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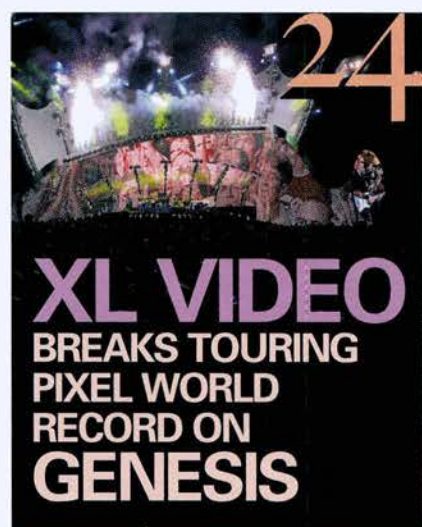
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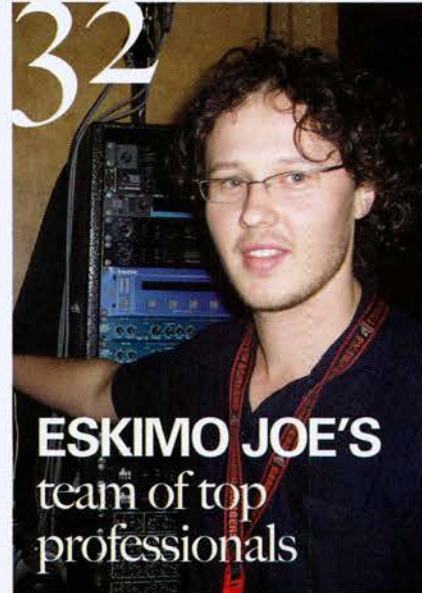
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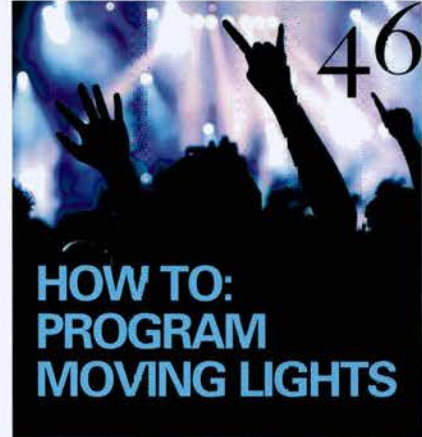
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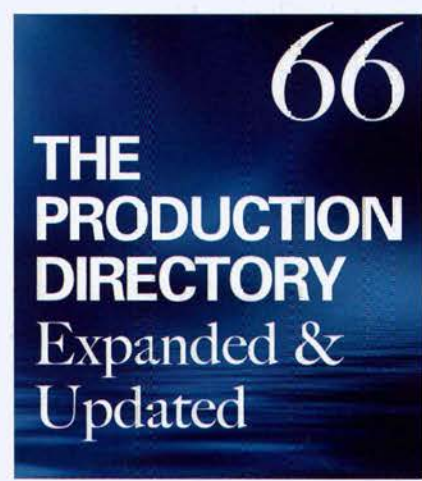
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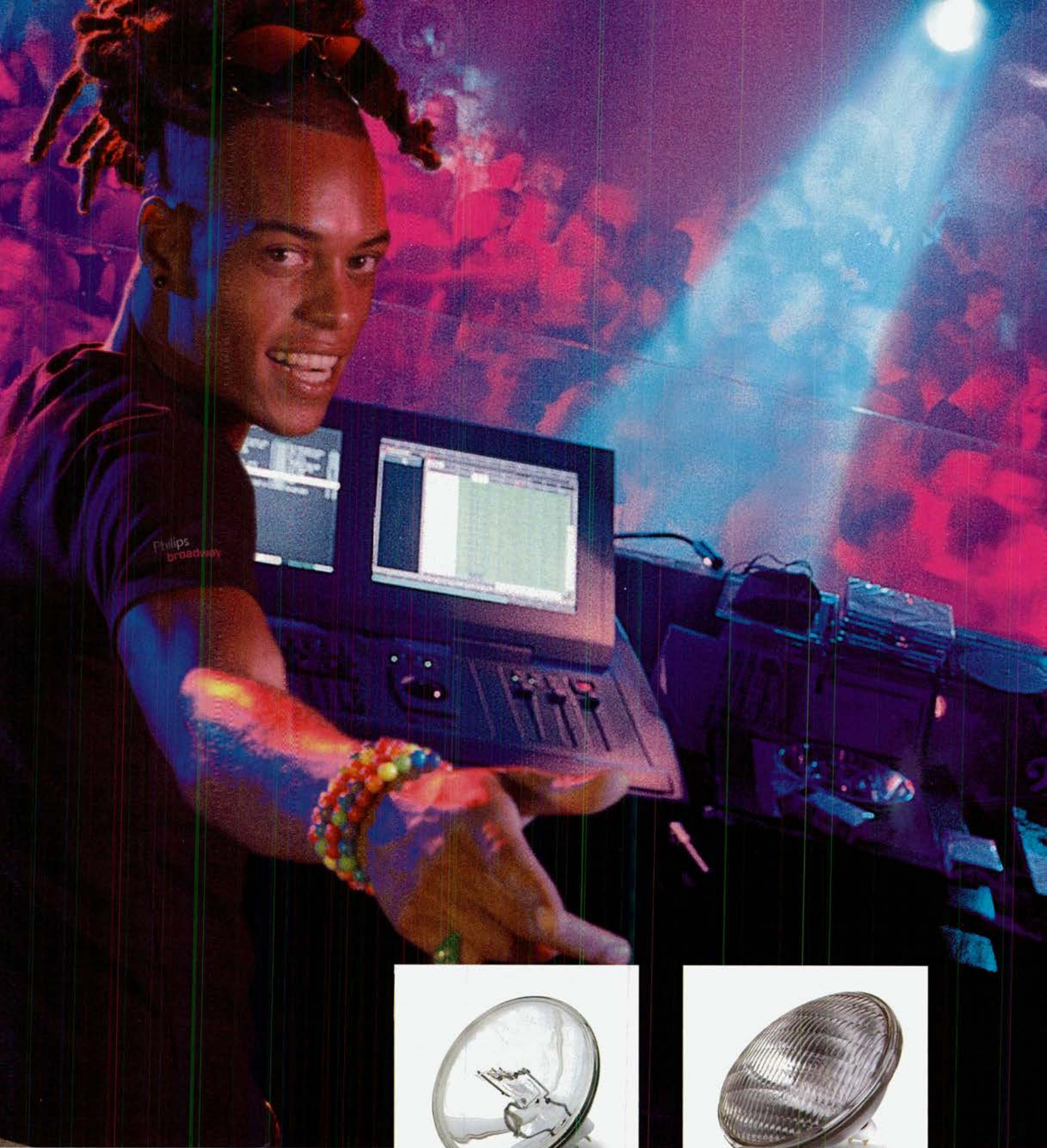


Marc Allen 50



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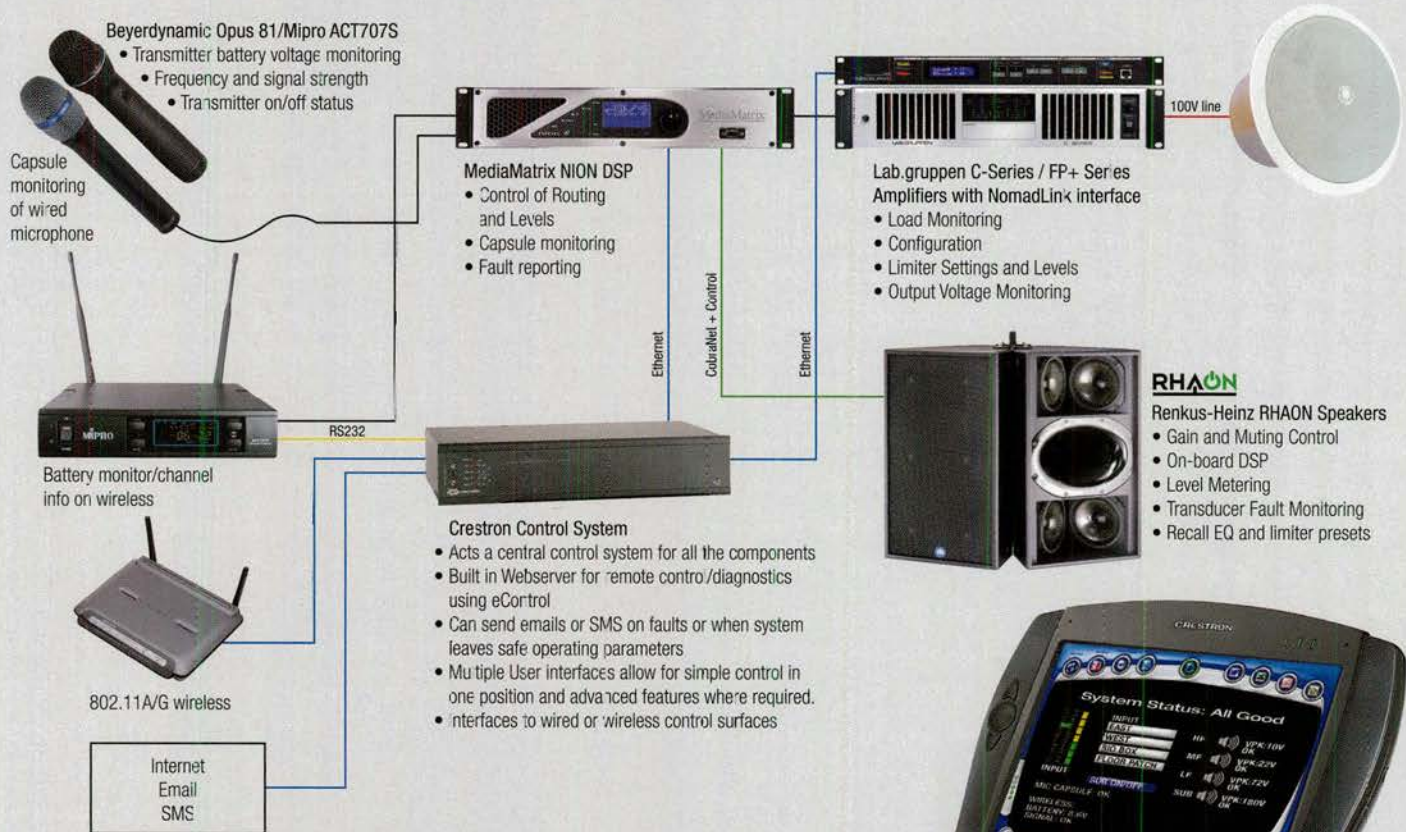


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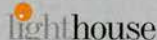
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 Also distributed by Audio Telex in New Zealand



ISSN 1448-2010

**CX Magazine is published every six weeks**

**by Julius Publishing Pty Ltd**

ACN 117 748 777

**Mail:** Locked Bag 30, Epping  
NSW 1710 Australia.

**Call: 1800 462 739**

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direct +61 2 9638 5955

**Newsagent distributor:** NDD

**Publishers PA** Amalia Portelli

**Subs Manager** Amy Wilcox

**Web** by ThinkFirst

**Print** by Superfine

**Design** by Bite Communications

**JuliusPublish**ING

## CUE03

### Entertainment Training Resource

This magazine contains much information which is a direct resource for anyone studying from the new Entertainment Training Package, named CUE03. From 2006 we will start to map certain articles direct against the relevant Unit of Competency within the package. This makes CX magazine a very cost effective resource for schools, colleges, and universities. Note that we offer a copyright release where articles in CX Magazine may be photocopied and distributed to students within an accredited course.

# (GUEST) EDITORIAL

by Andy Mackenzie

Over the last few weeks I've been seeing and hearing all kinds of stuff about the entertainment industry. I don't know if it's because Julius is away or if it's just because people have realized how much fun I am to talk to, but I've been getting told about stuff. What kind of stuff? All kinds of crazy, crazy stuff.

## CRAZY STUFF 1

From the world of corporate presentation comes the peculiar tale of the most inflated band rider in history. The scenario – a band, identified as a 'party band' AKA 'cover band' has been hired to perform the after dinner set at a corporate function. A six piece band, playing a one hour set...surely that can't present too many demands, right? Well, let's start with the FOH console spec on the rider. The band require a Digico D1 to be supplied. Presumably their front of house guy has got a bit carried away, and a solution to this could be discussed – but no, the band aren't supplying an engineer, they're just telling the contractor what the contractor needs to use. Madness. Reading further down the same rider, we come across the foldback requirements of the band. For some reason, six people need nine sends of monitors. That's right, one send dedicated to each band member is not enough.

## CRAZY STUFF 2

Guns and Roses play Acer Arena with two support acts, just like a classic old style pub show. First support goes up about half-8ish and plays an hour, then after a leisurely changeover the second support get their hour, finishing about 11 or thereabouts before things start getting organized for the headliners. Gunners hit the stage well after 11:30 and play till almost two. The key difference between Acer and a typical pub – one that seems to have gone unnoticed – is that most pubs

don't disgorge 18 000 punters seeking a way home onto the deserted streets of Homebush Bay at 2 o'clock on Sunday morning.

