rather than mercury-containing lamps, if this can be done, will

1. increase power consumption three to twelve times. Incandescent lamps consume far more power than mercury-containing lamps to produce the same amount of light. It takes a 2,000 watt incandescent lamp to equal the light

output of a 575 watt metal halide lamp. If the incandescent lamp must produce light that is the same color, a blue filter will have to be used, which loses 75% of the light. A 2,000 watt incandescent lamp isn't enough then; 8,000 watts will be needed - and all to duplicate the output of a 575 watt metal halide lamp.

2. increase emissions of particulates and greenhouse gases from power plants due to the increased power required.

3. increase the amount of mercury released into the environment. Power plant emissions are by far the largest source of mercury in the environment. Coal, America's most abundant fuel, contains mercury. When it is burned, mercury goes up the smokestack into the air and then rains down on the countryside. More than 2 milligrams of mercury are released for every thousand lumens produced per hour using incandescent lamp technology. Less than 0.5 milligrams are released with metal halide technology.

Toxicity

The effects of mercury are cumulative, with organic organisms being unable to expel the contamination once ingested. Thus, animals higher up the food chain will accumulate all of the mercury in the foods that they eat.

Items containing mercury that are disposed in landfill can end up letting it leech into the environment and water. Mercury is particularly toxic to fish.

High Mercury Content

Philips Lighting has fluoro tubes with extremely low (they claim the lowest) mercury content in its triphosphor tube ranges (Alto and New Generation). They have only 3mg of Mercury per tube; compared to up to 8mg for Philips halophosphor tubes (TLD36/33) – or average of around 40mg for most 4ft fluorescent tube in 1985. Other manufacturers make triphosphor tubes to 5mg.

Philips Lighting tell us that they are actively working with Advanced Recycling Australia on a joint initiative marketing program to encourage users to recycle spent lamps, both fluorescent and HID (High Intensity Discharge).

Making the Rules On Mercury...

The industry-government working group comprises the Australian Electrical and Electronic Manufacturers' Association (AEEMA), the Australian Information Industry Association (AIIA), the Australian Mobile Telecommunications Association (AMTA), the Consumer Electronics Suppliers' Association (CESA), representatives of Commonwealth State and Territory environment agencies, with guidance from various industry stakeholders, including the Australian Industry Group (Ai Group), Australian Chamber of Commerce and Industry (ACCI) and Australian Retailers' Association (ARA).

More Information

Due to space limitations, Connections has placed further related information on the website (www.conpub.com.au/mercury.htm) - including:

- The Industry/Government working group plans for creating the National Product Stewardship plan
- AEEMA's work on the disposal of lamps
- Link to an MSDS for Mercury
- Link to the full version of ESTA's position paper
- some other important links

Thanks to Peppi Wilson (AEEMA), Sarah Bastin (Philips Lighting), Karl Ruling (ESTA) and Karsten Larsen (ARA) for their help in compiling this article.

The ESTA solution to this problem is something that they have called "Product Stewardship". This is aimed at getting the entire industry from manufacturers and suppliers to users to become responsible for the safe use and disposal of the product. Essentially this system gets manufacturers to supply Material Handling Data Sheets (MHDS) for their products and ensures there is a proper path for the product's disposal after it has reached the end of its life. Suppliers become responsible for ensuring this information is passed to the users, and possibly also aids in the recycling path.

Presumably, this would raise the fundamental price of product to add the cost of recycling, but this is far better than a situation where products are banned.

In Australia, we are in a very different position then the US. Currently, the only Australian laws that deal directly with mercury pertain to the maximum amount that can be contained in landfill – a law that is almost impossible to police. However, individual states and the federal government are looking at legislation alternatives that may see us having to adjust what we do with spent lamps.

From our research, we were only able to locate one company in the country that is capable of recycling spent lamps. Advanced Recycling Australia (ARA), based in Melbourne has some significant contracts with government departments, but this is still a fledging industry. According to Karsten Larsen at ARA, the NSW and SA state governments are currently the most proactive in terms of preventing mercury poisoning of landfill. No recycling is free of cost – even curbside household recycling is paid for with the rates of the households. As a result, recycling of this type of product is currently only really available to large companies and government. The SA government is beginning a process of ensuring all spent lamps in government departments are recycled – the first step before forcing other companies to recycle as well.

Is somebody making sure we do not face the same issues as the US? Well, yes there is.

The Australian Electrical and Electronic Manufacturers Association (AEEMA) are part of an industry and government working group that is recommending we adopt a "National Product Stewardship" system here before the legislators try to force change on us all by legislating specific actions.

Lamps are not the only devices containing toxic elements. This working group of numerous industry associations is in the process of addressing these issues across many industries (see sidebox).

AEEMA has formed an internal lighting forum, the Lighting Industry Council. They are currently developing a discussion paper exploring some of the issues associated with a shared product stewardship strategy for lamps, specifically prioritising and examining options. At least the industry knows they need to change.

As an industry association, they are well placed to work out the solutions – working with government and all stakeholders to decide how the desired outcomes should be reached. Thus avoiding a situation where a governmental lack of understanding of the industry could cause them to implement 'solutions' which actually cause more harm to the environment than no action.

While they have taken careful note of the US attempts, it does not necessarily make sense for Australia to try to implement here the exact systems in place overseas, as the Australian position (small population, huge geographic spread, small economic base) is very different.

AEEMA has been working on this general area for a few years, including working with the Australian Greenhouse Office on energy-reduction measures. Only recently have they begun looking in more detail about some of the end-of-life issues for lamps, however it shows excellent foresight on the part of this association to start preparing for these changes before they becomes a problem.

So, where does this leave us right now? What can we do with spent lamps today? Currently, with no clear alternative, most people choose to simply throw these out in the nearest bin – not a great solution. If the product stewardship concept does fly, the changes will come all the way to the technician on the ground that replaces the spent lamps.

On an OH&S level, all companies should at the very least ensure that their staff are aware of the dangers with handling these devices, particularly where they have exploded or been broken. There is evidence to suggest that a lamp in this condition could be surrounded by mercury molecules suspended in the air.

The solution is to change a physically broken lamp in a well ventilated area, and limit your exposure as much as possible.

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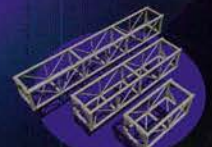
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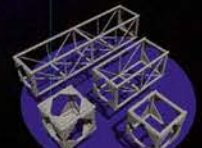
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INDEPENDENCE

When East Timor celebrated its independence last month, a special ceremony marking the event was attended by world leaders and more than 150,000 of the East Timorese nationals. Actually seeing first hand the birth of a nation has happened to very few individuals throughout history. Staging the event was a logistical Gordian's knot, successfully untied by a very capable group of Aussie production staff. Lighting Designer - Martin Kinnane and Lighting Production Manager - Paul Rigby have penned for Connections some insights into this very important event...



Martin Kinnane prepping some of the 2k Space Cannons



Damon Coad and Don McGregor rigging in the bamboo towers



Martin Kinnane with some of the ceremony's performers

Viva Timor Leste

by Martin Kinnane

It was last November when Ignatius Jones approached me to light the Independence Day Ceremonies of East Timor. I jumped at the chance. How often do you get to travel to a tropical island and light a piece of history.

Perhaps a brief history of East Timor might be a good idea at this point. In 1753 the Portuguese declared East Timor's Independence after ruling there since 1701. Ten days after the Portuguese declaration the Indonesians invaded and this was the start of 24 years of massacres, rape, torture, looting and oppression. At least a third of Timorese are reported to have been killed and many are still missing or refugees in West Timor. With the fall of Indonesian President Suharto in 1998 the Timorese people, after years of guerrilla fighting were allowed a major voice in the world press and in 1999 they were allowed to vote for Independence. This led to many violent reprisals from the Indonesians and the Indonesian backed Militia forces. Later that year the Australian Troops (INTERFET) with support from several nations moved into East Timor to try and stop the killings. Shortly after that, the United Nations officially took over control of the administration of East Timor. And then on May 20, 2002 the East Timorese became fully independent and commenced self rule for the first time since 1700.

My active involvement started in February when the core production staff, Ignatius Jones (Creative Director), Ed Wilkinson (Head of Production), Mark Thompson (Designer), Julian Gough (Musical Director), Mitzi Zaphir (Project Manager), Robbie Klaesi (Technical Director) and myself travelled to Dili the capital of East Timor. Mark, Julian and I spent two weeks taking in the culture of the people of Timor, visiting the proposed site for the ceremonies, meeting important members of the United Nations Temporary Administration of East Timor (UNTAET) and dealing with the amazing bureaucracy of the United Nations for

which we were working.

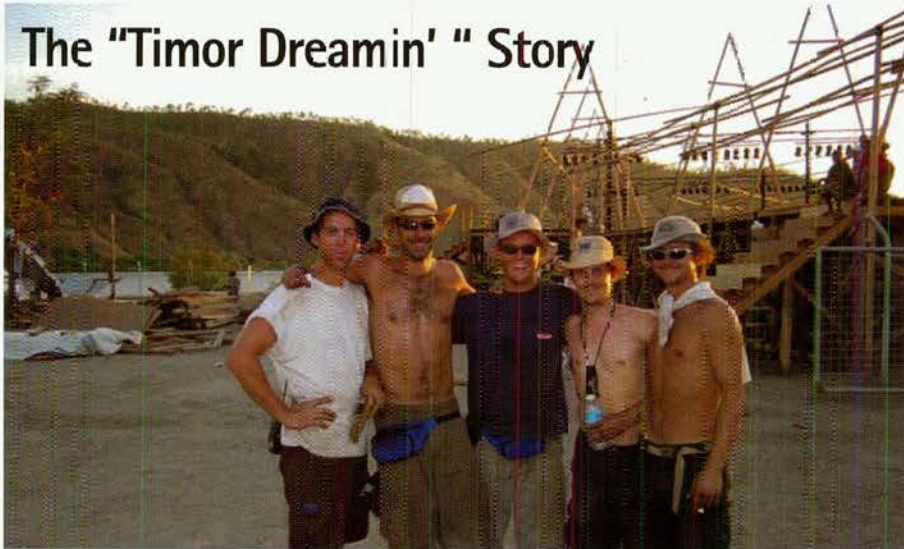
I spent much of those two weeks touring the areas to the west and south west of Dili, meeting the people and seeing many culturally significant sites some of which rarely seen by non-Timorese. This included some amazing Portuguese relics including a fort and prison dating back to a time before white settlement in Australia. The rest of my time was spent trying to explain to all and sundry that there was no way we could achieve "Olympic" scaled lighting and effects with a budget a vast percentage smaller.

The final event design was a performance arena roughly 80 meters in diameter with a 20 meter stage at one end and VIP's on either side of the stage. The materials used for the entire site was local product palm leaves, bamboo, etc and constructed by local labourers. The lighting consisted of six towers around the performance arena with 18x Par 64's with Scrollers and three Cyberlights per tower. Evenly spaced around the arena I also had 18x 4Lites also with scrollers. There was also lighting for the stage, VIP areas, monument lighting and the audience near the arena. The audience away from the arena was lit with Daylighters.

I had 8x 2k Space Cannons behind the stage creating a fan reminiscent of the logo of Independence and also lighting the raising of the giant East Timor flag beautifully.

The event was an incredibly moving experience. The whole show was a tribute to the people of East Timor, their culture, resistance to oppression and friendly happy natures. The joy could be felt in the air as we paid tribute to the heroes of the resistance, during the 30min fireworks display and while the flag was raised to fly over East Timor for the first time. The sounds of approval from the estimated 150,000 strong East Timorese audience were a thrill I hope I never forget.

The "Timor Dreamin' " Story



Dili Backstage - Paul Rigby, Don McGregor, Michael "Marty" Webber, Rohan Harrison and Damon Coad

While the size, scale and logistics of such a project would scare most companies away, Bytcraft approached the East Timor Independence Day Celebrations (IDC) with a sense of adventure, excitement and confidence. Due to our experience with the 2000 Olympics we felt right at home doing large scale arena shows where the logistical challenges were large. While the story behind us getting to Dili is as interesting as what went on once we got there, due to the space restrictions I will keep this account to what happened on site, which is a story in itself...

by Paul Rigby

After quite a long day getting to Dili, involving flights from Sydney to Brisbane, then to Darwin and finally the Hercules to Dili, we finally arrived at the venue in the dusk one evening to find a fairly large circular field with some half built scaffold towers, a half built stage, a lot of dirt and dust and a few interested locals hanging around. Over dinner that night we remarked that the only way we were going to survive the next 2 weeks was with a sense of humour and a sense of adventure. As we drifted off to sleep dreaming those "Doxy Dreams" we wondered what lay in store for us....

Our schedule was fairly tight, but not too tight as we imagined that we would have to do everything ourselves and not rely too much on the local labour that was being provided. We had skipped 4 x 20' containers and had 5 crew on site, and so we figured we could do everything in 3 or 4 days before we started plotting.

The load in and set up was very hard work for all of us due to the dirt and dust that was everywhere, within minutes of starting work we were filthy from head to toe and we also had to contend with the heat which was peaking at 36 deg in the middle of the day. We were unable to push any cases around the venue due to the dirt and so relied on Bernie, our new German UN friend who drove the 4WD forklift for us. We settled into a routine involving 4 hrs work in the morning, then returning to the hotel for lunch to peel off the dirt before returning in the afternoon for another 4 or 5 hours.

One of the largest challenges we faced in Dili was the constantly changing circumstances. As the UN were responsible for providing so many things that we needed to do our job we were always at their peril as to what we could achieve. For instance they were supposed to provide transport but we were not allowed to drive the vehicles ourselves, we had to have a driver and as our driver was involved in an accident in the first few days we suddenly had

to make our own arrangements.

To overcome this we hired our own vehicle from a Japanese rental company, but not just your average hire car, this was the "U2mobile". If you can imagine a ute with a blow dryer for an engine then you would be close. This little beauty had bald tires, hardly any suspension and an engine of about 800cc. We drove ourselves around with 2 crew in the front and 3 in the back of the ute which caused a great deal of interest from the locals.

How it became the "U2mobile" was because every UN vehicle in Dili (and there was a lot of them!!) was white and had a large UN painted on the side. We discovered that the width of a piece of gaffa tape was as wide as the UN writing and so instead of painting UN on the side, we painted U2 with gaffa !!!

The U2 mobile carried us and our gear everywhere in Dili, and it was a sad day when we had to return it.

As we progressed with the load in we were constantly being kicked around by the UN. Everyday was another challenging day. The site Technical Manager, Ed Wilkinson, was managing a million things all going wrong, and we decided to keep our heads down and get on with the job.

One group of people we were dealing with the UN Engineers who were in charge of the power and generators, and who were burying cables 6 inches under the ground and who also kept on moving our mains connection from one generator to another. This team of about 6 guys were Indians, and so we had a hard time understanding what they were going on about. Also, we didn't really want to look inside any of the DB's as these things would not be legal in Australia!