## NOT SO CRAZY...

On the up side, I've also seen and heard some great things that make me feel really good about this industry and the people in it. Here's one. When I took offspring, aged 5, to the circus to research a story, she was reduced to broken hearted tears when the giant beach ball rolling through the crowd missed her. The clown (an actual clown, unlike the one who wrote that rider) in control of the ball saw how upset she was and steered the thing back fair on top of her. Squeals of delight.

Only one of these clowns got it right and remembered what the industry is really all about. It's not about disappearing up your own bum because someone's given you the budget to do so, it's about giving the punters something good to take away and enriching their lives a little. And as a circus freak (again, a real one) told me some years ago "Dude.... they pay all our wages".

I love the circus.

## NO MORE SMOKING

The ban on smoking in NSW pubs and clubs has just come into force, and it's been greeted by the usual bitching from the people who might lose revenue. As always the cry is "It's going to cost jobs". And it might, but on the other hand smoking costs thousands of lives every year. World War II employed lots of people, but no-one complained when it ended. The only negative thing about this ban is that now all the smokers have been forced into the beer gardens, people with kids are effectively locked out of going to the pub for dinner. Roll on the smoke free beer garden.

*Andy Mackenzie*

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# NEWS

DEVICES, PEOPLE AND CONCEPTS

## SOMEONE AXE THIS WITHERED ROSE!

© PIC BY BOB KING



It ranks as the tour disgrace of the decade, probably as bad as when Barry White was seated in the round and half the audience saw on y his fat back and bucket of towels. There's no dispute Axl Rose and his Guns and Roses coverband could rock, the only problem was that most of their Australian tour dates were performed mainly a day later than advertised.

Never in the 17 year history of CX have we had so many calls and emails about an act – all from people rightly upset that the band were scheduled to play at 11pm, and in many cases were considerably later on stage than that. Two support acts performed longer than planned to try to bridge the lateness of the main act.

The second Sydney show went on just prior to midnight Sunday, and

ended around 2am on Monday morning. Audience members then found themselves out in the frozen wastes of the Sydney Olympic precinct and in many cases, just a few hours before they needed to start work.

Backstage the vibe was described as very unhappy. Venues report streams of pissed off punters trying to negotiate refunds once the delays kicked in. Various reports have Axl Rose keeping his private jet waiting, and leaving the stage regularly for reasons fairly obvious, considering his total lack of concern for anyone other than himself.

Transport, production and logistics were a nightmare, with trucks being loaded at sunrise, hours late. Costs, tempers and morale were all blown

out. Reports of The Axl up to his old tricks came in before the tour – making it a train crash in slow motion.

CX snapper Bob King was forced to sign a ridiculous photo contract that restricted him to one use only of the photo above (so enjoy looking at it) and against conventions, the copyright is required to be ceded to Mr. Rose. Security was required to frisk people and deny admission for anyone with a camera. Repeated announcements stressed that mobile phones were not to be used to photograph the band. Despite or maybe because of the paranoia, [www.rockvizion.com.au](http://www.rockvizion.com.au) have managed to run a whole lot of concert footage on their website.

Axl Rose, please join Fred Durst on the rock industry 'do not ever disturb again' list.



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# BOSCH MOVES IN ON EV

## WHILE COL MOVES OUT



Stepping aside for Bosch: APAC Audio owner, Col Formston.

Electro Voice has a long pro audio history in Australia, and the brands that now congregate with EV form a solid market group. Aside from EV loudspeakers – in the top 5 world wide – are Midas (number one at the top of live audio mixing consoles), Klark Teknik (a leading processing brand) and Telex – who are big in communication systems for installations and broadcast.

EV Audio as it was known was a solid player in Australia and owned by the ultimate owners of EV. Then in

2006 the Australian manager, Col Formston, purchased the distribution business and renamed it APAC Audio. It was a long time coming, since the American owners had flagged a desire to sell but took a while to do so.

APAC Audio owner Col Formston had been responsible for steering the audio distribution of EV and ancillary products for a great many years. Not long after he acquired the business came the news that Bosch, a massive company with a long history, had taken over EV and its brands around the world.

Shortly after, while at an EV conference in Turkey, Col Formston was tapped on the shoulder by Bosch, enquiring about resuming distribution of their new brands in Australia. His six year deal looked like running considerably less than six years. Negotiations started.

Those negotiations were finalized to the satisfaction of both sides in June, and Bosch took over almost straight away. Col Formston advised his dealer network and staff, and went home to paint the house. He retains distribution of the new Midas

XL 8 product for a further two year period.

"The culture of the business was built around the dealers", Col told CX, "and in a business where everyone has good brands it comes down to the willingness of the dealers at the end". He says that the deal was the best possible outcome for the staff and dealers, which whom he is well connected.

Chris Dellenty from Bosch took control of the Northmead (Sydney) premises, staff and stock, and has become head of a new business unit, Bosch Communication Systems. Adding on the traditional Bosch products they now have the ability to field a 'one stop' approach to audio and communications.

Bosch has an unusual and refreshing approach where the company is focused on the long term, rather than the next shareholder meeting. They reinvest as much as ten percent of their profits into research and development. The rapid move to consolidate distribution in Australia means there is more to come, as the firm has identified markets they wish to dominate. CX



## QUEST ENGINEERING EXPORTS PUMPING

Melbourne audio exporter Quest Engineering recently shipped 2 containers of audio to Lebanon, and report strong export sales. With the Australian dollar riding at almost an all time high against the US dollar, Quest have a natural hedge against imports for sister company, Group Technologies. As the dollar strengthens, imports cost less but exports sell for less. Combining an import company with an export business gives a business protection against volatile exchange rate

movements.

Ashton export while Australia's import, and Jands have export and import businesses. Many other audio and lighting suppliers in Australia have adopted the strategy.

Group Technologies import Digico and Nexco, which are high end audio solutions. Quest Engineering sell low cost amplifiers, loudspeakers and accessories – much of it sourced from Asia – for the installation, club and tour markets. They market their growing range at tradeshow, and sell via dealers in different territories.

[www.questaudio.net](http://www.questaudio.net) CX



John O'Donnell, respected sound engineer and technical director of Funktion One Australia, is celebrating a successful tour of India in early 2007 with the Australian Art Orchestra. Eight members of the AAO set off to India to tour with four South Indian musicians, performing the program "Into the Fire". O'Donnell utilised a single Yamaha LS9-16 console to mix, process, distribute and record all necessary audio inputs and outputs throughout the AAO's tour of the Subcontinent. CX



### DIGITAL MIXING CONSOLES



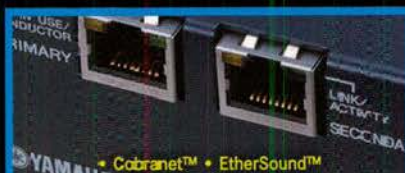
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## DAY RATE PAY DISPUTE

What constitutes fair pay for backstage work? That's a question CX intern Josh Green would like answered, after he worked 18 hours for \$150 recently.

Josh worked as a contractor to Hills Concert Productions, a Sydney based provider of lighting and audio. Josh had worked previously with HCP on a show at Parramatta Riverside where he was paid \$250 for a setup and show, albeit spread over two days.

"Previously I was paid \$250 for 2 days work at Riverside – day one we built the truss and flew it in. I started at 11pm, and got home at 3am. The next day I got to Riverside at 8am and worked until 8pm."

The next show was harder still: Yiannis Ploutarhos in concert at the Sydney Entertainment Centre. Josh started at 9am on June 9, and finished at 3am the following morning. These hours are not unknown in the entertainment business. But being paid \$150 for 18 hours is questionable.

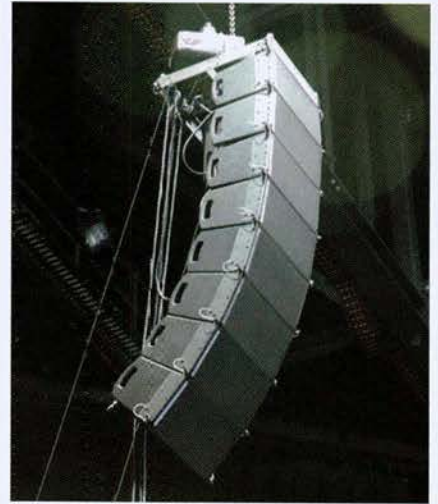
Josh picks up the story: "I flew the

line array stacks, set up stage monitors, ran a lot of cables, and got yelled at plenty. I helped unload, took packers off the forklift. I helped get the Melbourne system packed out at the end – there were consoles and other equipment from Johnson Audio Services. I rolled bucketloads of cables. I worked really hard – I was buggered. I couldn't work any harder."

There's no question about Josh's work ethic – he worked in demolitions before starting in the entertainment industry, and holds down part time work on CX alongside his full time college commitments for his Advanced Diploma.

So when Josh called HCP after the gig to arrange payment, he was taken aback to be told the rate was just \$150. "I called on Tuesday about payment – and he said the day rate was \$150, plus \$50 for the truck load I did the previous day. I tried to negotiate but he was firm. He said I'd get the day rate of \$150, just like everyone else.

Josh submitted his invoice and weeks later, at presstime, was still waiting for payment. CX



## ANNIVERSARY FOR HK AUDIO LINE ARRAY'S

Twelve months since the introduction of the HK line array in Australia, a range of production houses around the country have embraced the brand. The initial system was received by Event Production Management in the Gold Coast. Managing director Leon Barreau, says "It's bloody unreal."

The Blue Shadow Group, also on the Gold Coast has taken up the HK Contour Array, and Music Park (Perth) also has a Contour Array.

In NSW, Minh Tran from Pro Sound and Hi-Fi in Canley Vale have added a Contour Array to their inventory, they recently completed the Chinese New Year Festival at Warwick Farm Race Course.

Frontline in Tasmania have purchased the Contour Array, they compliment an already impressive inventory, including KUDO as the larger line array. CX

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## GUITAR CENTER SELLS FOR \$2.5 BILLION

There's money in them strings. With more than 300 stores across the USA, Guitar Centre is a giant in the music trade. Now they are even more giant, with the shareholders pocketing \$2.5 billion for the business.

"As the leading retailer of musical instruments in the U.S., Guitar Center enjoys great brand recognition among musicians nationwide, a loyal customer base, and a track record of significant growth," said Jordan Hitch, Managing Director at Bain Capital who bought the business.

Pushing up the value of the chain was the wholly owned direct sales subsidiary Musician's Friend, and its catalogs and websites, including CX

[www.musiciansfriend.com](http://www.musiciansfriend.com)

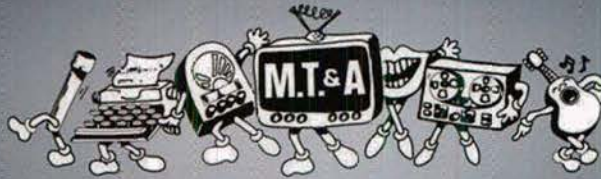


## ROLAND'S DIGITAL SNAKE

Last issue we ran a story on Peter Zahar and his work as technical production manager for the iconic Enmore and Metro theatres. As a sidebar to that story we also asked Peter about the Roland Digital Snake he was using in those venues, however a few people have expressed some confusion over the technical details that were printed and a quick reread revealed why – sorry. What we wrote was really weird.

**To clarify:** Peter has been successfully using the system for the MTV show "The Lair" since February this year. There are three performance stages in the setup and Peter is using two of the Roland input boxes to cover all three stages, with lossless splits for recording and monitors. Also, the optional redundant power supply is not three quarters of the price of the system, it represents about 10% of the system cost in use at the Metro, while the FOH breakout box is around 25%.

**CX apologize for the confusion.** CX



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Bosch Sound Projectors are an elegant visual design that blends easily into a vast range of different interiors. Completely invisible wiring and the simplicity of the case design make them very easy to customize. This is a cool idea for commercial audio in office buildings, shopping malls, airports, or any other complex indoor or outdoor environment.

The Bosch Sound Projector comes in various versions: two uni-directional models which can be precision aimed like a spotlight; one spherical, suspended model and a bi-directional model with two back-to-back loudspeakers, especially well-suited to corridors and arcades.

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




John Bakjac with the Fine Art Team at Palme Expo in Beijing this year.

**PULSE IS NOW ENT**


Pulse Ent was formed by John Bakjac and Matt Gallagher in Adelaide, who between them have run a production company called Pulse Effects for 15 fifteen years. Pulse Ent is now a Technology import company bringing new brands to Australia.

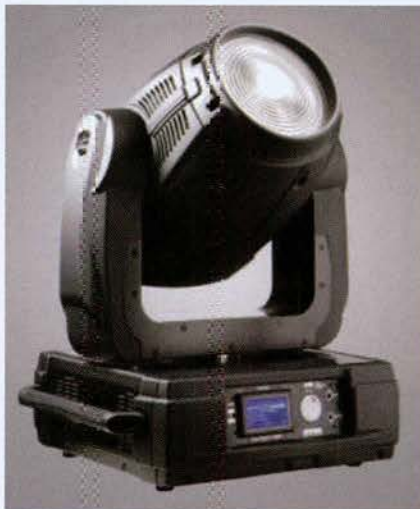
Brands they are introducing include Fine Art (Moving and Production lighting), and Color Beam (Architectural LED Manufacturer).