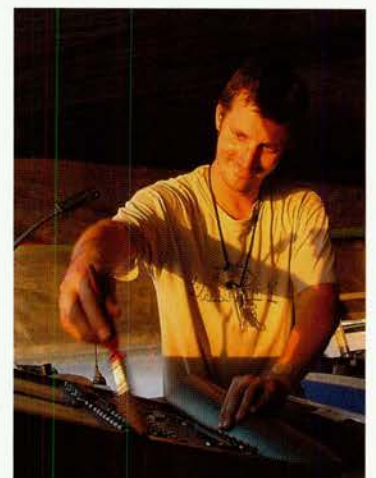
After 4 days we finally had most things installed and operational and so began night shift. After some lessons learnt at the Olympics we were determined to let the Lighting Designer



Mains distribution - Dili style



Roadcase movements in the dust



Rohan Harrison cleaning the Whole Hog 2

Special Events



The Timorese crew in front of the U2 ute - we wonder what the UN thought of this little display of Aussie humour!



Independence in progress

have enough time to do what we came here to do, and so for the next 4 or 5 days we became the night owls.

After one night of Plotting we had the first Dress Rehearsal during which Martin was kept busy as he was operating a followspot while lighting the show, but the rest of us passed the time playing "Where's Waldo ?" We also managed to finish installing the rest of the rig while the stage, set and seating were being completed.

We had 2 rehearsals after which we stayed until 4 am plotting and by the end of the 2nd nights plotting we had a pretty good show saved.

For the final rehearsal the night before the show the UN provided followspot operators turned up, however they had never operated a spot before and also didn't speak to much English so after a bad first half Martin had the unenviable task of sacking them. The life of an LD is never easy !!

The show itself was quite a moving and emotional as it told the story of the East Timorese people, which is not a happy story. One of the most moving moments involved the story of the Indonesians surrounding Timorese

villages with children and using these children as human shields while they approached the village to capture the Timorese Freedom fighters. With a story like this it was hard not to be moved..

The load out was a challenge due to the AQIS quarantine requirements of cleaning the equipment for the return to Australia. The Bytecraft team enlisted the use of the locals to clean all of the equipment and as I write this the equipment is in transit back to Sydney. Overall, the job was a success for us due to a number of facts:

- 1 The Bytecraft Team - Marty Webber (Crew Chief), Rohan Harrison (Operator), Don McGregor (Moving Light Tech) and Damon Coad (Lighting Tech). These guys put in 110% in very difficult and hard circumstances.
- 2 Martin Kinnane, the LD -Who was extremely easy to get along with and nothing was ever a problem for him. If only all LD's were this good and this easygoing.
- 3 Ed Wilkinson - The goalposts kept on moving, but at least he could tell me where they had moved to. Thanks for everything Ed.

Paul Rigby is the Lighting Production Manager at Bytecraft Entertainment

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Model (Range), Configuration and Primary Use, Frequency Response, Bi-amplification, Continuous Power Rating, Acoustics, Physical Features, Other Features, List price

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- Acoustic Technologies LG02**, Full range 2 Way Cabinet, 75Hz-16kHz, 200w Program, 2x 6.5" Bass + HF Device - 4 or 16 Ωs, Compact, Trapezoidal, Bracket Inc, Foam Grille, Textured Finish, 3 Year Warranty, \$435
- Acoustic Technologies LG07**, Full range 2 Way Cabinet. Multi-purpose, 65Hz-20kHz, 200w Program, 2x 6.5" Bass + 1" HF Comp Driver - 4 or 16Ω, Compact, Trapezoidal, Pole Mount, Mesh Grille, Textured Finish, 3yr Warranty, \$995
- Acoustic Technologies LGB01**, System Oriented Sub Bass Reinforcement Cabinet, 45Hz-600Hz, 300w Program, 2x 10" Sub Bass - 4 or 16 Ωs., Extremely Compact, Foam/Mesh Grille., Textured Finish, 3 Year Warranty, \$595
- Acoustic Technologies LPW02**, 100Hz-18kHz, 500w Program, 12" + Coaxial + 1" HF Driver - 8 Ωs, Compact, Pole Mount, Mesh Grill, Dual Angle, Textured Finish, 3 Year Warranty, \$1,395
- ARX Ambience 1**, 1 x 5 1/4" LF + 1 x 3/4" HF. Install, AV, 60Hz-20kHz, Bi-amp using AmbiSub & Ambidrive Amp, 75w Program, 86dB@1w - 1m, Black, White or other painted finishes, 8Ω/100V avail. plus mounting brackets, \$247(Pr)
- ARX Ambience 5**, 1 x 8" LF + 1 x 1" HF. Install, AV, 50Hz-20kHz, Bi-amp using AmbiSub & Ambidrive Amp, 150w Program, 89dB@1w - 1m, Black, White or other painted finishes, 8Ω/100V avail. plus mounting brackets. \$816 (Pr)
- ARX MicroMax**, 1 x 8" LF + 1 x 1" HF. Install, Club/Lounge, 60Hz-20kHz, Bi-amp using MicroSub & Microdrive Amp (inbuilt processor & X/Over), 180w@8Ω & 320w@4Ω for Sub, 92dB (M-Max) 95dB (M-Sub), Black or Finished/Sanded unpainted finish, 8Ω or 100VOLT avail. Omnimumount nuts., \$780 ea.
- ARX Powermax 1**, 1 x 12" LF + 1x 1" horn. Install, Compact PA., 50Hz-18kHz, Bi-amplification using PowerDrive Tri-Amp & PowerMax Sub, 340w @ 8Ω & 450w @ 8Ω for Sub, 99dB (PM-1) 103dB (PM-Sub), Black, 8Ω, \$1818 ea
- Bose 203**, 2 x 4.5" Full range star drivers, 100w Continuous, Max Acoustic Output - 104dB-SPL@1m, 5kg, Black or white, Optional transformer, \$1195 pair
- Bose 302A Loudspeaker**, 2 x 2.5" Tweeders/5.25" Bass Speaker, 100w Continuous, Max Acoustic Output - 104dB-SPL@1m, \$1199 pair
- Bose Panaray 402II**, 4 x 4.5" Full range, 120w Continuous, Max Acoustic Output - 111dB-SPL@1m, Black or white, weatherproof, \$799 each
- Bose Panaray 802III**, 8 x 4.5" Full range, 240w Continuous, Max Acoustic Output - 114dB-SPL@1m, 14kg, black, weatherproof, \$1599 each
- Bullfrog DT112MR (part of the DT Series range)**, 12" 2-way Monitor, 50Hz-18kHz, 250w RMS, 99dB (1w@1m), Deep tuned - carpet covered, COMPGARD protection - 3 yr warranty, \$899
- Bullfrog DT115 (part of the DT Series range)**, 15" 2-way FOH, 45Hz-18kHz, 350w RMS, 101dB (1w@1m), Deep tuned - carpet covered, COMPGARD protection - 3 yr warranty, \$999
- Bullfrog PR12 (part of the PR Series range)**, 12" 2-way FOH, 60Hz-18kHz, 250w RMS, 102dB (1w@1m), Trapezoidal - carpet covered, COMPGARD protection - 3 yr warranty, \$799
- Bullfrog PR15 (part of the PR Series range)**, 15" 2-way FOH, 60Hz-18kHz, 350w RMS, 102dB (1w@1m), Trapezoidal - carpet covered, COMPGARD protection - 3 yr warranty, \$899
- Celestion CELCXI1221 (part of the CXI range)**, 12" 2-way FOH, 48Hz-20kHz, 300w RMS, 97dB (1w@1m), Trapezoidal 10 x M10 fly points, NoBell resonance inhibited horn flare, \$2,399
- Celestion CELCXI821 (part of the CXI range)**, 8" 2-way FOH, 64Hz-20kHz, 275w RMS, 95dB (1w@1m), Trapezoidal 10 x M10 fly points, NoBell resonance inhibited horn flare, \$1,599
- Celestion CELR1220 (part of the Road Series range)**, 12" 2-way FOH, 50Hz-20kHz, 250w RMS, 97dB (1w@1m), Lightweight polycore enclosure, Polyswitch driver protection, \$999
- Celestion Substation18 (part of the Substation range)**, 18" SUB, 40Hz-250Hz, 400w RMS, 99dB (1w@1m), Kick proof grill - rugged design, Dual voice coil - 3 crossover settings, \$1,999
- Cerwin Vega PS12SII (part of the Prostax range)**, 12" 3-way for FOH, 55Hz-20kHz, Bi-amplification capable, 250w Program, 102dB Sens, Tolex finish, 8 Fly Points, Trapezoid Cabinet, O/load Protection, Speakon & Jack, \$2,099

Acoustic Technologies LPW02



Celestion CELCXI1221



Celestion Substation18



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DAS	Magna System & Engineering	+61 2 94171111	www.dasaudio.com
EAW	Production Audio Services	+61 3 9415 1585	www.productionaudio.com.au
Electrovoice	EVI Audio	+61 2 9648 3455	www.electrovoice.com
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HK Audio	Audio Products Australia	1800 642 922	www.audioproducts.com.au
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Session	Electric Factory	+61 3 9474 1000	www.elfa.com.au
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Yorkville Sound	Dynamic Music	+61 2 9939 1299	www.yorkville.com

SMALL PA SPEAKERS

Speakers that fit in hatchbacks! We published a large Speaker Box report in December, if you want to compare prices and specifications. Taken together the two reports cover what is currently available in the Australia pro-audio loudspeaker market. We advise reading both before contemplating a purchase - it makes for 'interesting' reading...

For this report Small Speaker Boxes refers to a loudspeaker cabinet that (typically) has 1 x low frequency driver, 1 x mid driver (if fitted) and 1 x high frequency driver, and where the maximum continuous power of all components doesn't exceed 500 watts RMS (program), give or take.

That is, the level that a box can comfortably, continuously operate - at 500w that's still fairly hefty. There are a few exceptions here where companies have listed combined systems. These are systems whose individual components cannot be sold individually. And while such systems exceed the overall RMS limitation of this report, the individual components are within the range.

You will also notice a few omissions in this report. All potential suppliers were contacted but did not submit material due to time constraints - refer to the brand listing on the Connections website to find their details (www.conpub.com.au). If we have missed your favourite brand, please tell us so we can improve the report for next time!

Researched and Compiled by Dan Grafton



Bose 802 III



Crest LQ15



Interlink 012

Model (Range), Configuration and Primary Use, Frequency Response, Bi-amplification, Continuous Power Rating, Acoustics, Physical Features, Other Features, List price

Cerwin Vega SM122, 12" 2-way Monitor, 80Hz-17kHz, 450w Program, 101dB Sens, Carpet finish, Pole mount, Low Profile Cabinet, Overload Protection, Speakon Input, \$999

Cerwin Vega V152, 15" 2-way for FOH, 40Hz-30kHz, 300w Program, 103dB Sens, Carpet finish, Pole mount, 31.5kg Timber Cabinet, Overload Protection, Speakon and Jack Inputs, \$1,099

Cerwin Vega V153, 15" 2-way for FOH, 40Hz-30kHz, 400w Program, 104dB Sens; Crossover at 3.5kHz and 10kHz, Carpet finish, Pole mount, Trapezoidal Cabinet, Overload Protection, Speakon and Jack Inputs, \$1,699

Clarity CLA2400, 12" 2-way FOH, 55Hz-18kHz, 400w, 97dB (1w@1m), Rugged design - Metal corners, Dyn. HF protection - 36 Month Warranty, \$399

Clarity CLA2400DA, 12" 2-way Multi-angle, 55Hz-18kHz, 400w, 97dB (1w@1m), Multi-angle Mon/FOH, Dyn. HF protection - 36 Month Warranty, \$399

Clarity CLA5500, 15" 2-way FOH, 50Hz-18kHz, 500w, 99dB (1w@1m), Rugged - Carpet covered, Dyn. HF protection - 36 Month Warranty, \$499

Clarity CLASUB500, 15" Sub, 40Hz-200Hz, 500w, 98dB (1w@1m), Front loaded - kick proof grill, High pass filter, \$599

Crest LQ10, 10" 2-way, 57Hz-18kHz, 250w AES, Clarity at extreme power levels, Injection-moulded, trapezoidal 2-way enclosure, stand mount and top & bottom flying point inserts, \$1,150

Crest LQ12, 12" 2-way, 54Hz-18kHz, 500w AES, Clarity at extreme power levels, Injection-moulded, trapezoidal 2-way enclosure, stand mount and top & bottom flying point inserts, \$1,495

Crest LQ15, 15" 2-way, 48Hz-18kHz, 500w AES, Clarity at extreme power levels, Injection-moulded, trapezoidal 2-way enclosure, stand mount and top & bottom flying point inserts, \$1,995

DAS DS-12 (part of the Dynamic Series range), 12" 2-way, 55Hz-20kHz, Bi-amp capable, 300W PMS@8Ω, 93dB SPL, 1" Compression Driver, Mineral loaded polypropylene, pole mount, 37.8kg, Optional wall/ceiling mount, \$1,000

DAS DS-8 (part of the Dynamic Series range), 8" 2-way, 60Hz-18kHz, 200W RMS at 8Ω, 93dB SPL, 1" Compression Driver, Mineral loaded polypropylene, pole mount, 8.2kg, Adjustable wall/ceiling mount (optional), \$540

DAS Monitor 8 (part of the Monitor Series range), 8" 2-way, 38Hz-33kHz, 100watt RMS at 8Ω, 89dB SPL, Ultra-fine aluminium diaphragm tweeter, 15mm MAF acoustic enclosure, Wall mount bracket (optional), \$850

DAS Sub-118 (part of the Active Series range), 18" Sub, 35Hz-1kHz, Bi-amplification capable, 500W RMS at 8Ω, 131dB SPL, Incorporates 3" voice coil, Finnish Birch plywood, enclosure incorporates side-mounted handles, \$1,600

EAW FR129z, 12" 2-way, 50Hz-18kHz, 500w AES, 130dB Peak SPL, 12" LF & 1" HF driver, Trapezoidal Birch Plywood, Pole mount & fly points, Compact vented enclosure, \$2,195

EAW JF80, Dual 6.5" 2-way, 60Hz-19kHz, 460w AES, 125.6dB Peak SPL, 2 X 6.5" LF & 1" HF driver, Trapezoidal Birch Plywood, Fly points, 1-in Exit Compression Driver on Wave Guide Plate™, \$2,995

EAW LS432, 4 x 4" LF, 3 x 1" HF, 100Hz-20kHz, 150w AES, 122.8dB Peak SPL, 4 X 4" LF & 3 x 1" HF driver, Rectangular Birch Plywood, Fly points, Coverage Angles (h° x v°) 140 x 20, \$2,650

EAW UB22i, Dual 5.25" 2-way, 60Hz-18kHz, 200w AES, 123dB Peak SPL, 2 X 5.25" LF & 1" HF driver, Square with Curved Face, Dual angled baffles, Extra-wide-angled coverage, \$1,795

Electrovoice Eliminator, 15" 2-way FOH, 55Hz-20kHz, 350w program, 99dB Pk SPL, 1" HF driver, Black carpet metal grill 30kg, Ideal for bands and mobile DJs, 5 year wty, \$1,469

Electrovoice Eliminator Sub, 18" Sub FOH, 38Hz-100Hz, 400w program, Omnidirectional, 18" steel pole included 33kg, Integral low-pass crossover filter, \$1,469

Electrovoice SX100+, 12" 2-way FOH/Mon, 55Hz-20kHz, 200w program, 127dB Pk SPL, 1" HF driver, Polypropylene finish 14.5kg, PRO driver protection circuitry, 5 year wty, \$1,169