Pulse Ent have dealers across the country and are looking for more.

[www.pulse-ent.com.au](http://www.pulse-ent.com.au) 



Entertainment Installations, the professional audio and lighting company based in West Gosford, NSW, has recently taken delivery of a Yamaha PM5D-RH console to enhance its growing digital mixer inventory. Neale Mace, managing director of Entertainment Installations, is pictured with his purchase. 



**ULA CLAIMS 250 ORDERS FOR ROBE 700**

The month of May saw the ULA Group launch the new ROBE ColorSpot and ColorWash 700E AT Moving Luminaires as part of the National Robe Roadshow. From this, ULA claims orders for approximately 250 pieces of the ColorSpot and ColorWash 700.

The ColorSpot 700 offers features including a large zoom range (15 – 60 degrees), fast CMY colour mixing system, variable CTO filter and animation wheel. The ColorWash 700 has the same fast CMY colour mixing system, continuous rotating and indexable beam shaper, frost filter, variable CTO, all powered by the new Philips MSR 700 fast fit lamp and electronic ballast as standard.

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



**MATRIX PRODUCTIONS ACQUIRES PRODESIGN**

ProDesign is one of Perth's longest standing production companies, and it has been swallowed up by Matrix Productions. Matrix Productions and former ProDesign clients will have access to a wider range of choices of equipment and services, whilst maintaining the same levels of professional, reliable service and expertise. Matrix Productions and ProDesign will maintain a strong working relationship in the future with ProDesign making significant contributions to special Matrix Productions events. 



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## FREMANTLE'S METROPOLIS REFITS AUDIO

The Metropolis Fremantle is one of the most popular clubs in Perth, Western Australia. It has eight bars, four chambers and an enormous dance floor all in the one club.

As well as being a disco icon, Metropolis also plays host to the worlds hottest bands and their success is maintained due to the electric atmosphere created. Essential to the success of such a venue is an excellent sound system that caters equally as well for dance and live music.

The clubs owners Mario Madaffari and David Wallace spent two years looking at various sound systems eventually narrowing the choice down to two competitive quotes.

"We spent a lot of time analysing each quote and we flew down to Melbourne to meet Group Technologies", reported David Wallace. "In the end, what really swung it for us was the technology that Nexo could offer. It was the more expensive option. Another reason for purchasing Nexo was band-awareness; having such a top quality sound system has drawn acts to the venue."



LR Dale Towner (Metropolis lighting tech), Tony Bryan (Metropolis Production Manager/Audio tech), George Nikoloudis (Group Technologies), Sean Cornelius (Metropolis Audio Tech).



# Norwest Productions



Norwest Productions has increased the size of its Adamson Y-Axis PA System with the inclusion of 24 Y-18 Speaker Cabinets and additional T21 Subs.

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- Funktion Resolution Concert System
- EAW KF750, KF730, KF850
- EAW SB1000, BH760 subs
- Acoustic Technologies Blackbird Line Array

- Adamson Y10 Concert System
- Dolby Lake Processor
- Lake Contour, MESA
- XTA DP428, DP226, DP224
- Optocore Digital Network
- LabGruppen fp6400
- Camco Vortex 6
- Crown Macrotech VZ5002

- Yamaha PM1D, PM5d
- Yamaha M7CL, DM2000
- Yamaha O1V/9E (40 consoles)
- Digico D5 112/EX
- Midas XL4, XL3
- Midas Heritage 3000, 1000
- Midas Verona Venice

The PA system comprises of twelve Nexo Geo-D speakers rigged six per side, two Nexo GeoSub cardioid subwoofers built under the stage one per side and two Nexo PS8 speakers for rear fill. Nexo NX 242 digital controllers and Camco Vortex amplifiers drive the system.

The monitor system includes twelve Nexo PS15 speakers and a Nexo PS15 bass reinforcement unit again driven by Nexo controllers and Camco Vortex amplifiers.

Tony Brian, Metropolis in-house sound engineer, has worked at the venue for many years. "The Nexo system doesn't give us problems with noise outside of the venue which is a really good thing. I like the clarity of the Nexo PA and how it delivers in the room and it's versatile as it's great for both DJs and touring acts. Most acts passing through comment on how fantastic the system sounds; clean, responsive and delivers good audio around the entire room.

As well as investing in the new Nexo sound system the club also decided to purchase a mixing console for front of house.

They specified the DiGiCo D1 console.

"I had already spent a bit of time with the DiGiCo previously" said Tony Brian. "The DiGiCo is cleaner, has fantastic mic pre amps, has lots of headroom inside the console, there's no noise out of the console when it's just sitting, the effects are clear and beautiful, gates and compressors on every channel, processing channels I could continue on forever!"

Tony has discovered that touring sound engineers who have no previous experience of the DiGiCo consoles or digital mixing in general, are all willing to learn. Generally he gives them on average a half hour lesson and then lets them have an hour by themselves with the console. Usually by the end of that time they are confident enough to get the gig done, he commented.

"When I first started on a DiGiCo console it was ten minutes before sound check at the Sydney Entertainment Centre with Grinspoon and I still found it quite easy!" **CX**

## HELPMANN AWARDS IN AUGUST

Live Performance Australia will host the prestigious 2007 Helpmann Awards on Monday 6 August at the Capitol Theatre in Sydney, followed by the After Party at the Sydney Entertainment Centre, and telecast live on Fox8.

LPA's Chief Executive, Evelyn Richardson, said "the Helpmann Awards are the pinnacle industry event for Australia's live performance industry, recognising the very best in live performances that annually attract over 13.7 million people to shows across the nation with revenues of over \$A834 million and growing.

"This year, our seventh, will see 41 awards presented plus the prestigious JC Williamson Award which will be bestowed in recognition of outstanding contribution to the Australian live performance industry".

Arena Management's Executive Chairman, Michael Jacobsen, said "we are delighted to be hosting the Helpmann Awards at the Capitol Theatre this year.

It's been a big year for the local industry and this event allows us to celebrate our achievements over the past year and look forward to the future".

It was also confirmed today that Jon Nicholls will act as Executive Producer and Wayne Harrison will direct the Award Ceremony on 6 August.

Tickets for the 2007 Helpmann Awards ceremony go on sale on Saturday 14 July. Booking information will be posted on:

[www.helpmannawards.com.au](http://www.helpmannawards.com.au) **CX**

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## SENNHEISER BOW EM 3732 TWIN RECEIVER

RF specialist Sennheiser introduce the EM 3732- a twin receiver with 90MHz switching bandwidth. "The RF spectrum is getting ever more crowded, but the EM 3732 is so flexible that the user will have sufficient alternative options to avoid interference, especially for multi-channel systems," says Sven Boetcher, Product Manager for Professional Systems.

The receiver features six user-selectable fixed frequency banks and one user bank with up to sixty channels that can be programmed in increments of 5kHz. Within a frequency bank the EM 3732 automatically searches for free frequencies. "This frequency scan, plus the synchronization function and the numerous connection options will significantly simplify the job of the sound engineer. The EM 3732 is the ideal companion for shows on tour."

Visit Sennheiser at the SMPTE Stand Number B09  
[www.syntec.com.au](http://www.syntec.com.au)



## SHURE CONDUCTS ANTI-COUNTERFEITING RAID IN ASIA

### Large Quantity of Counterfeit Products Confiscated in Taiwan

Shure Incorporated has announced that a recent anti-counterfeiting raid in Taipei resulted in the seizure of a large quantity of counterfeit Shure products. This is the latest in a series of actions taken by Shure to aggressively pursue those involved with the distribution of counterfeit products throughout Asia and the rest of the world.

"This sends a clear message to counterfeiters that Shure is committed to protecting our brand and reputation," said Sandy LaMantia, President and CEO of Shure. "We will not tolerate this activity and will do everything within our power to ensure that sub-standard products bearing our name stay out of the marketplace."

With the support of a local Shure distributor, Hi-Pro Technology, and the Taiwan Police, Shure conducted several weeks of investigation and surveillance using a private investigator, which resulted in the raid on May 29.

"In order to ensure that all of our customers are receiving genuine Shure products and not being deceived by counterfeit traders, we will continue to globally enforce our intellectual property rights," added LaMantia. "We encourage customers in Taiwan and throughout Asia-Pacific to only purchase our professional and personal audio products from authorised Shure product dealers, who can be easily found using Shure's website, [www.shure.com](http://www.shure.com)."

The exclusive Shure distributor in Australia is Jands Pty Ltd. For further information on Shure products or authorised dealers in Australia please visit [www.jands.com.au](http://www.jands.com.au) or email [marketing@jands.com.au](mailto:marketing@jands.com.au)



  
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# VENUE PA SYSTEM - SNAPSHOT

## The Albion Hotel, 35 George St Parramatta



By **CARLY JONES**

The Albion Hotel has come out of renovations with a fresh new facelift to rival that of any Hollywood celebrity. The hotel has great potential to be a leading live performance venue with a large stage and dance floor area. You can also chill out on the comfy lounges spread throughout the main bar although after a few drinks it may become a little difficult to get back up out of them. The main area of the hotel, where the comfortably sized 7.8m wide x 3.6m deep stage is located, is largely utilised for live bands and the Albion's latest addition Gasworks nightclub.


It looks as though the Albion is coming together as a music venue and its future success can partly be attributed to the sound system they purchased upon completion of the renovations. The Allen and Heath GL2800:32 console is the driving force behind the system. With in excess of 20 speakers, ranging from JBL VRX932A Curvilinear array to Martin F15 Black Line speakers, for the Gasworks room alone it is easy to see that the Albion has designed a winning hand.

The Hotel PA set up was designed by David Gilfillan of Gilfillan Soundwork and installed by Con Andrews from Beyond Audio Visual. The venues chief audio engineer Wayne Hodgson, owner of Arena Productions, is very happy with the set up as he feels the whole system suits the venue really well and

complements the large stage area. Over the 8 months that the system has been in use they have had no issues with it and are extremely pleased with its consistency and quality.

The Albion's licensee Tony Hasbani is another member of the Albion's team with a big smile on his face as he has nothing bad to say about the system "It's a really good system and we receive great comments from bands who play here, they're always asking when can we come play here again". It is a noted consensus that the system has been a great attribute to the venue as it is so multi purpose and can work well for both the DJ's and bands.

There are another 31 speakers to which the audio can be filtered throughout the Albion including the Beer Garden, Public Bar, Gaming Room and Pool Room. This allows for the entire venue to appreciate the tunes blasting out of the other 20 odd speakers but the system can be separated and usually the different sections enjoy a more relaxing experience provided by their Nitelife music video system.

Tony is really positive about bringing the live atmosphere back to the pub and is looking forward to the prospect of booking bigger bands in the future. And with the impressive sound system they have in place along with its attractive new look it shouldn't be long before the Albion becomes the 'go to' venue for the western suburbs live music scene in Sydney. 



Tony Hasbani - The Albion's licensee.

### Equipment

#### AUDIO SYSTEM

**FOH:** 4 x JBL VRX932A Curvilinear line array speakers

**Sub Bass:** 4 x Bag End Dual 18" self powered speakers

**Stage Fill:** 2 x JBL MS115 speakers

**Side of Stage Fill:** 2 x JBL MS28

**Speakers, Room Delay Fill:** 2 x JBL SP212/9 speakers

**Dance Floor:** 2 x SP121/9 speakers

**DJ Monitors:** FBT Max2A speakers

**Band Monitors:** 5 x Martin F15 Black Line speakers & 4 x EV Eliminator speakers

**Amplification:** 1 x Crown ITECH 4000 amplifier, 7 x Crown CE2000 amplifiers, 1 x Crown CE4000 amplifier, 1 x Crown CTS4200 amplifier, 1 x Crown XS700, 1 x Crown XS500, Australian monitor AMIS 120P