Electrovoice SX300, 12" 2-way FOH/Mon, 55Hz-20kHz, 300w program, 131dB Pk SPL, 1" HF driver, Black or White pole mount 17kg, Ultra-linear frequency response, 5 year wty, \$1,730

Fender 1270 (part of the Artist Series range), 10" 2-way Monitor, 200w program @ 8 Ωs, Small and LOUD, Injection-moulded, Loud monitor ideal for small stage and budget, \$549

Fender 115XP (part of the Artist Series range), 15" 2-way Loudspeaker, 300w program @ 8 Ωs, \$749

Fender SPL-1211 MkIII (part of the SPL Series range), 15" 2-way Loudspeaker, 300w program @ 8Ω, Internal 4th order crossover network, Rectangular cabinet, Smooth high-end and powerful low-end response, \$1,199

Fender SQ12 (part of the Squire Series range), 12" 2-way Loudspeaker, 160w program @ 8 Ωs, \$399

Interlink 006 (part of the Sonus range), 15" sub for FOH, 40 - 3kHz, 500w program, 101dB sens, 90 x 90 deg HF, Black carpeted trapezoidal, pole mnt, steel grille, Speakons, recessed handle, 3yr warranty, \$449

Interlink 007 (part of the Sonus range), 15" coax for FOH, 40 - 18kHz, 500w program, 97dB sens, 90 x 90 deg HF, Black carpeted trapezoidal, pole mnt, steel grille, Speakons, recessed handle, 3yr warranty, \$779

Interlink 009 (part of the Sonus range), 15" coax universal, 40 - 18kHz, 500w program, 97dB sens, 90 x 90 deg HF, Black carpet finish, pole mount & steel grille, Speakons, recessed handle, 3yr warranty, \$779

Interlink 012 (part of the Sonus range), 12" 2 way universal, 55 - 17kHz, 400w program, 98dB sens, 90 x 45 deg HF, Black carpet finish, pole mount & steel grille, Speakons, recessed handle, 3yr warranty, \$449

Jaycar CS-2415 (part of the Party Series range), 15" 3 way, 45Hz-19kHz, 120w RMS, 94dB/w, 15" woofer, piezo tweeters & horn., PTC speaker protection, \$209

Jaycar CS-2512 (part of the Party Series range), 12" 3-way, 50Hz-19kHz, 100w RMS, 93dB/w, 12" woofer, piezo tweeters & horn., PTC speaker protection, \$159

Klipsch KI102 (part of the KI range), 8" 2-way FOH, 75Hz-17kHz, 100w RMS, Max output 113dB, Trapezoidal enclosure - 8kgs, KLIP HF protection - flexible mount options, \$999

Klipsch KI262B (part of the KI range), 12" 2-way FOH, 75Hz-12.5Hz, Bi-amplification capable via Internal Switch, 250w RMS, Max output 125dB, Trapezoidal enclosure - 20kgs, Klip HF protection - 12 Flypoints, \$2,499

- Klipsch KI362B (part of the KI range)**, 15" 3-way FOH, 60Hz-18kHz, Bi-amplification capable via Internal Switch, 400w RMS, Max output 126db, Trapezoidal enclosure - 32kgs, Klip HF protection - 12 Flypoints, \$3,499
- Klipsch KP302A (part of the KP range)**, 15" 2-way FOH, 60Hz-15kHz, 400w RMS, Max output 127dB, Trapezoidal enclosure - 30kgs, Klip HF protection - ergonomic handles, \$1,999
- Mackie Designs C300**, 2-way Speaker System, 300W at 8-Ω, 12-inch long-throw low frequency transducer, Composite moulded, high impact enclosure, Wide dispersion, studio-quality horn assembly, \$1,495
- Mackie Designs S500**, 2-way Speaker System, 500w peak power at 8-Ω, 127dB peak output, 16-ply Baltic birch enclosure, RCF precision titanium compression driver, \$1,995
- Mackie Industrial ART 300 (part of the Art range)**, 12" High Output, RCF compression drivers & LICC crossovers, Lightweight polypropylene enclosure, 80° x 75° horn with 1" exit driver, \$1,295
- Mackie Industrial VISION PA151 (part of the Vision range)**, 15" 2-Way Loudspeaker, Built-in Compensated Crossover (LICC), 19mm Baltic birch plywood & non-scaff finish, Trapezoidal design, multiple mounting options, \$2,995
- Martin EM15 (part of the EM Series range)**, 2 x 5" FOH, 90Hz-20kHz, 100w AES, 113dB Peak, Horizontal or Vertical Use, Birch Ply & Steel Grills with OmniMount Inserts, 4 or 16Ωn ICT driver design, \$595
- Martin F12 (part of the BlackLine range)**, 12" 2-way, 65Hz-18kHz, 300w AES, 126dB Peak, Rotatable CD Horn, 97dB Sens., Birch Ply/Steel Grill Construction with Pole Mount, FOH or wedge dual use, Install or Live, \$2,095
- Martin F8 (part of the BlackLine range)**, 8" 2-way, 70Hz-20kHz, 150w AES, 119dB Peak, Rotatable CD Horn, 97dB Sens., Birch Ply/Steel Grill Construction with Pole Mount, FOH or wedge dual use, Install or Live, \$1,495
- Martin S15 (part of the BlackLine range)**, 15" Sub, 45Hz-120kHz, 500w RMS, 129dB Peak, Rotatable CD Horn, 98dB Sens., Birch Ply/Steel Grill Construction, \$2,495
- Nady NAPFW12**, 12" 2-way F/B Wedge, 200w, 12" woofer & 4" x 10.5" horn, 2-way floor wedge monitor, \$299
- Nady NAPS115**, 15" 2-way FOH, 300w, 15" woofer & 5" x 15" horn, \$399
- Nady NAPSW15**, 15" Sub woofer, 300w, \$499
- Nady NAPTS515**, 12" 2-way FOH, 200w, 12" woofer & 5" x 15" horn, 2-way trapezoid, \$299
- Nexo LS400 (part of the PS range)**, 12" sub for use with PS8, 43-120Hz, Bi-amp with PS8, 300-700w@4Ω, 131dB peak SPL; Very low bass response, Baltic Birch Ply, Stand mount for satellite speaker, Compact, light(14.6kg), \$2,495
- Nexo LS500 (part of the PS range)**, 15" sub for use with PS10, 43-110Hz, Bi-amp with PS8, 300-800w@4Ω, 134dB peak SPL; Very low bass response, Baltic Birch Ply, Stand mount for satellite speaker, Equipped with flypoints, \$3,695
- Nexo PS10 (part of the PS range)**, 10"+1" for FOH or F/B, 65Hz-20kHz, Passive Bi-amp; 200-500w@8Ω, 127dB peak SPL; Outstanding fidelity, Baltic Birch Ply, Stand mount, Fly points, Asymmetrical waveguide ensures versatility, \$3,295
- Nexo PS8 (part of the PS range)**, 8"+1" for FOH or F/B, 69Hz-19kHz, Passive Bi-amp; 200-500w@8Ω, 125dB peak SPL; Outstanding fidelity, Baltic Birch Ply, Stand mount, Fly points, Low magnetic emissions use near video equipment, \$1995
- Panasonic RAMSA WS-AT200E**, 12" 2way - FOH & FB, 70Hz-18kHz, 300w, 99dB(1w/1m), Injection Moulded-90x40 horn-15kg, Equipped with thermal protection circuit, \$1,210
- Panasonic RAMSA WS-AT250-350**, 12" & 15" Subs, 30Hz-1.4kHz, Both 400w, 12" 91dB - 15" 92dB, Injection Moulded, 12"-15kg, 15" -26kg, Neutrik and 1/4 TRS inputs, 12"\$1065, 15"\$1463
- Panasonic RAMSA WS-AT300E**, 15" 2way - FOH & FB, 70Hz-18kHz, 400w, 99dB(1w/1m), Injection Moulded-60x40 horn-26kg, Equipped with thermal protection circuit, \$1,683
- Panasonic RAMSA WS-AT80E**, 8" 2way - Low level PA, 70Hz-20kHz, 160w, 92dB(1w/1m), Injection Moulded-60x60 horn-7.5kg, Equipped with thermal protection circuit, \$740
- Peak HPS-123 (part of the High Performance Speakers range)**, 12" 2-way for FOH, 60Hz-17kHz, 300w program, 125dB Pk SPL, 1" HF driver, Carpet finish, pole mount, 24kg, wood ply box, Crossover protect circuitry, 3yr wty, \$699
- Peak HPS-151S (part of the High Performance Speakers range)**, 15" Band Pass Subwoofer, 400w program, 127dB Pk SPL, Carpet finish with satellite speaker pole mount, High Pass Filter, \$950
- Peak HPS-153 (part of the High Performance Speakers range)**, 15" 2-way for FOH, 60Hz-17kHz, 300w program, 126dB Pk SPL, 1" HF driver, Carpet finish, pole mount, 24kg, wood ply box, Crossover protect circuitry, 3yr wty, \$750
- Peak HPS-154 (part of the High Performance Speakers range)**, 15" 2-way for FOH, 50Hz-20kHz, 400w program, 125dB Pk SPL, 1" HF driver, Carpet finish, pole mount, 24kg, wood ply box, Crossover protect circuitry, 3yr wty, \$999
- Peavey Impulse 100 (part of the Impulse Series range)**, 10" 2-way for FOH, 74Hz-18kHz, 175w, 101dB (1w@1m), 1.4" titanium compression driver, Moulded plastic enclosure, Stand Mount, \$949
- Peavey Impulse 1012 (part of the Impulse Series range)**, 12" 2-way for FOH, 78Hz-18kHz, 300w, 101dB (1w@1m), 22XT compression driver, Moulded plastic enclosure, Stand Mount, \$1,579
- Peavey Impulse 1015 (part of the Impulse Series range)**, 15" 2-way for FOH, 62Hz-18kHz, 350w, 100dB (1w@1m), 22XT compression driver, Moulded plastic enclosure, Stand Mount, \$1,879
- Phonic ES 122**, 12" 2-Way, 55-20kHz, 300w(8Ω), 98dB sens, Ply, trapezoidal, 1" titanium compression driver, \$650
- Phonic ES 152**, 15" 2-Way, 55-20kHz, 400w(8Ω), 98dB sens, Ply, trapezoidal, 1" titanium compression driver, \$750
- Phonic ESM 122**, 12" 2-Way Monitor, 55-20kHz, 300w (8 Ωs), Horn tweeter, Wood, multiple angle, \$650
- Phonic ESW 118**, 18" sub woofer, 600w, Wood cabinet, 60cm x 60cm x 60cm, \$750
- Quest HPI-8 (part of the HPI range)**, 8" + Horn for FOH or F/B, 60Hz-20kHz, Passive Bi-amp, 200w RMS, Suited for monitor or background applications, Ply cabinet w/fly points, Switchable HPF for use with optional sub, \$995
- Quest QS350 (part of the QS range)**, 12"+ Horn for FOH or F/B, 50Hz-18kHz, Passive Bi-amp, 350w RMS, Strong bass performance from compact cabinet, ABS Moulded Cabinet w/stand mount, Advanced x/over network protection, \$795
- Quest QS500 (part of the QS range)**, 15"+ Horn for FOH or F/B, 45Hz-18kHz, Passive Bi-amp, 500w RMS, Smooth mid-range, good presence, ABS Moulded Cabinet w/stand mount, Advanced x/over network protection, \$995
- Session SPX 12 (part of the SPX range)**, 12" 2-way for FOH, 55Hz-20kHz, 400w RMS, 128dB Pk SPL, 1" HF driver, Russian birch ply, carpet finish, Crossover protect circuitry, 10year wty, \$699
- Session SPX 12 Wedge (part of the SPX range)**, 12" 2-way for WEDGE, 80Hz-20kHz, 400w RMS, 128dB Pk SPL, 1" HF driver, Russian birch ply, carpet finish, Crossover protect circuitry, 10year wty, \$699



Martin F8



Peavey Impulse 100



Peak HPS-154

MODEL OR SERIES INFORMATION

We asked companies tell us a bit more about the product represented in the listing. Some took advantage of this option and here is some of what they had to say...

ARX products are manufactured in Australia using only the highest quality components. Power handling specifications are "real" figures using "A" weighted reference and a full range of mounting options is available.

For nearly 50yrs, **Cerwin Vega** has been designing and building durable and efficient sound systems for cinemas, nightclubs and live concerts worldwide. Cerwin Vega builds all of the transducers used in their boxes and is the principal supplier of loudspeakers to many instrument manufacturers including Fender. With a design philosophy emphasising low distortion, high efficiency and extended bass response Cerwin Vega products offer superior performance at competitive prices.

All of **Crest's** LQ Powered enclosures are made from high impact injection-moulded polypropylene. Their trapezoidal design enables easy stacking or cluster formation, and feature extensive ribbing and bracing. The grill uses perforated metal protected by a high quality coating.

DAS - The latest edition to the DAS line up is the 'Active' range that features a newly developed high efficiency (93%) class "D" amplifier. As with the entire DAS loudspeaker range all components - drivers, flares, crossovers, and enclosures - are totally manufactured (and in most cases hand made) by the company in-house.

Audio technology is a science - but **EAW** also know it as an art. Merging both concepts in loudspeaker design requires exceptional technical

SMALL PA SPEAKERS

skill and passionate creativity. As a result, EAW considers itself to be the market leader in the design and manufacture of high-performance, professional loudspeaker design.

HK Audio has earned a reputation of high quality, and is an established name in the professional sound reinforcement sector in Europe. They say their aim is to produce the "perfect" sound reinforcement system. To this end they have an array of innovative active sound solutions for both semi professional and professional users.

'Response' speakers from **Jaycar** offer a viable alternative to expensive brands. They provide low cost access to relatively large speakers and are particularly useful when budget constraints must be considered.

Mackie Design's C300 and S500 are designed to compliment the PPM Powered Mixer Series. The ART 300 from **Mackie Industrial** features a lightweight, yet powerful professional passive design with quality RCF woofer. Also includes built-in handgrip, M10 fly points and stand socket. The VISION PA15115" 2-Way Passive Loudspeaker has a trapezoidal design and multiple mounting options allow for easy installation whether attached to walls, placed on stage or suspended from a ceiling.

In addition to its well-known range of wireless microphone systems, **Nady** offers the "Pro Power" series of speaker boxes. Ruggedly built and affordably priced, this line-up features exceptional sound quality as well as excellent value for money.



Turbosound Impact 50



Turbosound Impact 110



Yamaha S112IV



Tannoy T12



Yorkville NX-20

Model (Range), Configuration and Primary Use, Frequency Response, Bi-amplification, Continuous Power Rating, Acoustics, Physical Features, Other Features, List price

Session SPX 15 (part of the SPX range), 15" 2-way for FOH, 45Hz-20kHz, 400w RMS, 134dB Pk SPL, 1" HF driver, Russian birch ply, carpet finish, Crossover protect circuitry, 10year wty , \$899

Session SPX 15 Sub (part of the SPX range), 15" SUB bass cabinet, 40Hz-225Hz, 300w RMS, 130dB Pk, Russian birch ply, carpet finish, Crossover protect circuitry, 10year wty , \$599

SoundTech AC10M (part of the AudioChoice range), 10" & piezo, Foldback, 80Hz-18kHz, 75w, Black Dura Hide, Excellent Value for Money, \$339

SoundTech AC12T (part of the AudioChoice range), 12" & Piezo, FOH, 70Hz-18kHz, 100w, Black Dura Hide, Excellent Value for Money, \$399

SoundTech AC15T (part of the AudioChoice range), 15" & Piezo, FOH, 60Hz-20kHz, 150w, Black Dura Hide, Excellent Value for Money, \$599

Tannoy i15 (part of the Professional range), 15" Full Range Dual Concentric, Live Sound Reinforcement, 60Hz-22kHz, 500w, 129 dB Peak SPL @ 1m, 60° conical dispersion, MDF box, Perforated steel grille, 2 x Speakons, M8 points, \$2,394

Tannoy T8 (part of the Professional range), 8" Dual Concentric, Sound Reinforcement, 85Hz-22kHz, 260w, 122dB Peak SPL@1m, 60° conical dispersion, Wedge profile: for stage or under balcony, Birch Ply, Perf. steel grille, 2x Spkns, \$1274

Tannoy T12 (part of the Professional range), 12" Dual Concentric, Sound Reinforcement, 70Hz-25kHz, 400w 126dB Peak SPL@1m, 60° conical dispersion, Birch ply box, recessed handle, shape like T8, steel grille, 2x Speakons, \$2009

TOA SL-122 (part of the SR Speakers range), 12" 2-way for FOH, 70Hz-20kHz, 240w Cont program & 80w RMS, 95db SPL, 12" woofer/ CD horn/ Piezo driver, Leatherette finish, locking corners, stand adaptor, Constant Directivity, Weight: 12.8 Kgs, \$379

TOA SL152 (part of the SR Speakers range), 15" 2-way for FOH, 70Hz-20kHz, 240w Cont program & 80w RMS, 98db SPL, 12" woofer/ CD horn/ Piezo driver, Leatherette finish/Punched metal grille & strap, 2 x 1/4" phono jacks for multi speaker hook-ups, \$422

TOA SL222 (part of the SR Speakers range), Twin 12" 2-way column for FOH, 50Hz-20kHz, 240w Cont program & 80w RMS, 96db SPL, 2 x 12" woofer/ CD horn/ Piezo driver, Leatherette finish/Punched metal grille & strap, 2 x 1/4" phono jacks for multi speaker hook-ups, \$625

TOA SL222M (part of the SR Speakers range), 12" 2-way Wedge monitor for FOH, 70Hz-20kHz, 240w Cont program & 80w RMS, 95db SPL, 12" woofer/ CD horn/ Piezo driver, Leatherette finish/Sealed enclosure & strap, Constant Directivity, Weight: 11.2 Kgs, \$422

Turbosound Impact 110 (part of the Impact Series range), Dual coil 10" Sub Woofer, 50Hz-150Hz, 150w, 119dB, Moulded Plastic Enclosure, Available in black, white, blue and custom colours, \$1,749

Turbosound Impact 121 (part of the Impact Series range), 12" 2-way for BMG and FOH, 60Hz-20kHz, 200w, 123dB, 1" HF Compression Driver, Moulded Plastic Enclosure, Available in black, white, blue and custom colours, \$2,779

Turbosound Impact 50 (part of the Impact Series range), 5" 2-way for BMG and PA, 80Hz-20kHz, 100w, 111dB, Moulded Plastic Enclosure, Available in black, white, blue and custom colours, \$439

Turbosound Impact 80 (part of the Impact Series range), 8" 2-way for BMG and PA, 70Hz-20kHz, 125w, 112dB, Moulded Plastic Enclosure, Available in black, white, blue and custom colours, \$1,059

Vinal V122R, 12" LF + 1" HF 2-way full range, 50Hz-18kHz, 150w, 120dB Pk SPL, 94dB (1w/1m) Nom imp 8Ω, Carpet finish, 27kg, 18mm MDF, 640x494x552, dis90x40, \$999

Vinal V150R, 15" LF + 1" HF 2-way monitor, 45Hz-18kHz, 200w, 120dB Pk SPL, 94dB (1w/1m) Nom imp 8Ω, Carpet finish, 33kg, 18mm MDF, 500Hx746Wx658D, smth rspns, vocal clrty, elec prot, inset hndls, \$1,099

Vinal V152R, 15" LF + 1" HF 2-way full range, 45Hz-18kHz, 200w, 122dBPK SPL, 95dB (1w/1m) Nom imp 8Ωs, Carpet finish, 50kg, 25mm MDF, 876x618x608, dis90x40, \$1,195

Vinal V155R, 15" LF + 1" HF 2-way full range, 38Hz-20kHz, 300w, 120dBPK SPL, 97dB (1w/1m) Nom imp 8Ω, Carpet finish, 50kg, 25mm MDF, 876x618x608, dis90x40, \$1,849

Yamaha S112IV (part of the Club Series range), 12" 2-way for FOH, 60Hz-16kHz, 300w, 97dB SPL 2" Titanium HF, 12" bass; Carpeted, pole mounts, 19kg. Avail as mon. wedge, Polyswitch overload protection that auto resets, \$1,095

Yamaha S115IV (part of the Club Series range), 15" 2-way for FOH, 55Hz-16kHz, 500w, 99dB SPL 2" Titanium HF, 15" bass; Carpeted, pole mounts, 26kg. Avail as mon. wedge, Polyswitch overload protection that auto resets, \$1,295

Yamaha S12E (part of the SE Series range), 12" 2-way for FOH, 65Hz-14kHz, 250w, 96dB SPL 1" HF Driver, 12" bass Driver; Carpeted, pole mounts, 15kg. Avail as mon. wedge, New design High Performance Dynamic HF Driver, \$795

Yamaha SW118IV (part of the Club Series range), 18inch Subwoofer, 30Hz-2kHz, 500w, 96dB SPL 8Ω, 1x 18" driver, Carpeted, metal corners, pole mount seat, 32.4kg., Polyswitch overload protection that auto resets, \$1,495

Yorkville NX-12 (part of the NX-Series range), 12" & 1" 2-way for FOH / F.B., 60Hz-17000Hz, Bi-amplification capable via Switch provided, 250w program, 8 Ω, Sens. 98dB, Max SPL 124dB, Variable Density composite material, 16Kg, FOH & F/back, 2yr "Unconditional" warranty, \$995

Yorkville NX-20 (part of the NX-Series range), 12" & 1" 2-way F.O.H & F.B., 70Hz-17000Hz, Bi-amp Auto-detect at inputs, 350w program, 8 Ω, Sens. 98dB, Max SPL 124dB, Variable Density composite material, 12Kg, FOH & F/back, 2yr "Unconditional" warranty, \$1,295

Yorkville TL-10 (part of the TL-Series range), 10" & 1" 2-way F.O.H, 200w program, T.B.A, Pulse Series 'Upgraded' Replaces PL-10, Complete facelift both looks and spec's, \$895

Yorkville TL-315 (part of the TL-Series range), 15 & 1" 2-way F.O.H, 400w program, T.B.A, Pulse Series 'Upgraded' Replaces PL-315, Great new look and sound with 2yr warranty, \$1,450

Powered Speakers

ARX SPL 10, 1 x 10" LF + 1 x 1" HF Compression Driver. Install, Auditorium, 80Hz-20kHz, 250w RMS, 122dB, Black, Loudspeaker Protection System, \$3,743

ARX SPL 12 (M), 1 x 12" + 1 x 2" voice coil driver: Multi-purpose, 50Hz-20kHz, Bi-amplification capable via Internal mod, LF 300w RMS, HF 150w RMS, 127dB, Black, Available as monitor/wedge also, \$4,065

ARX SPL 28, 2 x 8" LF Drivers. Multi-purpose, 40Hz-100Hz, 180w RMS, 120dB, Black, Loudspeaker Protection System, \$1,713

ARX SPL 8, 1 x 8" LF + 1 x Ferro Cooled HF Compression Driver. Install Corporate AV, 80Hz-20kHz, 120w RMS, 118dB @ 1 metre, Black, Loudspeaker Protection System, \$1,476

Clarity ACTIVE 12 (part of the Active range), 12" 2-way FOH, 60Hz-18kHz, 250W, 97dB (1w@1m), 250w, XLR/Line, EQ, ext.spk., Dyn. HF protection - 36 Month Warranty, \$1,199

Clarity ACTIVE 15 (part of the Active range), 15" 2-way FOH, 55Hz-18kHz, 250W, 99dB (1w@1m), 250w, XLR/Line, EQ, ext.spk., Dyn. HF protection - 36 Month Warranty, \$1,299

Clarity CLA2400DAP (part of the Active range), 12" 2-way FOH/FB, 60Hz-18kHz, 150w, 96dB (1w@1m), 150w, Line in, contour, ext spk., Compact design - multi angle, \$799

Clarity CLASUB500P (part of the Active range), 15" Pwr Subwoofer, 40Hz-200Hz, 300w, 98dB (1w@1m), 300w, XLR in, Active X-over, Compact Front loaded design- pole mount, \$1,099

Crest LQ10P, 10" 2-way, 57Hz-18kHz, 250w RMS, Clarity at extreme power levels, Bi-amp, injection-moulded, trapezoidal 2-way, stand mount and top & bottom flying point inserts, \$1,795

Crest LQ12P, 12" 2-way, 54Hz-18kHz, 500w RMS, Clarity at extreme power levels, Bi-amp, injection-moulded, trapezoidal 2-way, stand mount and top & bottom flying point inserts, \$2,295

Crest LQ15P, 15" 2-way, 48Hz-18kHz, 500w RMS. Clarity at extreme power levels, Bi-amp, injection-moulded, trapezoidal 2-way, stand mount and top & bottom flying point inserts, \$2,995

DAS DS12A (part of the Active Series range), 12 2-way, 16Hz-18kHz, Bi-amplification capable, 200watt RMS at 8Ω, 125dB SPL, 1" Compression Driver, 150W(LF) + 50W(HF) Amplifier, Mineral loaded polypropylene, \$1,500

DAS DS15A (part of the Active Series range), 15" 2-way, 5-Hz -20kHz, Bi-amplification capable, 200watt RMS at 8Ω, 121dB SPL, 1" Compression Driver, 150W(LF) + 50W(HF) Amplifier, Mineral loaded polypropylene, \$1,700

DAS ST-8A (part of the Sound Touring Series range), 8" 2-way, 55Hz-19kHz, 200watt RMS at 8Ω, 120dB SPL, 1" Compression Driver, 150W(LF) + 50W(HF) Amplifier, 19mm marine plywood cabinet, \$1,464

DAS SUB-118A (part of the Active Series range), 18" Sub, 35Hz-1kHz, Bi-amplification capable, 500watt RMS at 8Ω, 131dB SPL, Incorporates 3" voice coil, 500w high efficiency (93%) class D amplifier, Finnish 6 plywood enclosure, \$2,500

Electrovoice SxA100, Bi-amped 12" 2-way for FOH, 65Hz-20kHz, 200w program, Equalisation & mic/line inputs, Lightweight, compact and easy to carry, Complete overload protection and line output, \$1,999

Electrovoice SxA180, 18" Powered-Sub, 38Hz-120kHz, 300w program, 126dB maximum SPL, High-pass output with variable crossover, Removable dolly with casters & storage compartment, \$2,799

Electrovoice SxA250, Bi-amped 15" 2-way for FOH or floor monitors, 55Hz-20kHz, 200w program, Equalisation & mic/line inputs, Built-in stand mounts 19.5kg, Pure titanium HF driver, \$2,799

Fender 1270P (part of the Artist Series range), 10" 2-way Monitor, Bi-amplification capable via Preamp out & power amp in, 200w program @ 8 Ωs, Small and LOUD, Injection-moulded, Loud monitor ideal for Small stage and budget, \$1,049

HK Audio LUCAS (part of the Active Systems range), Powered Sub & Satellite Combo, 50Hz-130Hz Sub, 100Hz-18kHz Satellite's, Bi-amplification capable via 300w sub power amp & 150w satellite amps, 600w Program, Complete system equalisation, smooth sound, 3 amps powering 1x15"sub and 2x8"+horn satellites, Portability, system protections, active crossover, \$3,499

HK Audio LUCAS1000 (part of the Active Systems range), Powered Sub & Satellite Combo, 50Hz-130Hz Sub, 100Hz-18kHz Satellite's, Bi-amplification capable via 600w sub power amp & 150w satellite amps, 900w Program, Complete system equalisation, smooth sound, 4 amps powering 1x15"sub and 2x8"+horn satellites, Portability, system protections, active crossover, \$4,499

Jaycar CS-2454, 10" Subwoofer, 40Hz -180Hz, 150w RMS, Bass reflex enclosure, 150 Watt RMS, Hi/Lo inputs, Auto power-on, Variable Crossover Frequency & input level control, \$499

Jaycar CS-3456 (part of the Piano Finish range), 12" Subwoofer, 40Hz-180Hz, 120w RMS, Bass reflex enclosure, 120 Watt RMS, Hi/Lo inputs, Auto power-on, Variable Crossover Frequency & input level control, \$499

Mackie Designs SRM450, Active 2-Way Speaker System, 400 watts RMS, Tight bass & detailed HF, Built-in protection & equalisation circuitry, \$2,595

Mackie Industrial ART 200A (part of the Art range), 12" Active Speaker, Bi-amplification capable via 120W LF, 40W HF, 90° x 70° constant-directivity horn, Lightweight polypropylene enclosure, B/in hand grip, fly points & stand socket, \$1,895

Mackie Industrial ART 300A (part of the Art range), 12" High Output Active, Bi-amplification capable via 300W LF, 60W HF, Driver-optimized electronic, Lightweight polypropylene enclosure, B/in hand grip, fly points & stand socket, \$2,295

Mackie Industrial ART 500A, 15" High Output Active, Bi-amplification capable via 400W LF, 100W HF, Driver-optimized electronic, 80° x 60° horn with 2" titanium driver, \$3,495

Meyer M1D, 2 x 5" & 3 x 1" line array, 60Hz-18kHz, Bi-amplification capable, 350w Burst, New high-power neodymium HF dome drivers, MOSFET amplifier & active crossover, Designed for vertical curvilinear arrays, \$4,500

Meyer UMS-1P, 2 x 10" drivers, sub-woofer for UPM-1P, 25Hz-200Hz, Bi-amplification capable via Two amplifiers, 400w Burst, Bass reflex cabinet, dual 10-inch cone drivers, Provides powerful low frequency extension, High power, flatter response & low distortion, \$3,650

Meyer UPA-1P (part of the Self Powered Ultra range), 1 x 12" & 1 x 3", small PA speaker, 60Hz-18 kHz, Bi-amplification capable, 350w Burst per channel, Uniform frequency response within beamwidth, Soft-start power-up & high voltage suppression, Horns exhibit constant Q (vertical & horizontal), \$7,200



Mackie Industrial
ART 300A



Mackie Designs
SRM450

All Nexo speakers are sold as systems and must be used with the designated Nexo controller or Nexo processed amplification. Nexo processors provide more than just system EQ and limiting; all system controllers are servo controlled from amplifier sense lines and emulate voice coil temperature & cone excursion through digital modelling. All PS series mid-high cabinets may be used full range stand-alone or with optional subwoofers. Unique asymmetric 4 position waveguides allow for versatility to cover a large range of applications.

Peak HPS Speakers are designed and manufactured from the experience of over 15,000 hired systems. Built for practicality and performance, the only hype for these boxes is simply in the listening - give them a try for your own informed purchase.