**Signal Processing:** 2 x BSS Blu60 DSP, 1 x BSS Blu 32 DSP, 1 x Crown USM-E10 DSP

**Control:** 3 x BSS Blu 10 remote control panels

#### BAND CONTROL GEAR

**Audio Desk:** Allen and Heath GL2800:32

#### OTHER AREAS EQUIPMENT

**Entry:** 2 x JBL Control 25AV speakers

**Beer Garden:** 6 x JBL Control 25AV speakers

**Beer Garden Bar:** 6 x JBL Control 25AV speakers

**Beer Garden Stage:** 2 x FBT plus 1 x FBT passive Sub speakers

**Public Bar:** 2 x JBL Control 29AV speakers

**Gaming Room:** 7 x Atlas FAP42T Ceiling Speakers

**Pool Room:** 6 x Turbo Sound Impact 50 speakers, 1 x Turbo Sound TSB110 sub bass speaker

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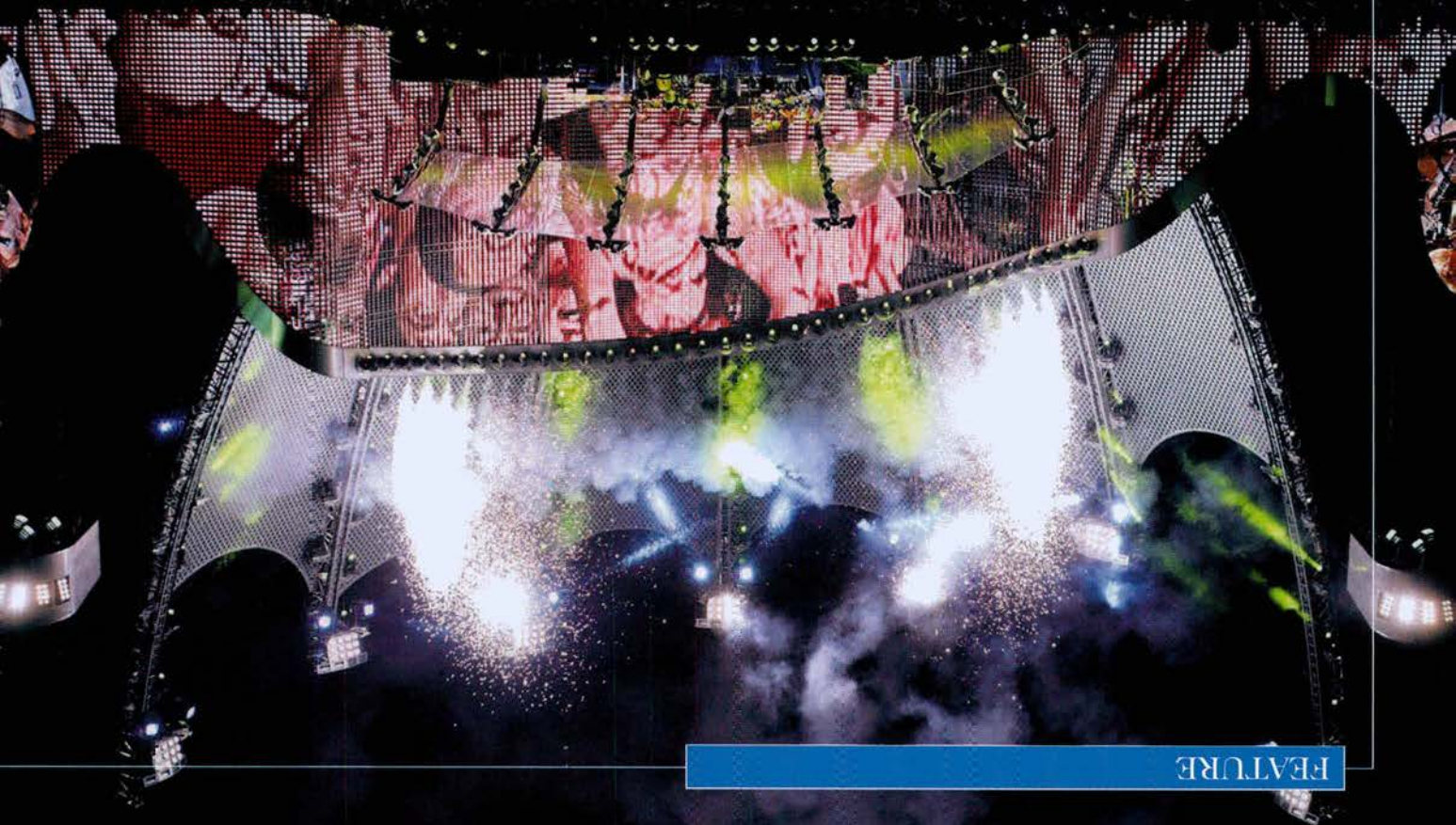
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This is the sign of things to come. If ever there's been a revolution in entertainment technology, it's at the video end, where designers of almost every kind of show are now scrambling to stretch the budget to get super screen technology that's up to the minute.

# XL VIDEO BREAKS TOURING PIXEL WORLD RECORD ON GENESIS



FEATURE

**XL** Video UK – via Blink TV – is supplying 15,089 Barco 510 O-Lite panels with 270 control boxes, plus 102 panels of Mitsubishi 16:8 high resolution screen in a record breaking 9 million pixel LED surface for the acclaimed Genesis “Turn It On Again” world tour.

Genesis brought the Vari-Lite to the world in the 1980’s, and to top that they have now gone into massive video.

The O-lite makes up a spectacular 13 metre high 55 metre wide set back wall and is surrounded by 7 lighting towers (“ribs”) reaching heights of up to 28 metres, which together resemble a giant conch shell. This was designed by Mark Fisher/Stufish.

The screen provides an elegant 3D curved wall and an elegant architectural back drop immediately behind the performance area. It is an interactive canvas for video playback, graphics images and IMAG which are integrated with lighting (designed by Patrick Woodcroffe) effects, helping to create the show’s unique visual identity.

The O-lite pixels are fitted into customised touring frames designed by XL Video and made by Brilliant Stages populated at different pitches to give multiple resolutions across the whole surface. The screen ends at either side of stage with the two elliptical Mitsubishi’s which seamlessly ‘flow’ into the main screen.

The O-lite screen is by far the most complicated that’s ever been created in terms of engineering and processing according to Stufish’s project executive designer Jeremy Lloyd. It presented a real challenge to the video boffins, namely Richard Turner, who took care of the processing, mapping and programming of the hard drives that feed it with provocative and engaging images.

The tour and production has received massive critical acclaim since kicking off in Helsinki.

Blink’s crew chief Stuart Heaney leads a video team of 14, and the IMAG video director is Ruary MacPhie who is taking care of a 5 camera mix which goes primarily onto the side screens and sometimes onto the main screen as windows appear.

Custom playback material produced by Sam Pattinson from Onedotzero is stored on four GV Profile hard drives including a dynamic array of graphics and animations. This is operated live by playback director Bryan Myles using Barco’s Events Manager, which drives the Barco Encore system providing the show’s overall video control.

MacPhie’s mix is coming from 5 Sony D50 cameras, two with long lenses at FOH, one in the pit on a specially curved track & dolly with wide angle lens, one hand-held onstage and a hot-head on the ‘roofette’ above the band performance area centre stage.

MacPhie is using one of XL’s Kayak mixer/switchers. He is running it with a separate Out for the side screens coming from its Aux bus, with one sub-cut, and the side screens run individually on the Programme Bus plus ME1. This allows him to put any band member onto any screen anytime, and using the Aux Bus allows him to take any source to the main screen from the Kayak. MacPhie’s mix is also fed into the Encore system, with some of the IMAG multi-

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### RECENT INDUSTRY AWARDS

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screen effects pre-ordained and programmed into the Events Manager by Richard Turner.

MacPhie and Heaney have worked for Phil Collins and Genesis manager Tony Smith for the last 3 years, so they were implicitly trusted to come up with a great result.

MacPhie's starting point is to get good coverage across all screens. He added a second camera at FOH to enable him to put the other 4 cameras on the sides while leaving one up on the centre, thus giving specific and unique IMAG images for the centre.

The show also incorporates a few interesting video special effects, one of which is a head shot during the song "Mama" for which the band wanted to replicate an image from the track's original 1980's promotional material. This is done live by Collins activating (via foot pedal) a small redhead light positioned at his feet while his face is framed with a tight camera shot – giving a ghostly shimmering halo of light around his face. The XL crew has rigged up a little camera in the pit so Collins can see the image this is producing and tweak it to his liking by moving his head in relation to the light.

Stuart Heaney has been involved in the Genesis project since January, and part of the overall video brief has



involved the design of special dollies to house and transport the O-Lite sections on tour. These were built by Brilliant Stages, and are an important part of some extremely meticulous pre-planning by Heaney, the XL Video and Stufish teams and tour riggers that is resulting in the video department being ready to roll in 3.5

hours each day ..... and out in just 2 hours and 40 minutes!

Involving 5 steel crews and two advanced systems, 90 trucks and over 250 crew, Genesis tours Europe, arriving in the UK in July before going to the US till the end of the year.

[www.xlvideo.tv](http://www.xlvideo.tv)



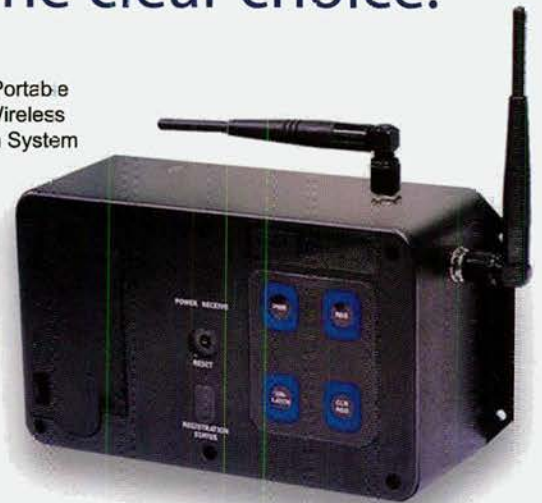
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## 24/7 WITH AUSTRALIA'S NUMBER ONE OP'S MANAGER

CX visited Teresa Amey who controls more events and tech staff than anyone else south of the equator.

**T**eresa Amey has been at Staging Connections right through its transition from a privately owned to publicly listed company. During her 10 years with the company she has held a variety of positions from Assistant Technical Event Manager through to Regional Director and has more recently been appointed the Director of National Operations. Her love of the industry, technology and the team at Staging Connections keeps her motivated and focused. Staging Connections has over 1100 staff worldwide and Teresa looks after technical and events people in Australia, New Zealand and Fiji.

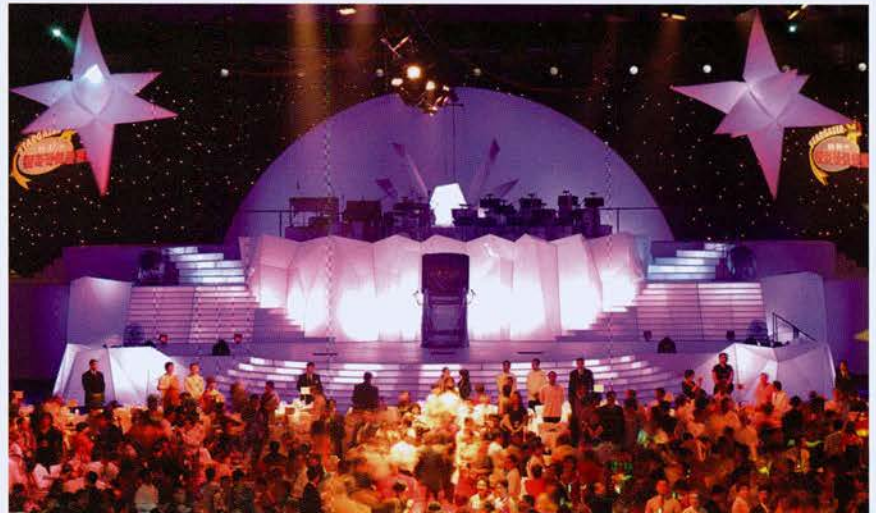
### How did you get your first break, in the biz?

I was offered a job as Equipment Controller at Staging Connections by the then Ops Manager, John Okeby but before I started they phoned and offered me another position as Assistant Technical Event Manager based at the Sheraton on the Park.

### A (brief) history of you....

I have an extremely glamorous background working in the UK for my fathers Industrial Insulation and Asbestos Removal Company! Probably not every 18 year old girls dream job but I did to the take the company vehicles out over the weekend. Although, thinking back it probably didn't do much for the street cred. arriving at the local nightclub in an asbestos truck!

By my mid 20s I started working in hospitality to make as much money as I could to travel the world and had an absolute ball but then I met an Aussie back packer and ended up packing up my bags and leaving my family and friends and followed him to Sydney to get married. I've been in Sydney for 12 years now and have only been back to the UK once. I spent a very brief time (2 weeks) working in retail then went to work for a small bizarre AV company called Fairchild and decided pretty quickly that the industry was exciting so I did some research to



*Amway Event. Sydney 2005 - over 100 moving lights with 60 inside the Perspex stage, 60 performers and a crew of up to 40 operators, v/hew!*

find out which company I should chase for a job and all of my enquiries pointed me towards Staging Connections.

### What is your job description?

Up until this month I've been the Sydney General Manager and Regional Director overseeing Canberra, Hobart and Fiji working with 250 fabulous staff. I've recently taken on the position of Director of National Operations and will be overseeing the Operational side of the ANZPAC offices.

### Describe a not so typical working day?

I suppose there is no such thing as a typical day in the industry but I always get up too early, usually around 5.30am and can't manage to do anything until I've made a cup of tea (yes, I'm a typical Fom!), I usually trip over a number of Ford Wheels cars, marbles and Ninja Turtles which my 5 year old son has left around from the night before, take my hair dryer into the garage to dry my hair so I don't wake anyone up and then head off to fight the traffic from Cronulla to Rozelle. There is no easy way or shortcut!

I try to get into my office around 7am so I can clear as much work as

possible before the office gets crazy. There is always a buzz of activity going on in the warehouse with trucks being loaded ready for the days shows and transfers, the crew leaders planning and checking equipment. The music in the warehouse will vary from Metallica to classical depending on the vibe! By 8.30 the offices are buzzing and there's a queue in Joe's café (yes we have our own café on site!) for coffee and bacon and egg rolls. My day usually consists of back to back meetings with a quick outburst of Karaoke from my office in between! Any of our TD's and project managers that sit close to my office can tell you just how bad my singing is but what I lack in tone and pitch I make up for in volume. I don't think a day goes by without one of the tech's pitching a new piece of technology they want me to buy. I must say Rocco, our Lighting Director has the best approach. He finds the lighting he wants me to purchase, talks it up to the sales team then informs me we've already sold it on 3 events and need to buy by next month.

I try to get out to our venues to catch up with the Hotel GM and our on site teams and try to call in to look at a show or two.

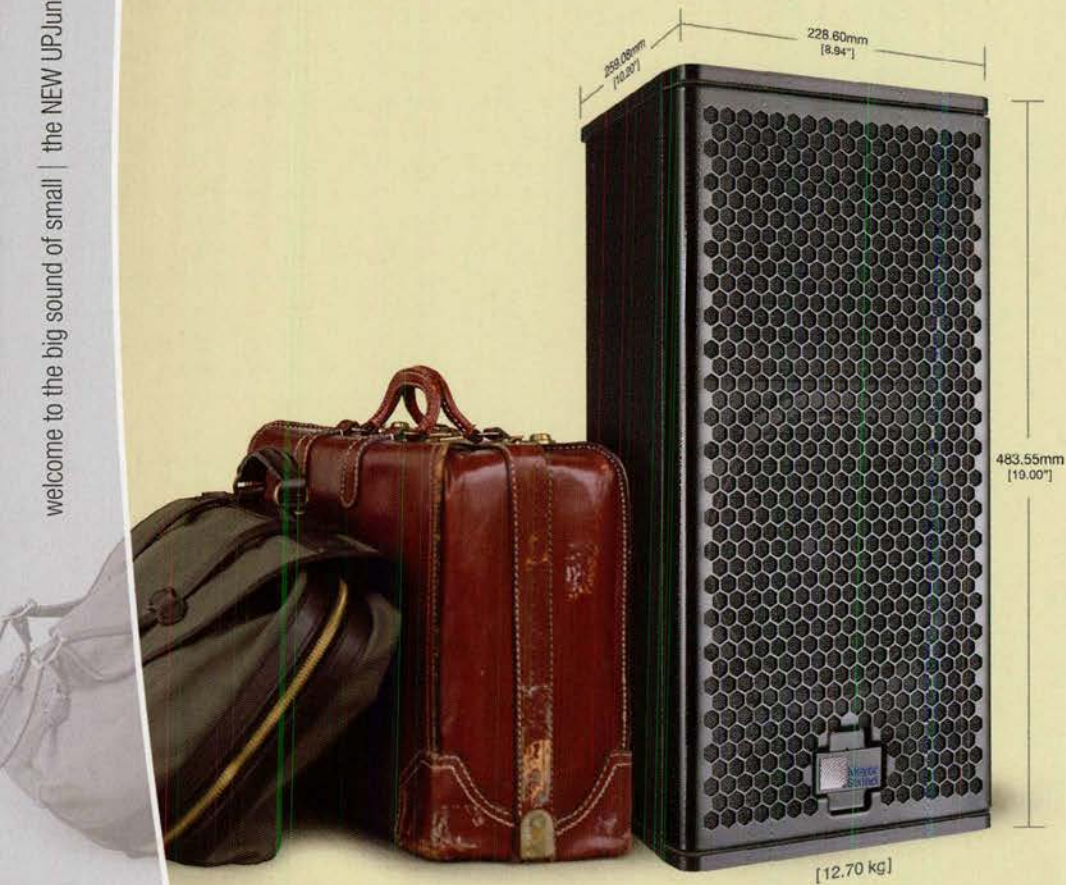
My diary is always crammed full of meetings and Jesse my PA makes

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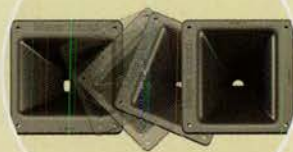
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Twice a week after work we have a personal trainer who comes into our theatre and puts us through our paces teaching us to punch, elbow, knee and kick. This gets the day's frustrations out before I head home to do reading practice with my 5 year old son and then settle down to watch Sponge Bob Square Pants with a bottle of Sav Blanc. Sponge Bob is quite funny after a few glasses!

**What are the job descriptions in the operational side of SC – we all know what a Tech does, but what other job descriptions are involved in your events? What do they do?**

There are many steps and people involved in taking an event from an idea to execution and with approx. 1,500 events each month being delivered by the Sydney team there are many logistical and operational positions. Our Technical Directors, Crew Leaders, Project Managers and Co-ordinators will complete the site inspections and planning stages of the event. They will also make sure that a Risk Assessment has been completed. Our operations team

consists of Equipment Controllers and Crew Controllers to make sure the Techs and equipment are available and booked, our warehouse prep team who will make sure the equipment is in the dock and ready to be loaded, the Day Controllers will make sure logistically that everything runs smoothly and the trucks/drivers are scheduled. We have a manufacturing team consisting of carpentry and metal fabricating on site and they will build sets, props and just about anything else the Sales team sell. We also have a full time R&M department that maintains, services and repair our technology.

All of these positions work together to make sure every event is delivered to the highest quality.

**Tell us about your most favourite show moment, ever...**

That would have to be on the Amway event which the Sydney team produced in January 2005. The largest event we have ever delivered. We had a 4 day install followed by 3 days of rehearsals and SCEC had to remove the catwalk between Hall 1 & 2. We had over 100 moving lights and another 60 inside the Perspex

stage. There were over 60 performers and a crew of up to 40 operators. (Check out the photo).

**Do you have, or did you have, a mentor?**

Well not an official mentor but I do arrange to meet our Chairman, Bob Mansfield, for a coffee and a chat when I need to. I find him very encouraging and inspiring.

**What is the gig you haven't done, but want to?**

I think working with any of the major rock bands would be great, this is obviously something that we haven't been a part of in the past but since Bytecraft became a part of the SC Group its more likely that we will get to be a part of this in the future, which I'm sure the SC technicians will be looking forward to.

**What do you love about your job?**

Everything, I know it sounds cheesy but I can honestly say I love my job. Our people are amazing and the atmosphere is fantastic. It's a stressful industry but it's exciting and every day brings new challenges. I love to see an event get created from

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a discussion in the meeting room with the Account Manager, Creative team and Technical team to discuss at the venue.

**What don't you love?**

I absolutely hate public speaking and flying, so my worst nightmare would be presenting on a plane. I do both regularly but still don't enjoy them.

**What's your advice to girls thinking about this kind of work or industry?**

I would encourage girls to join the industry, we have some amazing female technicians in Staging Connections and in particular Kim and Anrie, two of the Sydney level 2 techs who are just outstanding. When I joined Staging Connections females were outnumbered 8:1 but now we have almost as many women in the company as we do men. In Sydney we have girls working on crew, R&M, sales, exhibitions, creative services, production and as Event Staging Managers in our venues, in fact our largest venue the Sydney Hilton is managed by Catrina and has 2 female sales execs on site.

**What's your advice to guys about girls in the industry?**

I would advise the boys to treat them the same as they do the guys. You don't get girls in this industry that are scared of breaking a nail, they get in and get the job done.

**What is your abiding passion/hobby/obsession?**

Karaoke, I'm so bad at it but I enjoy singing! I usually manage to book Karaoke at most of our staff parties and events and at our last All Staff Conference at Wisemans Ferry in February the staff had bought and presented me with PS2 Singstar. It's a good job we had taken over the resort for the weekend.


**Where is Teresa Amey going to be in 10 years from now?**

Who knows! I would love to be laying on a beach in the Bahamas or cruising around the world in my own yacht but I think I'm addicted to working and will probably still be at Staging Connections, somewhere in the world!

**Is there one great misconception about Staging Connections you'd like to dispel?**

I know we've been referred to as the "evil empire" and "arrogant" in the past but I think the people who get to know us and work with us realize that we have very talented, passionate staff who will always go out of their way to make every event the best it can be. We provide more opportunities and on-site, paid training than any other company in the industry and we invest a huge amount of capital into new technology. Every year we send key people to Infocomm in the US by way of reward and research and this year our newly appointed Head of Technology Andrew Maccoll and Production Manager, Phil Davis have spent 2 weeks in the US making sure Staging Connections stays ahead of the game.

**The Rant:**

There aren't many things that get my blood boiling but I must say I don't understand why senior citizens would need to drive in peak hour traffic! I think they should be restricted to driving between 9am and 4.30pm. Where are they going at 6.30am, at 30 km's per hour? 

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# GAVIN TEMPANY AND ESKIMO JOE

A band's live success can simply come down to a team of top professionals on the backline.

By JOSH GREEN

**E**skimo Joe is a 3 piece band from Western Australia that has been around for nearly 10 years. They expand their membership during live shows with the inclusion of 2 session musicians changing their current band line up to consist of 2 Guitarists (with vocals), a Keys player, a bass player and a Drummer.

The band released their latest album *Black fingernails red wine* in June 2006. The album has gone quad platinum and spent 6 weeks at number 1 over a 10 week period. The band tour mainly Australian venues, and on their most recent tour were performing to 1500- 3000 people a night. There are plans for the band to perform in the US and UK, where they expect to perform to smaller crowds.

A lot of the band's live success comes down to their team of professionals on the backline.

One key member of the team is Gavin Tempany, the Front of House engineer and production manager for the band.

Gavin's sound career started when he bought a four track tape recorder and was making multi track recordings for the amateur band he was playing guitar with, in 1990. From there Gavin grew an interest in sound and studied audio engineering at WAAPA (Uni) to get an understanding of the sound he wanted to achieve. Whilst in his final year at WAAPA Gavin had a part time job making cables at Audex in Western Australia. One of Gavin's co-workers at Audex was really supportive of younger guys and gave him many opportunities for last minute gigs that he needed crew for.

When Gavin finished studying at WAAPA he moved to Sydney and



Gavin Tempany, Eskimo Joe's front of house operator and production manager.

mixed live bands as well as theatre sound design and operation. Gavin designed sound and operated one particularly well known play called *Cloud Street* that toured internationally.

In May 2006 Gavin filled in as the tour manager, production Manager and front of house engineer for Eskimo Joe.

Nearly all of Gavin's work is done in pre-production, all the bookings, the production, call times and the logistics. Gavin states "it's long days from bump in to bump out so as production manager you need to have a grip on all departments, I have got an awesome team around me, and that is one of the most important things. The Lighting, Monitors and Stage Techs are all really great at what they do, it's a pleasure to be on the road with

these guys. We all look out for each other and there is real team camaraderie".

For most of the tour Gavin has been using the digidesign D-show console which was hired from Johnston Audio in Melbourne.

Gavin has been using the D-show console because he loves the sound of it and has been a hard-core Protocols TDM user since around 1995. Gavin toyed with taking a TDM rig out years ago to mix bands, but gave up on it. Eskimo Joe are on good terms with Digidesign which is how Gavin got his hands on the console.

When the band was touring in the truck the desk was toured, if the band were flying Gavin hired the D-show console where Eskimo Joe were playing.

Gavin has been using Sennheiser

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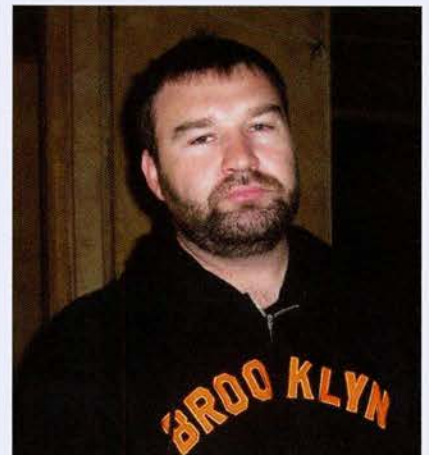
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Tour manager Matthew Wicks.



LD and Video Designer Dave Jackson.



Monitors operator Tyson Royle.

evolution series mic whilst on this recent Australia tour. All of Gavin's inputs are Sennheiser apart from 1 x Beta 57 on one guitar. The inputs are standard band inputs, nothing odd or weird going on.

Gavin states "Eskimo Joe is very loud onstage, probably around 105db at the monitor board with ro front of house PA on. It's all balanced, so you can't turn down any specific instrument. At front of house the loudness of the mix varies on what

suits the venue and PA the best. The loudness at each show has ranged from around 100dB - 104dB on most nights."

When mixing Eskimo Joe Gavin tries to recreate the sound on the record, Eskimo Joe has a bit of an 80's rock sound going on, which Gavin claims dictates the live sound produced.

Gavin and his crew are very professional and work extremely hard at putting on a good show. "It

was interesting that on a few gigs we did, the promoters would come up and say how they were so impressed with the way our guys went about their business with no shouting, great humour and a relaxed way of working, while still working through how to fit the band on a stage that was not ideal and making the best of all situations. When you work with loud rock bands, all moments of quiet time are greatly appreciated".