Quest Engineering specialise in the manufacture of speakers and amplifiers that offer better performance than other similarly priced equipment. In this endeavour Quest uses heavyweight components in lightweight cabinets that achieves the type of sonic performance and reliability not seen in other brands at the same price point, and even some more expensive products.

The AT-Series Compact High Power Speakers systems from Ramsa/Panasonic are all fitted with SCWG (Square Contour Wave Guide) horns. They have a six-sided trapezoidal design (with built in handle) and all boxes have Parallel Neutrik Speakon and 1/4" TRS phone input connectors. The horns on the WS-AT200 and WS-AT300 can be turned 90 degrees for use as fold-back monitors and both have a built-in stand adaptor. All units come with two forged eyebolts for mounting.

The **Session SPX** range of professional loudspeakers are a passive 2-way speakers that use Eminence LF and HF drivers. The cabinet is constructed from furniture grade Russian birch ply and is professionally braced giving excellent acoustical properties and the trapezoidal design makes it easy to stack and array. Also included is a horn overload protection circuit giving a transparent and instantaneous protection from dangerous transient peaks. Perfect for both live and install applications. They are Australian made and come with a 10yr manufacturers warranty.

Tannoy Professional is a leading UK designer and manufacturer of fixed installation and PA loudspeaker systems, with a 75yr history. Specialising in Point Source transducer technology, Tannoy provides high quality, cost effective solutions for leisure applications, A/V corporate work and background music/paging systems. Their Dual Concentric transducers mean a trademark of a uniquely 'natural' sound quality, achieving audibly better results. The Tannoy Professional range is comprehensive and includes smaller 5" ICT driver boxes, right through to double 18" subwoofers.

Yorkville are excited to announce the NEW TL-Series speakers. Not only do they have a radical new look but they are now built with denser plywood that creates more bottom end projection. Extended high frequency and clarity is due to upgraded compression drivers and an ingenious protection design includes current sensing with self re-set breakers that protect your speakers like never before. The TL-Series versatile design allows use as FOH, wedge monitors, and a Trapezoidal shape for an Array Set up - great for any installation. Check them out when they land in Australia early July.



SoundTech AC12TPE

Peavey Impulse 1012P



Yorkville NX-520P

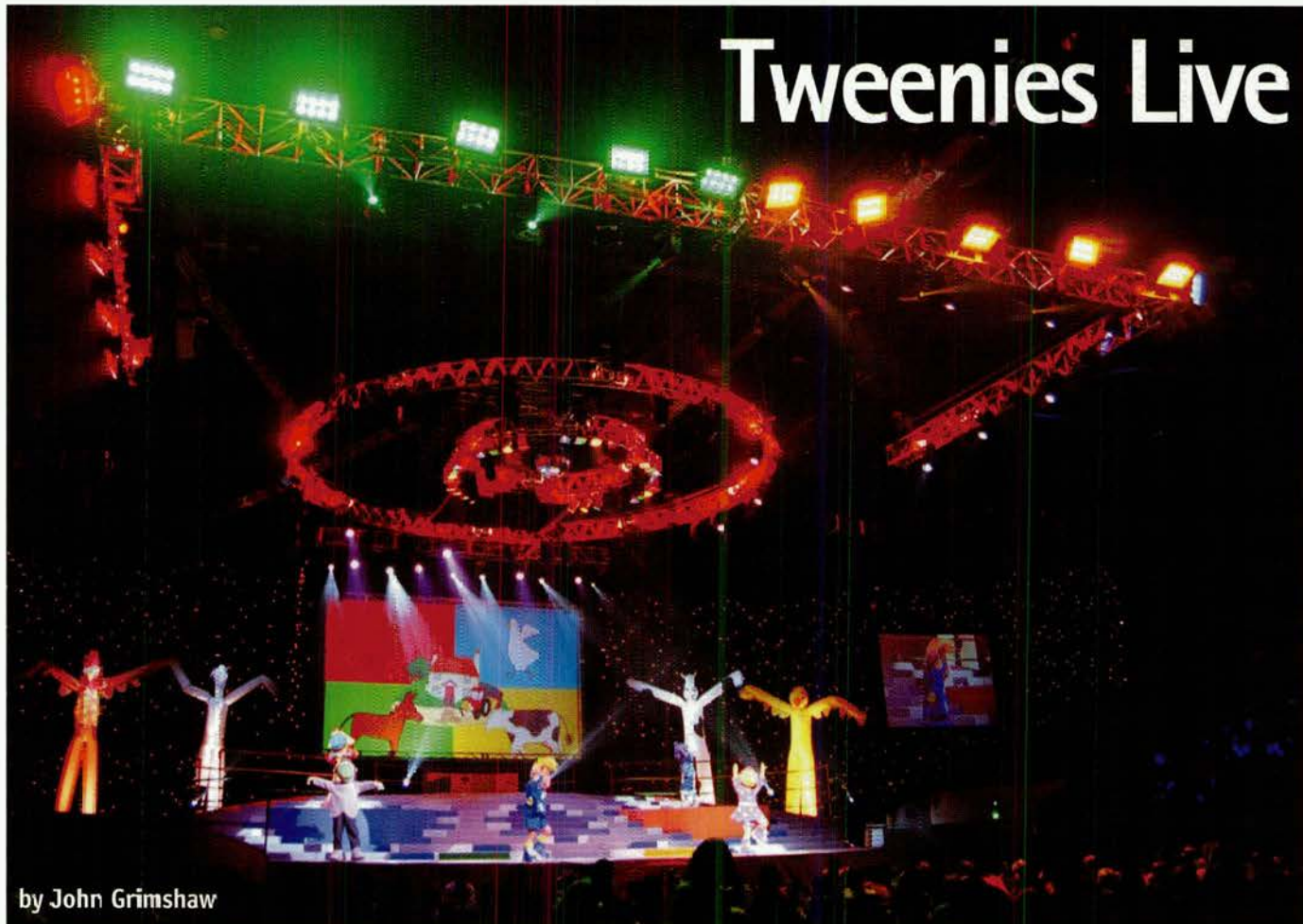


Yorkville E-160P

Model (Range), Configuration and Primary Use, Frequency Response, Bi-amplification, Continuous Power Rating, Acoustics, Physical Features, Other Features, List price

- Meyer UPM-1P**, 2 x 5" & 1 x 1", 60Hz-22kHz, Bi-amplification capable, 350w Burst, Dual 5-inch low/mid transducers & 1-inch dome HF, Amplifiers & control electronics optimised for each driver, Ideal for high SPL applications, \$3,200
- Peavey Impulse 1012P (part of the Impulse Series range)**, Bi-amped 12" 2-way for FOH, 68Hz-18kHz, Bi-amplification capable, 500w program, Equalisation & mic/line inputs, smooth sound, Moulded plastic, Stand Mount. In Built Limiting, \$2,295
- Peavey Impulse 1015P (part of the Impulse Series range)**, Bi-amped 15" 2-way for FOH, 62Hz-18kHz, Bi-amplification capable, 500w program, Equalisation & mic/line inputs, smooth sound, Moulded plastic, Stand Mount. In Built Limiting, \$2,989
- Phonic ESA 122**, 12" 2-Way, 55-20kHz, Bi-amplification capable via 300w (HF), 4 dBu link, 300w (8 Ωs), 98dB Sens., Ply, trapezoidal, 1 audio link out (1/4" jack), \$1,295
- Phonic ESA 152**, 15" 2-Way, 55-20kHz, Bi-amplification capable via 400w (HF), 4 dBu link, 400w (8 Ωs), 98dB Sens., Ply, trapezoidal, 1" titanium compression driver, \$1,395
- Phonic ESMA 122**, 12" 2-Way Monitor, 55-20kHz, Bi-amplification capable via 100w amp, 4dBu link input, 300w (8 Ωs), Horn tweeter, Wood, multiple angle, 1 XLR-F, 1 audio link out (1/4" jack), \$1,295
- Phonic ESWA 118**, 18" Sub woofer, Bi-amplification capable via 400w amp, 4dBu link input, 600w, 4 LP Filter frequencies: 80/100/120/160 Hz, Wood cabinet, 60x60x60cm, 1 XLR-F, 1 audio link out (1/4" jack), \$1,995
- Proel SMART-125SA (part of the Smart Series range)**, 15" Subwoofer, 55-150Hz, Bi-amp via Stereo Bal. Cross-over, 300w program, Mic/line input, 320w/Channel Mosfet, Wood box, Amp protection circuitry, 1yr warranty, \$1,395
- Proel SMART-12A (part of the Smart Series range)**, 12" & Horn 2-way for FOH, 65Hz-20kHz, 160w program, Mic/line inputs, 160w/Channel Mosfet, Wooden box, Amp protection circuitry, 1 year warranty, \$1,095
- Proel SMART-153A (part of the Smart Series range)**, 3-way Enclosure, 15", 6" & Horn, 50Hz-20KHz, 300 w program, Mic /line inputs, 300w/Channel Mosfet, Wooden box, Amp protection circuitry, 1 year warranty, \$1,575
- Proel TPR-15A (part of the Templar range)**, 15" & Horn 2-way enclosure, 50Hz-20KHz, 320w program, Mic /line inputs, 320w/Channel Mosfet, Wooden box, Amp protection circuitry, 1 year warranty, \$1,795
- Quest QSA-200 (part of the QSA range)**, Bi-amped 8" 2-way, 60Hz-18kHz, Bi-amplification capable via Separate internal amplifiers, 150w LF & 50w HF, Mic & line inputs w/individual volume controls, Bi-polar design, split rail ABS cabinet, Buffered output stage, \$995
- Quest QSA-400 (part of the QSA range)**, Bi-amped 12" 2-way, 50Hz-18kHz, Bi-amplification capable via Separate internal amplifiers, 300w LF & 100w HF, Mic & line inputs w/individual volume controls, Bi-polar design, split rail ABS cabinet, Advanced multi-band limiter, \$1,895
- Quest QSA-600 (part of the QSA range)**, Bi-amped 15" 2-way, 45Hz-18kHz, Bi-amplification capable via Separate internal amplifiers, 450w LF & 150w HF, Mic & line inputs w/individual volume controls, Bi-polar design, split rail ABS cabinet, Advanced multi-band limiter, \$2,495
- SoundTech AC12MPE (part of the AudioChoice range)**, 12" & piezo, Powered foldback wedge, 70Hz-18kHz, 100w, Powered with EQ Controls, Black Dura Hide, Excellent Value for Money, \$999
- SoundTech AC12TPE (part of the AudioChoice range)**, 12" & piezo, Powered foldback wedge, 70Hz-18kHz, 100w, Powered with EQ Controls, Black Dura Hide, Excellent Value for Money, \$1,029
- Tannoy CMS110B (part of the Contractor range range)**, Powered ceiling sub, 10" driver, 31Hz-150Hz, Bi-amplification capable via 2 Line inputs, 110w RMS, 110dB Peak SPL @ 1m, 110W, 600mm sq. for ceiling tile, Overload protection circuitry, 5 year warranty, \$1,460
- Vinal VP150R**, 15" LF + 1" HF 2-way full range, 45Hz-18kHz, 200w, 120dB Pk SPL, 94dB (1w/1m) Nom imp 8Ω, 200W ext L-sprk socket, 33kg, 18mm MDF, 500x746x658, smth rspns, vocal clrty, elec prot, inset hndls, \$849
- Yamaha MS300**, Bi-amped 12" 2-way for FOH, 50Hz-16kHz, Bi-amplification capable via Independent mic & line inputs + ind levels, 300w, 121dB SPL, LF cut & HF trim, 2" Titanium HF, 12" bass driver, polycarb finish, Yamaha's patented EEE efficient amps, \$1,595
- Yamaha MS400**, Bi-amped 15" 2-way for FOH, 50Hz-16kHz, Bi-amplification capable via Independent mic & line inputs + ind levels, 400w, 124.5dB SPL, LF cut & HF trim, 2" Titanium HF, 15" bass driver, polycarb finish, Yamaha's patented EEE efficient amps, \$1,995
- Yamaha SW500**, 15" powered Subwoofer, 40Hz-120Hz, Bi-amplification capable via Signal input from two XLR source, 500w, 122dB SPL, LF cut off trim + phase switch, 15" bass driver, Yamaha's patented EEE efficient amp, \$2,495
- Yorkville E-160P (part of the Elite Series range)**, 10" & 1" Horn, 2-way, 50Hz-20000Hz, Powered @ 190w, XLR & Dual 1/4" inputs, volume knob., Thermal, overcurrent, clip protection., 2 year "Unconditional" Warranty, \$1,850
- Yorkville ES-200P (part of the Elite Series range)**, 10" LF Driver, 50Hz-110Hz, Powered @ 200w, 125dB max SPL, Processed amplifier, Thermal, overcurrent, clip protection., 2 year "Unconditional" Warranty, \$1,850
- Yorkville NX-200S (part of the NX-Series range)**, 10" LF Driver, 50Hz-100Hz, 200w program, 125dB max SPL, Processed amplifier, Main Volume, Selectable Line Input, 23Kg, Pole Mount Adapter, Ground Lift, \$1,395
- Yorkville NX-520P (part of the NX-Series range)**, 12" & 1" Horn, 65Hz-17000Hz, 100w High & 450w Low, 124dB Max SPL, X-Over @ 2500Hz, Mic/Line Gain, Inputs (XLR x 1 & TRS x 2), 17kg, Overall EQ control, Neodymium Driver, \$2,495

Tweenies Live



by John Grimshaw

Colour and movement. The Tweenies show does very well to hold its audience's attention, especially when you consider the show itself is about ninety minutes, including a twenty minute interval. The Tweenies themselves are a combination of the on-stage performer, and serious animatronics in the head piece.

The onstage performers work with a pre-recorded audio track, played from dual Akai HD multi-tracks (one as a backup), both for which are synced to a Betacam SP tape machine that plays timecode for the show. A pre-recorded video-track is also synced to the timecode, and plays back on the main screen. The timecode is also sent via midi to the Icon lighting control desk, automating much of the lighting for the duration of the show.

Once started the show runs automatically to the interval, with all of the cast and crew strictly following their own performance sequence.

Lighting

The lighting rig for the show would be at home with any major touring act – even the recent tour of Elton John did not have this much gear in the air. The rig includes 26x Icons, 30x Studio Colors, 12x Studio Spots and 24x 8way Molefoss with scrollers, and is suspended by a very big truss construction

that has an outer square section, and two inner rings. More than 70 rigging points are required to put the show in the air – not so much for weight, but for the sheer size of the lighting, staging, drapery, screen and projection requirements.

The show started its tour in Perth, where two weeks of set finishing and rehearsals took place. UK based lighting designer Mark Cunniffe flew into town to plot and program his design for the show. Bytecraft, who supplied the lighting equipment, also supplied the touring lighting crew Dion Weeks is the Ecard Operator, though with the timecode interface to the Icon desk, his primary role during the shows is to troubleshoot if required. Matt Broden is the Crew Chief, looking after the local crew and the whole lighting bump in/out process. Ferga O'Sullivan (can you guess his accent?) is the touring Dimmer Technician and occasional Dart Board Maintenance Technician.

The Bytecraft boys have certainly made themselves at home away from home on this gig with a special "Feng Shui" area. Complete with water feature, leather sofa, dart board and racks of dimmers – though we are not sure if that last item is typically found in the Feng-shui guides. This is quite a big lighting

For anyone that has kids between one and six years old, you would already know the tune that goes with the words, "Hey, hey - are you ready to play". British children's show, The Tweenies, is a huge franchise in the UK. Very little makes money like a successful children's television show. So, the Tweenies are taking steps to 'make it' in this market. First the television show starts on the ABC, and now the full arena spectacular arrives.

In terms of production, this show has an amazing array of technology in use. Connections took a peak into the backstage world of the Tweenies...

Arena Touring



Garry Hall at the FOH console

The Bytcraft's Fung Shui team:
(left to right) Matt Broden,
Fergal O'Sullivan and Dion Weeks.Fergal O'Sullivan with his two
responsibilities - dimmers and darts.Mechanist Phil McNaughton with the
mega-sized hydraulic pump.Big Picture Crew: (left to right) Joe
Bonanno, Dave Hendy, Paul Woofe and
Stephen PippettVision Director, Ray Shaw with his
mixing setup

rig, and the results in the show keep the kids spellbound – including simple tricks like a mirror ball.

AV and Animatronics

The AV component is actually far more complex than the three screens out the front indicate. While the centre projection from 2x stacked Barco ELMs takes its images via SDI from the tape playback, the outer screens used a Barco 6400 each to show images from the four camera located in the auditorium. However, even while three of the four cameras are not being displayed on the side screens, they have to be operated as if they are live all the time. This was because they are all being watched all the time. Backstage, there is an animation puppeteer for each character onstage, and they are watching a bank of large monitors that carry each of the cameras and the tape playback.

These puppeteers carefully watch the show and the timecode so that they can operate the special handset. One for each character, the 26MHz radio system is used to move the eyes, control the eyelids, move the mouth, and any other special expressions. Due to various restrictions, we were unable to take photos of these systems backstage. However, the hand controls looked like industrial metal versions of playstation controllers, each mounted on what looked to be a heavy duty mic-stand.

This system was built by Neil Scanlon – Neil is the Aussie animatronics specialist behind Babe, for which he won an Oscar. The Tweenies was a complicated project because the goal was a character that had all the ability, dexterity and facial expressions of a six year old. Not only that, the television series required the ability to shoot 2x twenty minute shows a day (they have racked up 260 shows so far, and a further 130 have been commissioned by the BBC).

According to Frank Madzin, the tour's Production Manager, each Tweenie head has more than twenty servo motors and costs in excess of AU\$150,000 to replace. The only difference between the live head and the one used for television is that some pre-set facial expressions have been removed to simplify the live operation. The puppeteers and onstage actors are in constant communication with each other via standard talkback for the puppeteers, and in ear monitors (IEMs) for the onstage performers. All are on the same audio loop, so it must take careful concentration to be able to sort out who is talking to, and they all hear the stage manager call the show.

The AV systems were supplied by Big Picture. Video Director, Ray Shaw called the show for the cameras and ensured the two side screens "told the story" of the show - using Sony D30/35 cameras.

Audio

The audio system for the show is the simplest system we have seen rigged in the Sydney Entertainment Centre. With the

audio tracks supplied by the Akai HD multitrack players backstage, the FOH mix is controlled by a Yamaha GA32, with DBX Drive racks supplying Crown Pulse amps which in turn power the 5x 650 main speakers on each side and the 4x JBL subs. There are also some smaller JBL MP412 speakers used as front fill. The FOH system is operated by Garry Hall of Ambience Audio Services. Obviously, the nature of the audience is such that you do not want very much sound in the room. Garry shoots for an average of 90dB SPL, which is quite comfortable for the kids. The unfortunate by-product of this is that the system sounds a little like you are trying to listen to the show from a significant distance – which of course you are. With no radio mics or instruments to deal with, Garry has a reasonably easy show - simply balancing the multitrack with the onstage performance, and providing some reverb effects when characters are speaking from backstage.

According to LX OP - Dion, the show is like "a Metallica rig with a home stereo sound system." He is right, but the show is sure to impress the kids – which was the intention in the first place.

Pyros and Automation

Some of the equipment that is not timecode controlled include the pyros, supplied by Fotis, and the mechanical stage lifts built into the set. The pyros are supervised and installed by the touring pyrotechnician, Karen Hewitt of Fotis. The system used is fully hardwired to control some quiet flashpots, airbursts and various gerb effects. All effects have been specially made to remove explosive sound and intensify the brilliance of the colours. The system is fired by the Stage Manager, Trish McClenaghan using a standard Pyromate brand controller.

There are three stage lifts built into the set, and one crane effect for the space ship at the end. Each of the stage lifts are adapted from scissor lifts, with the hydraulics supplied by external pumps. The two outside lifts are controlled from a single pump, with the centre lift a more heavy duty version. Interestingly, the centre lift originally took more than forty seconds to travel from top to bottom using its original pump. As this was far too slow for the show, when the set was being built and prepared, the Perth based company Bosch Rex Roth provided the answer with a huge pump that was being used as a workshop door stop (love to see the size of the door!). The pump was refurbished, and was so effective that the lift could in-fact travel its 3m lift in under one second. Rather than have Tweenies flying through the air during the show, a choke was introduced to reduce the time to a 'comfortable but fast' eight seconds.

MARKET REPORT LUMINAIRES

Model, Beam info (all Field Angles* unless otherwise specified), Lamp Base, Recommended Lamp Type, Other Features, List price

ETC Source 4, Beam Options: (Fixed 5, 10, 19, 26, 36 & 50°), G9.5 - Integral die cast aluminium heatsink lamp base, HPL 750W or 575W, Interchangeable lens tubes, 575W lamp brighter than most 1000W profiles, 750W even brighter, most accessorised fixture on the market, both from ETC and others, *From \$895*

ETC Source 4 Jr, Beam Options: (Fixed 26, 36 & 50°), G9.5 - Integral die cast aluminium heatsink lamp base, HPL 575W, Complete range of ETC accessories, \$575

ETC Source 4 Jr Zoom, Beam Options: (Zoom 25-50°), G9.5 - Integral die cast aluminium heatsink lamp base, HPL 575W, Complete range of ETC accessories, Single knob focus mechanism, \$750

ETC Source 4 Zoom, Beam Options: (Zoom 15-30° & 25-50°), G9.5 - Integral die cast aluminium heatsink lamp base, HPL 750W or 575W, Single knob focus mechanism, Extended balancing yoke available, most accessorised fixture on the market, both from ETC and others, \$1,395

FX Range Profile Projector (silver), Beam Options: (Fixed 19, 26, 36 & 50°), G9.5 + sink, HPL 575W, Produces approximately 40% more light and uses up to 45% less power. It allows easy pattern shaping with its flexible shutter blades. Accessories: Iris/Gobo Holder/Colour Frame. Also available in Black, \$461.99 (except 50° - \$510.39)

Prolite PR10-ZPM 1/1200W, Beam Options: (Zoom 15-31°), GX9.5, T19/29, Price includes Gel Frame, Safety Cable and Piggy Back Plug (No Lamp), \$674

Prolite PR22-ZPM 2000W, Beam Options: (Zoom 16-28°), GY16, CP72, Price includes Gel Frame, Safety Cable and Piggy Back Plug (No Lamp), \$989

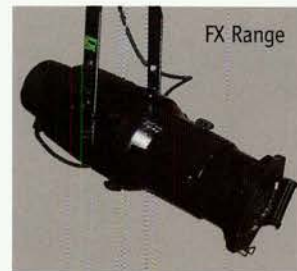
Prolite PR7-M/A 600/800W, Beam Options: (Zoom 15-25°), G9.5, GKV, Price includes Gel Frame, Safety Cable and Piggy Back Plug (No Lamp) - Lamp is AXIAL type, \$471

Prolite PR7-M/T 500/650W, Beam Options: (Zoom 15-25°), GY9.5, T25/27, Price includes Gel Frame, Safety Cable and Piggy Back Plug (No Lamp) - Lamp is standard vertical type, \$435

Robert Juliat 710 SX 2, Beam Options: (Zoom 10-15°), G22, CP91 2500W, double condenser optical system gives a flat powerful light across the full beam width. Fan cooled. 90° rotating zoom incorporates both shutter & gobo gates, \$3,300

Profiles

This month's report takes a look at the major brands supplying conventional lighting to this market...



FX Range



ETC Source 4



Selecon Acclaim Axial

BRAND	DISTRIBUTOR	PHONE	WEB	Profiles Floods&Par		
				Fres	PC	
De Sisti	Coemar De Sisti Australia	+61 3 9467 8666	www.cdaust.com.au	0	20	6
ETC	Jands	+61 2 9582 0909	www.jands.com.au	12	0	3
FX Range	Coemar De Sisti Australia	+61 3 9467 8666	www.cdaust.com.au	4	0	1
Kupo	Show Technology Australia	+61 2 9748 1122	www.showtech.com.au	0	0	17
Litecraft	Universal Lighting and Audio (ULA)	1800 648 111	www.ula.com.au	0	0	4
Prolite	Prolite Manufacturing	+61 7 4632 7312	www.prolite.com.au	14	12	10
Robert Juliat	Bytecraft Entertainment	+61 3 8710 2555	www.bytecraftentertainment.com	8	5	0
		or +61 2 8344 3800				
Selecon	Selecon	+61 2 9664 8237	www.seleconlight.com	13	9	23
Strand Lighting	Bytecraft Entertainment	+61 3 8710 2555	www.bytecraftentertainment.com	5	4	11
		or +61 2 8344 3800				

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Fax: (02) 8344 3801

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WEBSITE: www.bytecraftentertainment.com



Strand
LIGHTING

BYTECRAFT
ENTERTAINMENT



Prolite

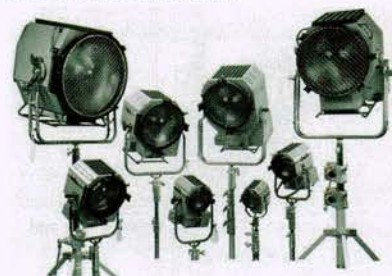


Selecon Pacific VNZ

Selecon Acclaim Fres, 1200 Fres and 1200 PC



DeSisti Rembrandt Range



FURTHER INFORMATION

We asked companies to tell us a bit more about the products listed here. Some took advantage of this option and here is some of what they had to say...

Selecon - Thanks in a large part to the encouragement of the Australian entertainment lighting industry, Selecon is now recognised as a major industry player world wide. Employing the largest product development team in the world solely dedicated to fixed luminaire design Selecon maintains a constant flow of new products and product enhancements. Full information on the company and products can be found at www.seleconlight.com and www.ardiislight.com for the architectural and display lighting products.

Strand Lighting - The Strand Electric Company began operating in 1900 to serve London's Theatre district. Strand Lighting now serves the world and continues to be the world's leading name in stage, television, motion picture and architectural lighting.

Model, Beam info (all Field Angles unless otherwise specified), Lamp Base, Recommended Lamp Type, Other Features, List price

Profiles (cont)

Robert Juliat 910 SNX 1200WHMI, Beam Options: (Zoom 10-25°), G38, 1200W HMI, Powerful HMI Zoom profiles also available as 1000W tungsten Halogen versions, \$15,000

Selecon Acclaim Axial Medium, Beam (Half Peak) Angle: (Zoom 18-34°), G9.5, GKV - 600w, Excellent light output, beam quality & affordability combine to make this luminaire a natural choice for schools & the smaller stage, \$525

Selecon Acclaim Axial Wide, Beam (Half Peak) Angle Options: (Zoom 24-44°), G 9.5, GKV - 600w, \$525

Selecon Pacific 12-28, Beam (Half Peak) Angle Options: (Zoom 12-28°), Pacifics offer choice of GY 9.5; G9.5; G 22; GX 9.5, GKV - 600 & 800w; BP1000w; MSR 575w Hot Restrike & std MSR 575/2, Pacific's base down ellipsoidal design delivers leading performance, lowest cost of ownership with the widest range of optical systems and light sources available, \$800

Selecon Pacific 23-50, Beam (Half Peak) Angle Options: (Zoom 23-50°), Pacifics offer choice of GY 9.5; G9.5; G 22; GX 9.5, GKV - 600 & 800w; BP1000w; MSR 575w Hot Restrike & std MSR 575/2., In daily use around the world including leading venues such as the National Theatre, London; Glynbourne Opera; New York Metropolitan Opera \$800

Selecon Pacific Fixed Beam, Beam (Half Peak) Angle Options: (Fixed 20, 30, 40 & 50°), choice of GY 9.5; G9.5; G 22; GX 9.5, GKV - 600&800w; BP1000w; MSR 575w Hot Restrike & std MSR 575/2., Heat management system delivers a gate so cool plastic images (Fergos) can be used while maintaining safe operating temperatures on all the controls., \$730

Selecon Pacific VNZ, Beam Options: (Zoom 5.5-13°), Pacifics offer choice of GY 9.5; G9.5; G 22; GX 9.5, GKV - 600 & 800w; BP1000w; MSR 575w Hot Restrike & std MSR 575/2., Light sources include mains and lower voltage (80v) tungsten halogen, MSR and CDM to meet the requirements of your venues. Th year warranty., \$1,210

Strand Alto, Beam Options: (Zoom 8-16°), G22, CP92 2000W, Uses reflector optics for high output and peaky/flat field beam distribution, \$1,865

Strand Quartet, Beam Options: (Zoom 22-40°), GY9.5, T26 650W, Rugged, lightweight, range ideal for theatre, schools & display, \$932

Strand SL, Beam Options: (Zoom 15-32°), G9.5, GKV 600W, Compact, highly efficient, cool beam luminaire; 360 body rotation, interchangeable lens tubes, \$1,210

Strand Toccata, Beam Options: (Zoom 10-26°), G22, CP92 2000W, Long throw condenser optic profile gives even, flat beam for accurate cuts & crisp gobo projection, \$4,146

Fresnals and PCs

DeSisti CD, Fres beam size: 10°-60°, G 12, CDM-T 70w / 150w, The superior optics and fixture purpose has allowed the CDM lamp to be used as an alternate light source when low power, heat restrictions and lengthy operation are eminent. Inc electronic ballast., \$1,626 (70W) / \$2,058 (150w)

DeSisti Leonardo, Fres beam size: 5.6°-56.2°, G 22/38 Gx 38q, Halogen 1k/2k/5k/10k/12k/20k/24kW, The Leonardo family of quartz-halogen fresnels are rugged, compact and light weight. These fixtures are offered in both "Studio" and "Piccolo-Location" sizes & are available from 1k up to 24k., \$1082 (Leo 1KW Theatre, manual op) - \$25,164 (Super Leo fully optional)

DeSisti Magis, Fres beam size: 8°-57.7°, GY 9.5, Halogen 300/500/650w, The Magis Fresnel which houses a 300, 500 or 650 watt lamp can be purchased individually with manual or pole operated yokes, or in a portable lighting kit., \$934 (inc b/doors, manual operation)

DeSisti Rembrandt, Fres beam size: 5.8°-64°, GX 9.5 / G 22 / G 38 / S 25.5 / S 30, MSR 200/575/1.2k/2.5k/4kw HMI 6k/1.2k/1.8kw, The Rembrandt Daylight Fresnel fixtures are the brightest fresnels and offer the widest beam in the industry. Ranges include from 200w to the dual 12k/18k., \$4,238 (Piccolo 200W, inc elec ballast) to \$50,022 (Rembrandt 12/18k)