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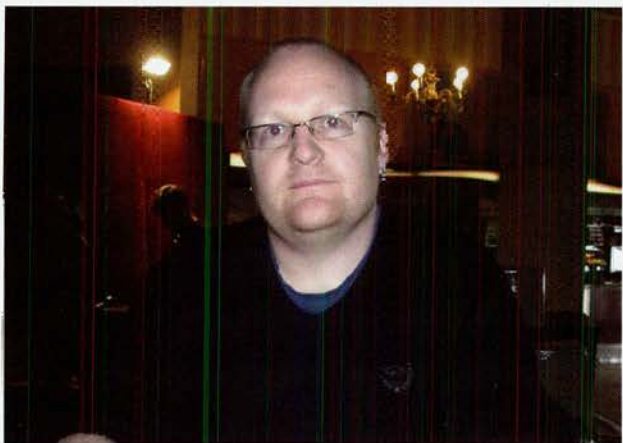
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Stage tech Christian McBride.



Monitors rigger James Leydon.



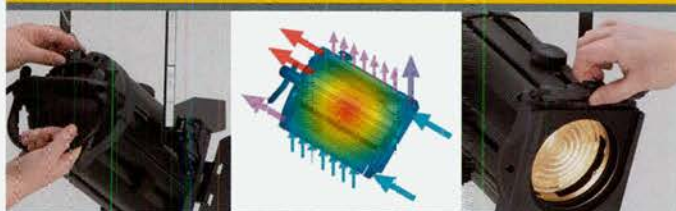
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# ASK THE EXPERT: FULL RANGE LOUDSPEAKERS

This reader request is for a church where no subwoofers may be used.



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"We can't put a subwoofer in at this time because the usual idea where it is built under the stage will blast the front rows where the seniors sit. Plus we don't have budget at the moment, but we need a system that'll give plenty of grunt. We can sneak some subs in on rental when we have famous bands come to play. Those days the seniors will stay at home".

### What to buy? They asked The Expert.

Expert was caught napping and the dream bubble above his head had line arrays and all sorts of new and neat PA systems pictured in a slide show. There were a few shots of new compact digital mixing consoles as well. We watched for a few minutes more until random images of Bora Bora and bikini clad babes flashed up, then woke him up, in case the show got out of hand.

There was some grumbling about throwback technology and a few references to a very large church in Perth using old Jands Concord composite PA boxes, direct from 1978. He mumbled and muttered about lack of budgets being a contradiction where churches purport to have a 'big vision'. "Haven't they been to Hillsong, or Oxford Falls where audio is done right?", he muttered. Then he got the scent and got on the case by calling some distributors.

### Here's what The Expert says:

Installing loudspeakers in venues is a black art. I've seen and used many, some were carefully measured into the space with proprietary software. Some were screwed to the roof by an electrician. Others were selected the old way, with side-by-side comparisons. In every case, the combination of venue, acoustic finishes, choice of amplifier, processor and physical placement is a big deal.

It's a very final solution when a box is cranked up on a scissor lift and chained into place, and not many venues have the intestinal fortitude to re-hang, reposition or replace a bad choice.

These days almost everyone – except the well intentioned electrical – knows that two boxes hung side by side may couple nicely, or cancel each other out through either out of phase wiring or high frequency overlap. It's why line arrays are the ducks guts, but not every venue wants or can afford them.

So it's back to the future for this job, and I spoke to the importers about it. They were asked for a 3 way box with useable bass response. It was not to be a line array, as it needed to be useable, flown on its own. Virtually all of them expressed frustration at this specification, since they all felt they could do way better if given more freedom.



### MEYER

Meyer offer the Hummer of their line, the MTS4A. This device is loaded with almost everything they have- an 18, a 15, a 12 as well plus a horn. Notice how we audio experts always talk in terms of inches? As in, 18 inch woofer, 15" and 12" transducers?

Meyer's MTS4A is kind of like a 4 way PA in a box. When you consider the firepower, and that it comes loaded with processing plus four channels of beefy amplification, then the price tag of around \$15,000 starts to look reasonable.

The cachet of Meyer is that every box is loaded with amplification and processing, which allows the designers to 'voice' the product more consistently than where a brand has external options for processing and amplification.

## EV

The dust had not yet settled on the Bosch handover at APAC Audio Australia, but Phil Webb was happy to advise on loudspeakers. He suggested that EV had quite a range of options, and suggested two with better pattern control.

In the 'more affordable' category is the horn loaded QRX153. It's a 3 way box with a 15, an 8 and a large format high frequency driver. It can be bi-amped or tri-amped, and sells for a suggested \$5,219. Phil says the EV DX38 controller is a good option to do the processing and crossover functions. The DX38 sells at \$4,125. Then you need 2 or 3 high power amplifiers, which would drive 2 boxes.

At the serious end of the product range is the Xi1183, from the X line of product. It has an 18 in the bottom which will generate good bass response even though it is crossed over at 80Hz. There's a big 12, a big compression driver and it is a slightly smaller enclosure than some others on offer here. On the other hand there are also larger X Array boxes that fall into this category. It costs \$10,295, and it wants to be tri-amplified. Use the DX 38 controller (\$4,125).



## PATTERN CONTROL

In audio 101 people are surprised to discover that speaker box dispersions are usually very conditional. Taken at face value, a speaker box that has a dispersion of 90 degrees horizontally and 40 degrees vertically would be pointed at the audience and that's where the noise would go.

There's always a but, and the but is that the quoted dispersion is usually at a frequency convenient for the marketing dept. If indeed the speaker box is squirting 2kHz in a neatly square 90 x 40 pattern, it sure won't be sending 250 or 500 hertz in the same manner.

Where the high frequency is more defined via horn design, many boxes just spray the output from the non horn loaded core drivers out there. And we all know low frequencies are virtually omnidirectional, they leak into every crevice of the venue and usually outside as well.

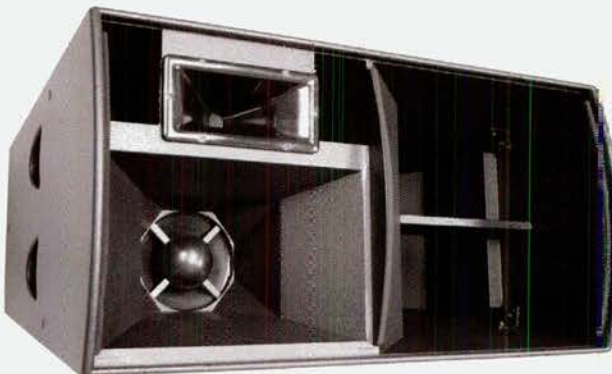
There's been sensational work done on beam steering and electronic pattern control in recent times, but the old fashioned solution was always horn loading. There's more directivity if a cone driver is horn loaded rather than front loaded.

## MARTIN AUDIO

Kings of high powered horn loading, Martin Audio were recently folded into the Loud Technologies family, which includes EAW and Mackie. At this time the fruits of that union have not yet matured, but Martin have a serious family of speaker cabinets.

Of these, the H3 is a horn loaded kick arse box with a 15 that is loaded at the top of the box with a whole 5 feet or so of horn. There is a 10 (also horn loaded) and a large format 1.4" throat horn. It goes full range to 60hz, with some pattern control.

Tony at TAG (importers) says it's the closest thing to a full range concert box with serious spl and sensitivity. It can be tri-amped or bi-amped. The cost is



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The ConTour Array bridges the gap between conventional PA systems and large touring line arrays. Today this new system is the first of its kind to put this technology to efficient use as a cost effective package for many sound reinforcement scenarios. Now even performances on a limited scale can get into the professional line array game with ConTour Array. Alongside excellent audio quality, this line array is all about light weight versatility and easy practical handling. A self powered highly scalable solution, the ConTour Array is in itself amazingly flexible.

For even greater flexibility, the processor in the self powered subwoofer has the parameters to be combined with 8", 12" and 15" ConTour Series speakers.



The CT 112 & CT 115 are Hi Powered passive speaker cabinet that may also be configured in bi-amp mode. Offering an extended low frequency range and featuring a dual-purpose housing, it can serve as a FOH speaker as well as a stage monitor.

The CT 108 is an extremely compact, passive public address / full-range speaker cabinet. Featuring a dual-purpose housing, it may be employed as an FOH or delay speaker as well as a stage monitor.

**HK** Portable Sound

For more information and supplier list  
<http://www.cni.com.au/branddetective>

**HORN TALK, BABY**

Note whenever anyone says 'large format' they mean greater than a 1" exit throat at the horn. In general terms there are three kinds of high frequency drivers: Fake ones, which are typically 'Peizo' style horn and driver assemblies which often sound just terrible. Think cheap, think disco.

Then there is the high frequency driver and horn assembly, where the driver has a field replaceable diaphragm. The smaller variants of these has a 1" gap at the horn throat, and the diaphragm is 3" or less in diameter. These are lower powered.

The professional standard is a 1.5 or 2" throat horn in front of a 4" diaphragm horn. This will usually rip the paint off the back wall, or at least send people happily deaf before self destructing. Using the smaller version saves money, but it will blow up considerably earlier than the larger version.

Using the peizo? Bark Bark Bark. Pffzzzt.



by rotating the mid/high horn assembly. And both come with either 60 or 90 degree beam width.

Higher up the JBL product hierarchy is the VF7315 which is powered – it has onboard amplification, at \$12,600 or \$15,500 with onboard DSP. This is where the box has essentially a Crown P/P module that enables remote control and a whole lot more.

\$6,995. It is recommended with the M3 controller, with limiting EQ and crossover, but you can use XTA, Lake, or whatever electronics you like. A QSC PL230 amp would drive it in bi-amp mode, delivering 1000 watts into 4 ohms per channel.

take market segments very seriously and have very broad possibilities.

He suggested the AM4315 – a Medium Power 3-Way Loudspeaker with 1 x 15" LF Driver, a 6.5" mid driver on a horn plus a high frequency driver. It costs \$5,395.

Looking almost identical but greater in output power and transducer specification is the AM6315 at \$7,995. These are both from the AE range, which has a box for every occasion.

Both these AE models allow you to select horizontal or vertical dispersion

**JBL**

Over at Jands, Paul from the Tactical Response Group listened carefully and made some careful selections from a rather large range of possibilities. The American manufacturers (EV, EAW and JBL)

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## MACKIE

From another corner of the USA comes the Mackie SA1532z Active Speaker, represented in Australia by Australian Audio Supplies. The 'Active' refers to powered. Meaning there is a set of amplifiers on board.

It is a Tri-Amplified box, with independent 1100W RMS low-frequency, 100W RMS mid-frequency, and 100W RMS high-frequency amps. These drive a horn loaded 15" woofer, 6" horn loaded mid and 1.75" high frequency driver.

Like all self powered boxes it has the benefit of onboard processing, the designer has been able to match the

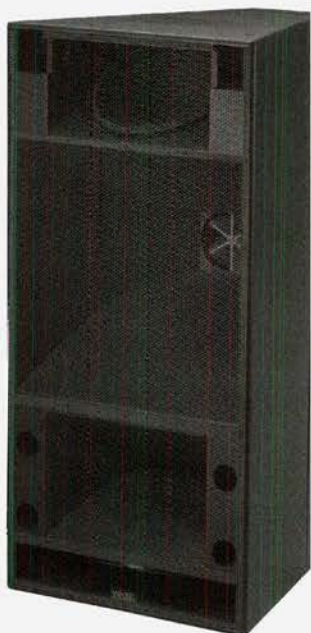
electronics to the transducers and cabinet design. Self powered or 'active' boxes almost always sound better except where careful consideration and implementation of processing and amplification has been done.

The Mackie sells at \$4,870.

## EAW

Ben at Production Audio Services had a box to suit almost any particular room requirement. "We assist with application driven solutions – and this may mean different solutions. Our strength is that we have a lot of product designed for a lot of applications".

He suggested the MQH line, which comes with different dispersion patterns. The 1346e is a 3 way box, with dual 15 low end, 10" horn loaded mid, and a high frequency section. "It's designed to act as a box with asymmetric response", Ben said. "As you move up and under the cluster you get coverage under the array". It sells for around \$9,500, and it wants four amplifier channels since each of the 15" woofers are tuned independently. EAW are big on pattern control – they have a proprietary technology called Guinness Focusing (Digital transducer correction).



Ben also suggested the AX Series: and again it comes in various dispersion patterns to suit. It's a box that's trapezoidal on all 4 sides to create as ideal a point source as possible as an array - side by side or vertically. It is loaded up with 2 x 12" low drivers, and a coaxial 8" mid with a 2" r/f on a common rotatable symmetrical horn. This cabinet can be driven with a single amplifier channel or bi-amped. Ben suggests the EAW UX8800 processor for these boxes. It costs \$6,995. The AX sells for \$6,395

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## 1957-2007



### SK 1001

Designed for TV purposes, the pocket transmitter worked with an electron tube and still had a range of 100 m and broadcasted for up to five hours.



### SK 1002

The follow-up model SK 1002 was completely transistorized, making it much smaller.