Prolite PR12-F, Fres beam size: 6-60°, GX9.5, T19/29, includes Gel Frame, Safety Cable & Piggy Back Plug (No Lamp), \$406

Prolite PR12-PC, PC beam size: 5-60°, GX9.5, T19/29, includes Gel Frame, Safety Cable & Piggy Back Plug (No Lamp), \$448

Prolite PR7-F, Fres beam size: 6-60°, GY9.5, T25/27, includes Gel Frame, Safety Cable & Piggy Back Plug (No Lamp), \$212

Prolite PR7-PC, PC beam size: 5-60°, GY9.5, T25/27, includes Gel Frame, Safety Cable & Piggy Back Plug (No Lamp), \$241

Robert Juliat 325 Fresnel, G22, CP91, Huge 250mm Lens makes this 2000/2500W fresnel a powerful light. Optional barndoors, \$1,700

Selecon 1200 High Performance Fresnel, Fres beam size: 7-56°, GX 9.5, T19 / T/29, World leading theatre fresnel with unmatched performance and beam quality.150mm lens version is the lower cost (A\$455.00) Compact Fresnel., \$575

Selecon 1200 High Performance P.C., PC beam size: 4.5 - 62, GX 9.5, T19, T/29, Outstanding performance from a PC, the crisp well controlled beam is an international favourite. 150mm version is the lower priced (A\$505.00) Compact PC, \$575

Selecon Acclaim Fresnel, Fres beam size: 6-60°, GY 9.5, T/ 27, The most popular fresnel for the smaller stage. All extrusion / die cast construction, auto mains power disconnect, rear handle., \$248

Selecon Arena Theatre Fresnel, Fres beam size: 7-60°, GY 16 / G22, CP 43 / CP 91, New model Arena 2.0/2.5kw Fresnel uses a 200mm lens, the work horse of the larger stage., \$830

Strand Alto, Fres beam size: 7-57° & PC beam size: 4 - 58°, G22, CP92 2000W, High Output, High Specification spotlight for larger venues, \$1,865

Strand Cantata, Fres beam size: 8.7-50.7° & PC beam size: 4.5 - 52.7°, GX9.5, T29 1200W, Professional range suitable for theatres, concert halls and touring, \$1,071

Strand Quartet, Fres beam size: 10-40° & PC beam size: 7.5 - 55.5°, GY9.5, T26 650W, Compact lantern with a smooth, soft-edged variable beam, optional barndoors, \$552

Strand Studio 2 kW, Fres beam size: 11-57.8°, G38, CP41 2000W, High quality studio fresnel, flat, even field; front & back focus interchangeable Quartzcolor accessories, \$2,217

Pars and Floods

DeSisti Remington, Beam: Very Narrow Spot/Narrow Spot Frosted/Medium Flood/Extra Wide Flood, MSR 200/400/575/1.2k/2.5k/4k/6k/12k, These are the brightest, most versatile, par system in the industry and are available in a range from 200w to the dual 6k/12k, \$5,676 (MSR 200, w b/doors, pole operated) to \$51,410 (6/12K inc ballast)

ETC Source 4 PAR EA, Use: Alternative to PARs, Beam: Interchangeable lenses - VNSP, NSP, MFL, WFL, Integral die cast aluminium heatsink lamp base, Includes lens kit for all beam sizes using the one lamp, HPL 750W or 575W, Par style fixture using the highly efficient Source Four lamp technology, \$445

ETC Source 4 PAR MCM, Use: Alternative to PARs, Beam: Various lenses - VNSP, NSP, MFL, WFL, aluminium heatsink lamp base, Includes lens kit for all beam sizes, HPL 750W/575W, Metal Cold Mirror reflector reduces heat (infrared) in the beam, \$725

Pars and Floods

ETC Source 4 PARnel, Use: Focusable Alternative to PARs, Beam: Patent Pending Wave Lense design for fully adjustable beam angles between 25° & 45°, Integral die cast aluminium heatsink lamp base, HPL 750W or 575W, Focusable Par style fixture using the highly efficient Source Four lamp technology, \$595

FX Range Multi-Par Black, HPL 575w, With the combination of 1,000 watts of performance a 575w lamp and four different lens sizes the Multi-par distributes four smooth and even beam spreads., \$257

Kupo Kupo 8 light, Use: 8 light audience blinder, DWE 650w 120v, unit is unwired to allow for various lamping options such as DWE or ACLL- 4 light unit also available, \$699

Kupo Kupo Multipar, Use: Multipar with frame, Beam: WFL, MFL,NSP, VNSP, 240v 600w GKV6968p, Comes complete with 4 interchangeable lenses and has optional barndoors and lens removing tool, \$249

Kupo Kupo Pro Par 56, Use: Par 56 with frame, Beam: WFL, MFL,NSP, VNSP, GE 300w 240v, Come complete with Safe lamp adjuster, plug, gel frame and has optional barndoors, \$90

Kupo Kupo Pro Par 64, Use: Par 64 with frame, Beam: WFL, MFL,NSP, VNSP, GE 1000w 120v, Come complete with Safe lamp adjuster, plug, gel frame and has optional barndoors, \$98

Litecraft Litecraft PAR20, Use: PAR20, HaloPar20, Black or Polished, EMEP lampbase, complete with colorframe, 4th hinge spring clip, rolled lip on rear, silicon cable and plug, \$49

Litecraft Litecraft PAR46, Use: PAR46, PAR46, Black or Polished, EMEP lampbase, complete with colorframe, 4th hinge spring clip, rolled lip on rear, silicon cable and plug, \$83

Litecraft Litecraft PAR56, Use: PAR56, PAR56, Black or Polished, EMEP lampbase, complete with colorframe, 4th hinge spring clip, rolled lip on rear, silicon cable and plug, \$84

Litecraft Litecraft PAR64, Use: PAR64, PAR64, Black or Polished, EMEP lampbase, complete with colorframe, 4th hinge spring clip, rolled lip on rear, silicon cable and plug, \$90

Prolite PR10-CHA/1, Use: SINGLE CELL CYC, Beam: 95/80°, OSRAM 64740, 1000/1200W, Price includes Gel Frame, Safety Cable and Piggy Back Plug (No Lamp), \$199

Prolite PR10-CHA/4, Use: FOUR CELL CYC, Beam: 95/80°, OSRAM 64740, 1000/1200W, Price includes Gel Frame, Safety Cable and Piggy Back Plug (No Lamp), \$774

Prolite PR7-CHA/1, Use: SINGLE CELL CYC, Beam: 90/80°, OSRAM 64702, 300/500W, Price includes Gel Frame, Safety Cable and Piggy Back Plug (No Lamp), \$174

Prolite PR7-CHA/4, Use: FOUR CELL CYC, Beam: 90/80°, OSRAM 64702, 300/500W, Price includes Gel Frame, Safety Cable and Piggy Back Plug (No Lamp), \$626

Selecon Acclaim Cyc, Use: Cyc - Flood, Beam: asymmetric, R7, 118mm, THD 200,300,500, For the smaller stage, evenly lighting a Cyc up to 5 - 6m high. Single and multiple battens 3 & 4. Unique dual chamber design maximises filter life., \$245

Selecon Acclaim Flood, Use: Flood, Beam: 90, R7, 118mm, THD 200,300,500, Flood comes with barndoors, available in multiple battens., \$279

Selecon Aurora Cyc, Use: Cyc - Flood, Beam: asymmetric / 90, R7, 189mm, P2/12, P2/7, P2/10, Extensive range of single, multiple linear (2,3,4) battens and 2 / 4 under hung configurations. Multi connector options including in/out., \$500

Selecon Aurora Groundrow, Use: Groundrow, Beam: asymmetric, R7, 189mm, P2/12, P2/7, P2/11, Single & multi batten groundrow which feature the unique dual chamber design which maximises filter life., \$480

Strand Arturo 2.5kW, Use: Softlight, 1250W P2/12, Softlight with two lamps, switched individually, to give intensity control with constant color temperature, provides shadowless diffused illumination., \$2,280

Strand Coda 500/4, Use: Cyc, 500W K1, Compartment floodlight with wide asymmetric distribution for cyc coverage \$1,864

Strand Par 2.5/4kW, Use: Daylight Parlight, 2500W or 4000W HMI, Superior optical performance parlight supplied with barndoors & set of lenses, \$12,000

Strand Redhead, Use: Focusing floodlight, Beam: Flood 87°, Spot 27.5°, DX 800W, Lightweight variable beam open-faced floodlight ideal for location & video lighting, accessories include barndoors, safety glass, dichroic filter, scrim set., \$557



ETC Source 4 PARnel



Selecon Acclaim Flood



Selecon Aurora Groundrow

De Sisti - Founded in 1982 by the designer Mario De Sisti, De Sisti Lighting is one of the world's leading manufacturers of equipment for the Film & TV industry, their range of products includes luminaires, grip equipment, hoists, and even motorised control systems. Designed to meet the exhausting schedules of location and studio, the output from the entire range of luminaires is uniquely even and flat and additional accessories and requirements are readily met by De Sisti's standard lines.

FX Range - The high performance Profile Projector produces more light output and uses less power than some other fixtures. Simple to use, flexible shutter blades, easy pattern scraping can be produced. Available accessories include Iris, Gobo Holder and Colour Frame. Also available in Black.

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Mixmasters Productions
 New Equipment - Avalon AD-2022 Mic
 Pre's, Avalon AD-2055 EQ, Universal Audio
 1176 LN and Neumann U-48 Vintage Tube
 Microphone
 Latest Project - MIXMASTERS is fast
 becoming a much loved facility for
 tracking and mix, folks are flying in
 from all over the planet, and with a room and
 an outboard list as such....who wouldn't!
True Form Recording
 Latest Project - The Living End, with new
 drummer Andy Strachan, have nearly
 completed recording demos of their latest
 batch of new songs for an upcoming
 album which brings the total up to 21
 songs recorded at True Form in the past
 few months and with more sessions
 booked they could top 30 or more. The
 boys have some great new songs and are
 putting a lot of work into the recordings
 so tunes that don't make the album can be
 considered for "B"sides.

Domenic Sound Recording Studio
 New Equipment - The Studio has been
 recently gutted and re-built from the
 ground up. The main new feature is a
 huge new control room measuring 6 x 5
 metres that can comfortably seat 9 people
 and features a 360 degree workspace.
 Exceptionally good vibe.
 Latest Project - One of our clients,
 Canadian Traditional County music artist
 Wilf Montan, was recently signed in the
 United States to Stardust Records and
 their Distribution Label Thunderhawk
 Records based in Tennessee USA. Wilf
 recently contacted us to tell us that his
 album "South Pacific", produced right here
 at Domenic Sound in Brisbane by Shane
 Hughes, was recently listed on the
 applicable charts over there at number 83
 ahead of artists Willie Nelson (#84) and
 Garth Brooks (#97).

It should be pointed out at this point
 that Wilf is an elderly gentleman living
 currently in Brisbane with his family.
 Predictably, and of course typically, NO
 ONE in Australia was (or is) interested in
 this artist - but then again we gather he
 really doesn't mind- does he!

Congratulations to Wilf Montan and we
 wish him all the best.

	ARTIST	PRODUCER	ENGINEER	SESSION
NSW	A# Sharp +61 2 9153 9988 Jeff Cripps (jeff@asharp.com.au) www.asharp.com.au			24 track Analogue, 32 track Digital
	The Groove Kings	Jeff Cripps	Jeff Cripps	Album
	Jeckyl Hyde Switch	Jeff Cripps	Jeff Cripps	Album
	Hank Koopman	Jeff Cripps	Jeff Cripps	Album
	Powerhead	Jeff Cripps	Jeff Cripps	Album
	Kami Kids	Jeff Cripps	Jeff Cripps	Album
	Bush Traks +61 2 6689 1290 Ruth Miller (ruth@bushtraks.com) www.bushtraks.com			Air-conditioned digital multitrack studio.
	Durga Babies	Michael Turner/D. Highet	Dave Highet	Album
	Greg Warner	G. Warner	Dave Highet	Demos
	Asia Lee	Brian Lee/D. Highet	Dave Highet	Album
Feral Studios +61 2 6299 3224 Jon Robertson (replicat@austarmetro.com.au) 32 track recording and mastering				
Kandi Doz It	Jon	Jon	Album mixes	
Jugg 101	Band	Pricey	demos	
Uknown band	Jon	Jon	single	
Gangstar Studios +61 2 4739 0451 Dave Dwyer / Rebecca Dwyer (gangstar.records@bigpond.com) www.gangstar.com.au			96 track digital recording + mastering suite	
Sarah Charwood	Dave Dwyer / Rebecca Dwyer	Dave Dwyer	Pre-Production	
The Budley Brothers	Dave Dwyer	Dave Dwyer	Album	
Gliester	Dave Dwyer	Dave Dwyer	Album	
Giant (Feat. Andre Eikmeier)	Dave Dwyer	Dave Dwyer	Pre-Production	
Bernie Segedin	Dave Dwyer	Dave Dwyer	Album	
Milkbar Recording Studios +61 2 9516 4559 Dave Sykes (info@milkbarstudios.tv) www.milkbarstudio.tv			One stop shop for all your multiformat, surround sound, recording and mixing requirements	
Alex Lloyd	Alex Lloyd	Greg Wales	B Sides	
Duncan James	Paul McKercher	Paul McKercher	Album	
Augie March	Paul McKercher	Paul McKercher	Album	
Post for Film and Television				
Angel Babies	Sammy Kannis	Sammy Kannis	Post for TV	
Palmolive	Sammy Kannis	Sammy Kannis	Post for TV	
nutown studios +61 2 9516 3306 greg hopping (nutown@yahoo.com) programing.recording and production				
Leonie Rodgers	Sofie Loizou	Mark Worrall	TVC	
Jaquie Hunt	Mark Worrall	Mark Worrall	Album Demos	
K.E.L	Greg Hopping	Greg Hopping	Album	
Post for Film and Television				
The Seventh Wave	Martin Thom	Mark Worrall	Sound Track	
Soundwarp +61 2 9905 7144 Meredith Brooks (mastering@soundwarp.com.au) www.soundwarp.com.au			Audio Mastering	
Noel Evans	Noel Evans	Meredith Brooks	Demo Tracks	
Just James	James	Meredith Brooks	Single	
Katya	Katya	Meredith Brooks	Demos	
Martin St. James	John Rix	Meredith Brooks	Album	
Stef	Stephane	Meredith Brooks	Single	
Studios 301 +61 2 9698 5888 Steve De Fina (stevde@301.com.au) www.studios301.com			Recording and mixing studios for all genres of music including full scale orchestral film scores	
Lee Kernaghan	Garth Porter	Rob Feaster/ Anton Hagop	Album mixing	
Crocodile Hunter film	Christo Curtis	Christo Curtis	Orchestral film score	
Will Smith	Anton Hagop	Anton Hagop	Downloads and overdubs	
The Whitlams	Daniel Denholm/ Tim Freedman	Daniel Denholm/ Paul Pilseniaks	String	
recording for album				
Stephen Rae	Daniel Denholm	Daniel Denholm	Mixing	
The Vault +61 2 9555 8298 James Cadsky (cadsky@ozemail.com.au) 48trk analogue 24i/o protocols, SSL 4040E/G grande			selection of microphones and outboard gear top waterfront location rule good eh.	
Tinkerbellsutbaby	Band	James Cadsky	Album	
Mark Easton's Limousine	Band & Cadsky	James Cadsky	E.P.	
Tim Hall	Tim Hall	James Cadsky	Album Mixes	
Bp Omalley	Band	James Cadsky	Mixes	
Melanie Horsnell	Melanie @ James	James Cadsky	Tracking	
VIC				
Crystal Mastering +61 3 9326 2318 Joe Carra - Mastering Suite				
The Fauves	C.Dickie/Band	John Ruberto	Mastering Album	
The Anyones	P.Mckercher	John Ruberto	Mastering Album	
Mach Pelican	G.Long	Joe Carra	Mastering Album	
Superheist	Rodes/D.W.Norton	John Ruberto	Mastering Single	
Hookshot	Band	Joe Carra	Mastering Ep	
Dex Mastering +61 3 9372 2266 Adam Dempsey & Ken Shulman (mastering@dexaudio.com.au) www.dexaudio.com.au			Professional digital & custom analogue mastering since 1982.	
Creole Bells	Ben Hurt/Steve Waddel	Adam Dempsey	Album	

ARTIST	PRODUCER	ENGINEER	SESSION
Joe Chindamo Trio	Joe Chindamo	Adam Dempsey	Album
Excarnated	Chris Newell	Adam Dempsey	Album
Pellarin	Couchblip	Ken Schulman & Adam Dempsey	Album
Jim Green	Chris Corr	Adam Dempsey	Album

VIC

Edensound Mastering +61 3 9682 9066 Martin Pullan (mart@edensound.com.au) www.edensound.com.au Focusrite 'Blue' Mastering Suite at Metropolis Melbourne

Vikka and Linda Bull	Geoff Burslin	Martin Pullan	Album
Deborah Conway	Festival Mushroom Records	Martin Pullan	Album
Fruit	Fruit	Martin Pullan	Live Album
Jimmy Barnes	Drew Thompson	Martin Pullan	Live Album
Marie Wilson	Marie Wilson	Martin Pullan	Album

Lo Ricco Sound Studios +61 3 9701 6220 Marcello Lo Ricco (info@lssprductions.com) Recording Studio

Patrick Fay (Which Star)	Patrick Fay	Marcello Lo Ricco	Album
John & Sarah (The Musical)	A. Costanzo & MA McCormack	Marcello Lo Ricco	Act 1 - Demo
Taneel Van Zyl	Eddie Perfect	Marcello Lo Ricco	Demos
Georgia's Remedy	Georgia's Remedy	Marcello Lo Ricco	Demos
Aaron Mathews	Aaron Mathews	Marcello Lo Ricco	Demos

True Form Recording +61 3 9391 0907 Neil Gray (trueform87@hotmail.com)

Mackie 24 Track Digital Recorder/Editor, Classic Analogue Console and Outboard			
The Living End	Neil/Band	Neil Gray	Demos
Biggy Rat	Neil Gray	Neil Gray	Album
The Agents	Dean/Band	Dean Fisher	Demos
Squair	Neil Gray	Neil Gray	EP

Domenic Sound Recording Studio +61 7 3216 5187 Shane Hughes (domsound@powerup.com.au)

www.powerup.com.au/~domsound - Tascam M-5000 console. 24 track adat digital. Pro Tools/G4. Pentium III/Logic Audio. Huge outboard rack of effects/processors. 3 recording areas			
Namaste Jake	Shane Hughes	Shane Hughes	EP mixing and post prod
Bundaberg Shire Council	Shane Hughes	Shane Hughes	Cora Coast Jingle Promotion
STARZ Dance Co	Shane Hughes	Shane Hughes	Backings for Live performances
Franko	Shane Hughes	Shane Hughes	Album Tracking
Wilf Montan	Shane Hughes	Shane Hughes	Single Record/Mix

QLD

Select Sound/Coral Sea Studios +61 7 4051 4034 J. Sarchfield (selectsound@austarnet.com.au)

Cairns' only acoustically-designed award winning digital studio			
Various Maori Artists	Gene Pierson	Nigel Pegrum	Eight albums

Taramalin Sound +61 7 3208 9736 Allan Lahey (allan@taramalin.com.au) www.ta'amalin.com.au

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Tery Clark	Terry Clark	A Lahey	single
Jennifer Cameron	A Lahey	A Lahey	EP
Gordon Mc Dowell	G McDowell	A Lahey	Album
Elsa Latanzi	Elsa Latanzi	A Lahey	Demo
The Kelly Gang	Rob Black	A Lahey	Large Demo

Earsight 0407 970425 Steve Fieldhouse (earsight@senet.com.au)

Pro Tools 5.1 TDM Mixplus Facility for Tracking, Editing, Mixing, Soundtracks and Hire			
Found Objects	Steve Fieldhouse/Chris Lambert	Steve Fieldhouse/Chris Lambert	CD Album Tracking and Mixes

SA

MIXMASTERS PRODUCTIONS +61 8 8278 8506 Mick Wordley (studio@mixmasters.com.au) www.mixmasters.com.au

SSL E / G+, Pro Tools / Studer 24 Track, No Compromise			
Colcannon	Don	Brett Taylor	Album Tracking
Eric Bogle	Mick Wordley	Mick W	Album Mix
Moira Lawry	Moira	Brett Taylor	Album Mix
Lankey	Warrick Scott	Warrick	Ep Tracking
Wone	Tim Rohlach	Brett Taylor	Ep Mix

Sonic Lab, The +61 8 9375 3903 Mark Whitehouse (info@procop.com.au) www.procop.com.au .

Francis Cox	Mark Bin Baker	Mark Whitehouse	Album
Gubinge Rd	Mark Bin Baker	Mark Whitehouse	Album
Rachel Green	Mark Whitehouse	Mark Whitehouse	Restoration
David Price & Robyn Henderson	Mark Whitehouse	Mark Whitehouse	Mastering

Post for Film and Television

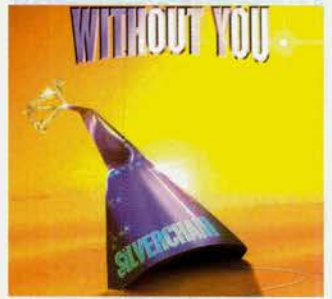
Mike Harvey & Jackie Love	Peter Simpson	M. Whitehouse & Jeff Brownrigs	TV
Commercial			

WA

Witzend +61 8 9336 1888 Alan Dawson (witzend@highway1.com.au) 16 track analog, 24 track Digital

Aluvimum	Aluvimum	Alan Dawson	Demo
Dan Kealley	Dan Kealley	Alan Dawson	Demo
Richie Pavledis	Alan Dawson	Alan Dawson	Album
James Beetson	James Beetson	Alan Dawson	Demo

CHARTS



Silverchair

Without You

Produced and Mixed by David Bottrill, Co-Produced by Daniel Johns



Disco Montego

(featuring Katie Underwood)

Beautiful

Produced by Kaylan and Michael Szumowski, Recorded at 347 Studio & Tiger Studio (Sydney), Mixed at the Floating Point Studio (Sydney) by Peter Mayes, Mastered at Stepford Studio (Melbourne)



Jebediah

Nothing Lasts Forever

Produced and Mixed by Magoo, Recorded at Mangrove Recording Studios, Mixed at Studios 301, Mastered at Studios 301 by Steve Smart

Taramalin Sound

New Equipment - TDIF to ADAT Lightpipe converter 8 x digital I/O

Witzend

New Equipment - Recently installed a Tascam MX2424 Hard disk Recorder.

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30 YEARS OF ROCK LIGHTING AND SOUND

By Grahame 'Yogi' Harrison and Julius Grafton

English lighting operator Phil Burkinshaw arrived in Australia in 1970. He had experience from touring in the UK. Phil visited the lighting operator for touring English legends, 'YES', at the Hordern Pavilion and was amazed to find that the band has bought its own lighting equipment on tour in wooden packing crates!

The lights were Par 64 lamps (110 volt), commonly used at the time for lighting buildings. The band's sound engineer was former JANDS co-founder, Bruce Jackson, who had also bought the PA system with him.

Phil did a deal and bought 10 lights at the end of the tour. He wired them in series in pairs alongside each other to run at 240 volts and approached General Electric in Australia for more globes. They told him he was nuts and there was no future for 110 volt equipment in this country. It was difficult for anyone to purchase Par 64 lamps for years.

Phil formed Crazy Maze Lighting and manufactured the first Par Cans in Australia. These bright-orange coloured cans changed the lighting industry forever.

Push-up lighting stands were still the only support method available, so in order to lift these lights into the air, Phil then imported 20 Genie pneumatic air cylinders from the USA.

Krazy Maze were momentarily the premier lighting company in Sydney (and probably Australia), using Par Cans while everyone else was stuck with feeble and fragile Patt 23 and Patt 123 500w, and Patt 223 and 263 1000w incandescent theatre fixtures.

Existing Strand Patt 293 follow-spots couldn't penetrate the power of the par cans, so Burkinshaw found a solution in America, the Strong 'Super Trooper' with a Xenon globe. It was huge and weighed a tonne or two!

Burkinshaw promptly had five shipped to Australia. By now, Burkinshaw had a host of talent working with him (including Colin Baldwin who



Bee Gees in Sydney in 1972, another pioneering occasion for Jands. Finch (lower-left) pictured in 1975 playing through a Jands PA, with Jands lighting Patt 743 fresnels and Patt 263 profiles on a lowered pneumatic stand, and Cord backline gear. The first locally made Par Can, below.





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purchased three banks of 8 par 64's and pneumatic towers) and secured the most-prestigious hires including local bands and lots of international shows. Without a doubt, Burkinshaw's contribution to our industry was probably the most-significant lighting production achievement of them all. But, like so many pioneering innovators, Phil ran out of money and Crazy Maze faded to black.

These days he makes innovative stage support systems in Victoria.

Import duties put punitive loadings onto equipment made offshore, and like many industrial endeavors, much was made in Australia. The trade barriers of these times were responsible for some very ordinary manufacturing, but also spawned a new breed of manufacturer - from whose ranks today's successful manufacturers grew.

By 1972, WASP had started making PA systems to complement their backline amps and boxes. Whistler's Mother and Buffalo both purchased WASP audio rigs to add to their inventories. The members of Whistler's Mother apparently still own their complete



backline and PA system which is stored in Mudgee and works perfectly.

Chain at Sunbury '75. The industry had quadrupled in size in just 3 years. The only thing holding it back was investment funds. If you built equipment you would sell it. The stage was set for huge growth!

Continued next month



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Oct 5 - 8
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DUNCAN FRY ON NEXT PAGE!

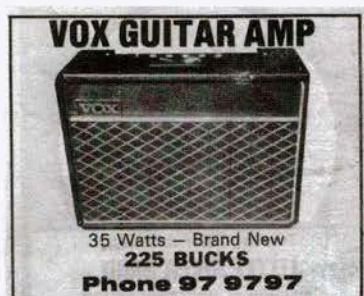
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by *Duncan Fry*

Vox

The memory of distortion
- or the distortion of memory



(top right) The 60's dream - Rickenbacker, E type Jaguar, Vox AC30 and blonde girlfriend. I actually had all four of these, but not at the same time! Check out www.dunkworld.com/Car_e-type1.htm. This picture is from the excellent *The VOX Story*, Bold Strummer Publications.

(top left) For all those people who think I just make up all this - the ad from *Juke* magazine for the AC20 amps.

(above) Who would have believed an amp would really look like this?



Voxy Dunk

The cavernous new Hall 3 at the Frankfurt MusicMesse was the home to all of the major guitar amp brands - Marshall, Fender, whatever, more amps than you could shake a pick at. Roaming around this hall I came across another brand that I hadn't heard of for a long time - VOX. When I saw the whole family of amps sitting there, looking like a complete AC30 family in various sizes, with their distinctive styling and that famous gold logo, then memories came flooding back...

A long long time ago, in a galaxy far far away (12,000 miles, in fact) when I was still a young Pom, VOX amps were built just around the corner from me in Dartford, England, and they were the amps everyone in the early 60's wanted, from the Beatles and Rolling Stones to the rankest garage bands.

Dartford must have been quite a musical area, since my old school Dartford Grammar's most famous ex-student was Mick Jagger.

Much maligned by the teaching staff at the time for joining a band instead of getting a 'real' job, he recently paid for a new performing arts centre to be built at the old school.

But I digress. When I had a stall at the Sunday market in the old Capitol Bakeries building, Honest Afghan Discount Records, during the quiet times I used to wander around the other stalls, leaving the dog in charge while I browsed.

People would have all sorts of things for sale, and one Sunday a guy was selling all his worldly possessions, including a VOX amp. He wanted \$200 for it. It had been a good day for me at the market, so I offered him \$100 there and then, cash, and ten seconds later it was mine!

As I left, he offered me a piece of advice. "It's got a great distortion sound mate," he volunteered. "All you have to do is switch the voltage selector from 240 to 110 volts!"

It says a lot for the quality of manufacturing that it still worked after such abuse. Perhaps that why the three plastic heat vents along the top had all melted. I mean, these amps were a Class A design and ran bloody hot under normal use; running on the 110 volt setting, I was surprised that it hadn't vaporised in a nuclear puff one night.

A little research later, and I found the model was a 1964 AC30 Expanded Frequency Twin Fifteen, which was an AC30 with two 15s instead of two 12s. I'm very sad to admit that like most owners of this model, I eventually built a new cabinet and converted it to AC30 size since it was just too damn bulky to move around easily.

Of course, by doing this I shot myself financially in the foot, so to speak, since this model is one of the rarest of all old Voxes, with maybe 1 or 2 in working order around the world! I finally sold it to finance a digital



delay for the PA. If I'd kept the amp in original condition, I could have sold it today for enough to pay for the whole system!

But wait, there's more. While looking through a catalogue from a Sydney wholesaler, we saw an ad for some American VOX Ampliphonic amps. These were made under licence in the USA by the Thomas organ company. The picture in the catalogue showed an extremely distorted looking unit that we felt sure must be done by special photography. They wanted \$60 each for them. We rang up and got all ten of them for \$500.

When they arrived we discovered to our horror that what we had taken to be arty farty photography was a very accurate picture of what they actually looked like! (see picture on left)

So we cranked up the saw bench and set about turning them into a more customer friendly version of what we felt a VOX amp ought to look like.

The label on the rear of them said 35 watts. This was current draw, not output power, but I thought that AC20 might sound good, even though they would deliver about 10 watts RMS on a good day with the wind in the right direction. But they had a fantastic distortion sound, even without changing the voltage setting. A single germanium output transistor driving a tiny 8" speaker delivered a really thick, fat, chainsaw sound. I stripped off all the fittings from the spaced out versions, and refitted them onto the new models. So they had the right badge (albeit the later US version), the right corners and trim, and most of all - the right diamond pattern grille cloth. At \$225 each they sold out immediately.

These were my memories when I saw Vox at Frankfurt. I decided I had to have one as a souvenir, so I chose the smallest and cheapest, passed over a handful of Euros, shoved it into my bag and brought it home with me. And it's not bad at all. On the Overdrive setting it has the standard transistor shredding distortion, but on the Clean one it has a magnificent Duane Eddy type twang.

Peter Gunn, here I come - time to drag the Old Farts On Heat out of retirement yet again!

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