### SK 1008/EM 1008

Sennheiser's first "one-piece" wireless microphone was also extremely versatile: the interchangeable dynamic microphone head was simply plugged onto the SK 1008 transmitter, or the transmitter was combined with a hand-held or clip-on microphone. Also shown is the EM 1008 receiver.

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### TURBOSOUND

Audio Telex offer the very British Turbosound line: the TQ445, loaded with a 12" LF, 6.5" MF and 1" HF. It's a compact three-way, full range box. It sells for \$7,107 or \$10,431 for the model with inbuilt amplification.

They also have the new Aspect box available in a wide dispersion, three way mode: the TA500. It is loaded with a 15" LF, 10" MF on Polyhorn and 50mm HF on a Polyhorn. It goes for \$9,999 which is 10 grand minus one cent. They have an amplifier loaded, networkable version for \$14,999.



### RENKUS-HEINZ

Also from Audio Telex comes Renkus Heinz, an American line with some novel engineering concepts included. Their STX4 is loaded kind of differently, with 4 x 8" LF, 8", MF, and 1" HF. Pay \$7,398 for this guy or \$14,037 for a model with amplifiers and processing in the back end.

### NEXO

Group Technologies represent Nexo In Australia. They suggested the Alpha E-f, which includes a composite curve, folded horn loaded 18" LF driver, an exponential horn loaded 10" MF driver and a constant directivity horn loaded 3" HF driver giving 75° x 30° dispersion.

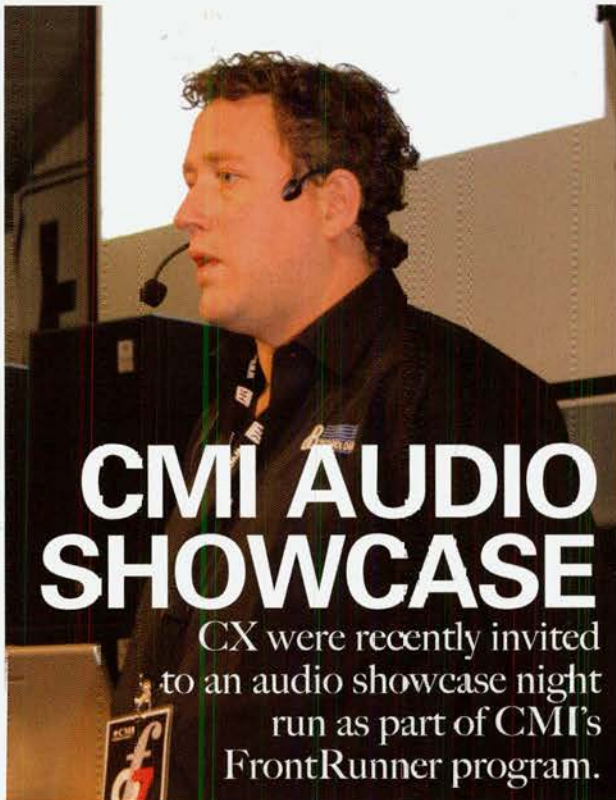
Operable 2-way active with passive HF crossover or 3-way active for ultimate performance and control, the AlphaE-F has a frequency response of 39Hz-19kHz. It sells for around \$12,300.



### ROUNDUP

The Expert would prefer not to use a three way box – he enjoys the flexibility of a two box solution, or even a small line array. But all the above boxes can be flown into a venue, pointed and programmed to give big sound. When required, a subwoofer could be added for any of the above.

Ask The Expert! Email [cx.mag@mac.com](mailto:cx.mag@mac.com) now! 



# CMI AUDIO SHOWCASE

CX were recently invited to an audio showcase night run as part of CMI's FrontRunner program.

Andy McIntyre talks up the new products.

The primary purpose of the night was to launch the new DVA line array system from dB technologies, but with delegates from all over Australia Andy McIntyre decided to use the night to show off all the key pro audio products in the CMI catalogue.

Andy made a presentation covering key points of interest about all the products, aided by Mike Mayne, the Wharfedale product specialist, and Martin Reichhardt who's out from Germany to talk about F-K audio. Once the presentation was out of the way the assembled professionals had the opportunity to listen to a range of line arrays including HK's Contour, Cohedra and COCO systems as well as the dB DVA rig.

There was a lot of talk on the night about all the products demonstrated and a lot of people were particularly impressed with the versatility and potential for fast rental return on the HK Contour Array. The most attractive thing for everyone when it came to the F-K Contour Array was the fact that you can run it as a sub satellite system as well as a full Line Array.

The dB Technologies Opera 110 Mobile also attracted a good deal of attention. This is a battery powered speaker system which sounds great and promises to save plenty of people plenty of labour time in the right applications. There are also some benefits in terms of neatness and safety resulting from not needing to run cables to remote boxes. Each of these units includes a radio receiver so scalable distributed systems are really simple.

Another handy new addition to the audio catalogue is the System Lifter. This is a great little piece of kit – easily assembled, it's 4.5 metres high and allows you to fly upwards of half a ton of PA on a pleasingly small footprint.

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



## The magic continues...



### SK 1007/ MK 12

Smaller, lighter, higher performance – the SK 1007 studio pocket transmitter was introduced, shown here with the MK 12 clip-on microphone.



### EM 1026

The EM 1026 was Sennheiser's first modular receiver system – the start of multi-channel technology without compromising on quality.



### SK 1012

Sennheiser developed the HiDyn compander system, considerably reducing the noise floor. The first transmitter with this new technology: the SK 1012.



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### SKM 5000 N

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### SK 5212

Frequency-agile and sturdy: the new 5000 Series products. Shown here, the SK 5212 bodypack transmitter.

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# MEET MY LITTLE BROTHER

D-show Profile is the new control surface for Digidesign's Venue series system. As promised, it sits on a much smaller footprint than D-show – but how does it stack up for functionality? Andy Mackenzie takes a first look at the Profile.



Andy with the D-show Profile work surface.

The Digidesign Venue series consoles are based around a scaleable, modular approach. The system consists of a stage rack and a front of house rack linked by a coaxial digital snake. The front of house rack is in turn connected to a control surface. The control surface carries no audio, it simply provides a user interface for the DSP in the rack. The system allows for additional DSP and stage racks to be optioned on, giving up to 96 channels controlled from the same surface.

And that's where the Profile comes in. It's not a new console, it's simply a different set of controls for an existing platform. This means it retains all the system features of its bigger brother including the digital snake, the 96 channel capability, the capacity for substantial 'racks' of great plug-ins and the easy compatibility with Pro tools. Everything. In fact, the system is such that the control surface is hot swappable – I tried swapping from D-show to Profile and everything popped up on the new surface without interrupting audio.

The first application that leapt to mind when first I looked at the new console was in theatre, where the D-show with several sidecars could be used to get the show up and then replaced with the smaller surface for the remainder of the run, giving back a couple of expensive seats. Or ce I got

my hands on it I quickly started to see that the Profile is not simply a scene playback controller. The designers have done a great job getting the vast majority of the D-show controls onto a much smaller surface.

So what is lost in translation? The most obvious thing you lose in the transition from D-show to Profile is space. As mentioned in previous issues, the D-show surface has plenty of air between the controls and is well equipped with big meters for most console functions. On the profile a lot of the air is gone and the meters, while mostly still there, are substantially smaller. The D-show has two assignable encoders on each channel strip while the profile has only one, a feature which may concern some D-show users but isn't likely to upset people used to working on other consoles as many other consoles have only ever had one. Along with the second encoder have gone eight of the auxiliary encoders from the assignable channel section (ACS), but this is no huge loss given that no auxiliary send is ever more than two button pushes from the channel encoders or three pushes from the faders.

You still get twenty-four input strips, used in four layers to control up to 96 channels. The first sixteen of these also act as graphic EQ faders, meaning that the full third octave EQ

is only split into two segments. The graphic EQs are absurdly easy to access – select an output channel with an EQ connected, press one of the EQ buttons and there it is. Finished with it? Push the button again and get your channel faders back.

The display on the screen is unchanged, which is only to be expected given that the actual system is unchanged, and you still have the option of using click and drag on screen control for all console functions. On the Profile, this is achieved using a conventional mouse rather than the trackball of the original surface, but the principle is the same. Most features can be accessed from the surface anyway, and those that can't are mostly of the system configuration variety. Given that it's often easier to do your show setup before the gig on the D-show software on PC, this means the system is still very usable even without the screen.

D-show Profile is a whole lot of console. It offers all the same functions as the original D-show with only a small reduction in surface controls. And you can get a 48/8 touring ready system, cased with a 75m snake (including redundant pair), a very nice plug-in pack and the extra DSP to run it and a little bit of change out of 85 grand. That's a lot of bang for your buck.



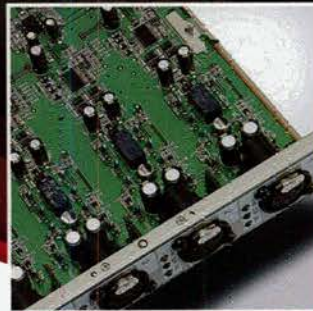
# Digital Snake

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Digital Snake

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*XR-1 Pre-amps*

The S-4000 Digital Snake is equipped with remote controllable XR-1 Preamps that boost the input gain right at the microphone where the highest quality signal is found. The XR-1 pre-amp has been specially designed for live audio applications and is made of high quality components carefully selected by Roland's engineers.

*For more information...*

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# HOW TO: PROGRAM MOVING LIGHTS

The concept of controlling moving lights is pretty simple. Get a pile of automated fixtures in which each parameter (pan, tilt, gobo etc) responds to the value of a specific DMX channel. Connect them to a console that spits out a DMX signal. Use the console to generate the DMX you need to make the lights do what you want. So what's the point of this piece?

**T**he problem with controlling these fixtures is that generally they require greater complexity in the console than an ordinary two-preset fader console can provide. It is possible to control a moving light with a fader console – I do it regularly in classes to demonstrate how they work – but it is extremely cumbersome and impractical for any but the simplest of simple fixtures. To control many of the current profile fixtures you need more than thirty channels, which would mean thirty-something faders for each light. Perhaps not.

Consoles designed for operating moving lights do a much better job of it, but they have certain behavioural habits that can trap the uninitiated. I'm not going to get all brand-specific here, but I will give a quick overview that covers the principles of how most consoles are operated.

Before you even start with the console, make sure everything else is right. All your fixtures should be hooked up to power and DMX and correctly addressed (addressing lamps

tells them which DMX channels are controlling them. It's a simple process, but very important). At least to start with, it's probably a good idea to use a simple rig so you can follow what you're doing.

Now let's look at the console. Whatever make or model of console you're using, chances are you'll see all of the following:

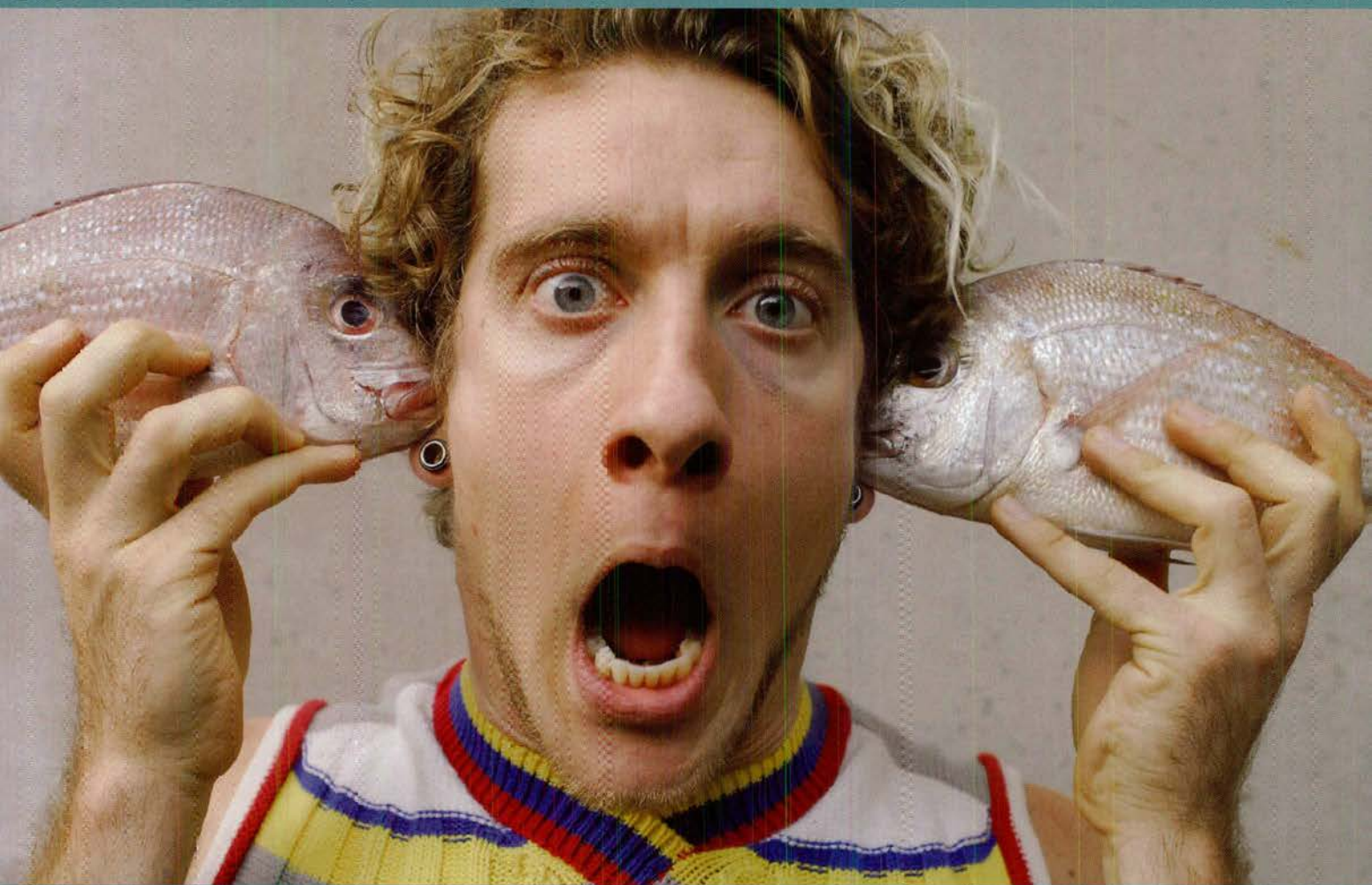
- **Wheels** – rotary encoders, usually three, four or sometimes more of them.
- **Numeric keypad** – similar to the one to the right of your computer keyboard.
- **LCD screens** – some of them are touch screens, some aren't. The ones that aren't touch screens will often have 'soft keys' around them. These keys vary in purpose between different console settings and their function is identified on the screen next to them.
- **Faders** – usually with associated buttons. Don't be fooled. They may look familiar, but they're not like the faders on a two preset console.

- **Function keys** – these are the keys that actually make the console do things. These will have different names from console to console, and they'll be laid out differently, but the same basic functions need to be performed on any console.

The first thing you'll need to do is set the console up to communicate with the lights. Unlike a two preset desk, these consoles do not have a default patch. This means you need to tell the console which light is at which address. The address of the light is its DMX start channel – if a light uses 22 channels and is patched at address 1, it is controlled by channels 1-22. The next light would be addressed at 23. Once the lamp is patched, the console uses a library file to identify which DMX channel controls which function of the fixture.

After you finish patching all the fixtures, you can start controlling them. The first step is to select a fixture or group of fixtures. The method for doing this will differ from console to console, but once you've done it the

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desk will identify that each of the encoder wheels is now controlling one of the fixture's parameters. Manipulating the wheels will adjust that particular parameter through its range of values. So this controls some of the parameters, but what about the others? Somewhere on the control surface is a set of function switches that allow you to select the function of the encoders – so pressing the right button gives you access to another set of parameters.

Once you finish adjusting the parameters for the first section, select another light or group and repeat the process... Keep going until you've got all the lights you want doing what you want them to do. Brilliant.

The next step is to take the wonderful look you've just created and record it somewhere so you don't lose it. On most consoles, this means finally getting to do something with the fader bank. Usually the console will be fitted with a button labelled 'record' that allows you to do this. Another fancy little programming shortcut is the use of palettes or presets (the name is different from console to console, but the function is the same). The presets allow you to record particular parameters like position, colour, beam look and so on. These can then be recalled and used to build looks later in the programming session. Many programmers find the most effective technique to be recording a huge section of palettes for all the fixtures then picking and combining palettes to develop the desired look.

Watch out for buttons labelled 'save' as they can be deceptive – usually the save button saves the show, as currently recorded, to disk (or USB stick or whatever media the desk likes).

And speaking of saving, remember to do it often. Consoles don't crash often, but most of them will do it from time to time (after all, it's just a computer in a shiny suit). Losing an afternoon's work to a crash is unlikely to make your day any happier. Don't forget to hang on to the disk either – hire companies are used to getting their consoles back with show disks still in them. Sending the disk back with the desk is no good if you're touring the show and you want the disk again tomorrow night in a different city. And then there's the problem of replacing a faulty desk... CX

**This is a very generic explanation of the process of programming lights. Obviously there are significant variations between different makes and models of console, and some consoles use very different operating systems. Always take the time to learn to use the console before you take it on a show, and don't assume that because you can work one you can work them all. In extreme circumstances you could even consult the manual.**

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# INDUSTRY PROFESSIONAL – THE PROFILE

## Marc Allen

By MARC ALLEN

### What do you do?

I'm the sales manager for the relatively new "Roland Systems Group" (RSG). It's a division of Roland that's responsible for the development, sales and marketing of our digital multicore products and several types of video playback and processing products - quite different to the musical instruments normally associated with Roland but designed in the same spirit.

### Where do you do it?

The Roland Australia head office is in Dee Why, (Northern Beaches area of Sydney). Naturally I also spend quite a bit of time on the road.

### What was the moment, the event, that set you on the pathway you are now on?

I'll break the rule and say there were two events. The first was coming off tour in 1993 (I was a nerdy keyboard player) and unexpectedly starting work in tech support at Roland. I planned to quickly return to my path of destiny as a Rock...ok... Pop god, but that was 14 years ago - god status is overrated anyway (sore loser). The second event was the Entech show last year where I was first able to present the new range of RSG products and I had one of those "light bulb" moments when their potential became obvious. I had been actively helping to find someone to take on the role of RSG sales manager but quickly changed my mind and took the job myself!

### Who has really, truly inspired you, and why?

As a muso at heart I can only say that I feel truly inspired any time I hear a musician produce a remarkable melody or instrument sound that gives me goose bumps - there's nothing else like that feeling and I



think nearly every human being can remember having that experience.

### Is there a gizmo, product, or device that has changed your (working) life? And why?

I'll just get boring here and say the internet. My professional life has always been filled with gizmos that

constantly impress, but I've seen it written there are 2.7 billion searches performed on Google each month.... That enormous cache of knowledge at my fingertips can often cause an unexpected change in direction when making the bigger decisions, one that probably wouldn't have been considered otherwise.

### What are your hobbies / interests?

Besides music I enjoy videc/photography; cooking.....can beer be a hobby? Also into history documentaries of nearly all types – that sounds very nerdy....perhaps I could recover by saying I sometimes like wildlife docs as well....I guess not.

### Describe your family/nearest/dearest...

I grew up on a farm in Coffs Harbour and my family are still there. My wife works here at Roland in the marketing department. She was previously working for Roland Japan and came to Australia for a 1 year holiday – that was 7 years ago. We must be a match since we see each other 24 hours a day nearly seven days a week and she still hasn't attempted to kill me.

### Is there a significant trend that you think about (good or bad), about your job / industry sector?

Like everyone I guess you wonder where the downward pressure on equipment pricing is going to end. It's impossible to stop, but if the industry isn't growing at the same rate as the price cuts then history suggests some popular companies will eventually fold because the revenue isn't enough to fund R&D anymore.

### Do you have a funny moment, or an incident, to share with us?

Perhaps the time one of our guys decided to light a candle in the Roland studio (for atmosphere we guess) and sat it on a milk crate before heading off to the pub for lunch. Shortly after the whole bottom floor suddenly filled with black smoke and another frightened employee threw some water on the predominantly wax/plastic fire ...bad idea...wall of spitting flame. Ultimately, the damage was relatively minor and there were no injuries, but the sight of the original culprit sitting in the middle of our studio surrounded by firemen in Hazmat gear, sheepishly trying to explain how this had all happened and where he was at the start of the fire will remain one of the funniest things I've ever seen.

### Career Highlights?

I spent several years in the late 80's & 90's recording in original bands with some excellent producers like Louie Shelton or Steve James as well as experienced live engineers. It was an exciting time, and an invaluable education because I had the chance to ask lots of questions about how they approached sound, mixing and even session musicians (things like saying "That was good but I think there might be a better take" rather than "No, no, no that's not it at all!). Touring with Marc Hunter playing keys was also a highlight although sometimes challenging.....

An unexpected highlight happened several years ago when I went to Geelong Grammar to demonstrate a digital recorder. The schoolgirl I recorded made those little hairs on the back of my neck stand up, so a few weeks later I went back and recorded her first original song "properly". Her name was Missy Higgins – that was one of those great musical moments.

Finally I'd have to say getting the opportunity to take my current position was and is a highlight. I've really enjoyed the last 14 years at Roland but this change has given me the opportunity to stay with a company that I respect for it's product quality and culture, while being able to establish a new division that makes products I can stay passionate about.

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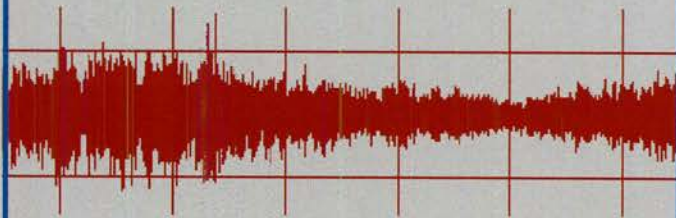
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# Q IT'S NOT JUST A GOOD IDEA, IT'S OHM'S LAW

“ It is, in fact, nothing short of a miracle that the modern methods of instruction have not entirely strangled the holy curiosity of inquiry.” Albert Einstein

By RICHARD CADENA

**H**ave you ever wondered what people did before television, iPods, and the internet?

In the 19th century, the “rock stars” of the day were mathematicians and physicists like Isaac Newton, Leonhard “Cyclops” Euler, Pierre-Simon “Marquis” de Laplace, Joseph Fourier, “Count” Alessandro Volta, and Sylvestre François de Lacroix. Those who liked to read were front and center for the latest performances around.

Even though he'd had no formal education – or maybe because of it – Johann Wolfgang Ohm liked to read books about philosophy and mathematics. He was a locksmith and a master mechanic, but he wanted

more for his children. He educated them all himself, and he taught them well enough that his son Georg was able to enroll in college in 1805 at the age of 15. Like many teenagers, the young Ohm spent more time partying than he did studying. His father lost his patience with him and sent him to Switzerland where Georg became a math teacher. But the seeds of discovery had already been planted and in due time he returned to college and completed his doctoral degree.

Eventually Georg landed a teaching gig in a school that had a physics lab loaded with gack. It was a real coup for the son of a locksmith. He had recently been downloading the works of the day, and high on his playlist was Volta, who had recently developed an

electric cell battery. Volta's battery was called the voltaic pile, and it was a forerunner to today's electric battery. Georg could barely afford the two vowels in his name when he got the gig and began experimenting with the voltaic pile. His goal was to figure out the relationship between voltage and current.

Fourier had recently published a paper based on Newton's law of cooling, in which he said that the flow of heat between two points is proportional to the difference in the temperature. Ohm wondered if the flow of electric current might be similar the flow of heat. To test his theory, he connected a voltaic pile to a wire and measured the current flowing through it with a

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galvanometer. He varied the size, length, and type of wire to see what would happen. What he found was that, when the cross-sectional diameter of the wire increases, so did the current. But when the length of the wire increased, the current dropped. His empirical observations eventually led him to figure out that the cross-sectional diameter and length of the wire determined its total resistance, and that the resistance determined how much current would flow for a given value of voltage.

In 1827, he published a book entitled *Die galvanische Kette mathematisch bearbeitet*, which roughly translates to "a mathematic model of galvanic current." Perhaps he should have had a better agent because the book was completely trashed by the critics. It wasn't until several years later that it became a big hit. Today, we recognize it as the basis for Ohm's law, which says that voltage is equal to the current times the resistance, or  $V = I \times R$ .

Ohm's law is one of the most important tools that a production professional can carry in the tool box. It relates to so many important aspects of power distribution and technology that its power of analysis can't be overstated.

In the recent past, there has been a big push in the United States to certify entertainment riggers and electricians. ESTA created the Entertainment Technician Certification Program (ETCP - <http://etcp.esta.org/>) for that purpose and they started testing last year. In preparation, they published a little pamphlet called "ETCP Candidate Handbook" to help potential candidates figure out what the program is all about. In addition to spelling out the details of what is on the test, it also includes some sample test questions. One of the questions caused a bit of a controversy among several professionals in the field. Some of the most seasoned MEs were at a loss as to go about solving the problem while others thought the answer given in the pamphlet was wrong. It turns out that the answer is correct, but it just takes some manipulation to get there.

The question was:

Which of the following currents would flow in an extension cord connecting a luminaire with a 575W, 115V incandescent lamp to a receptacle providing 120V?

- A 4.8A
- B 5.0A



Georg Ohm

- C 5.2A
- D 6.2A

The problem poses a question about the current, but we're only given the power in watts and the rated voltage of the lamp. In order to find the current, according to Ohm's law, we need to know the voltage and resistance of the lamp. Can you find it?

By using the power formula,  $P$  (watts) =  $V$  (volts)  $\times$   $I$  (amps), we can figure out that, at 115V, the current is 5 amps. Now that we know the voltage and current, we can use Ohm's law to figure out the resistance of the filament, which is 23 ohms. Given the resistance, we can now use Ohm's law to figure out the current at 120 volts. And the answer is 5.2 amps. It's easier than helping your kid with her math homework.

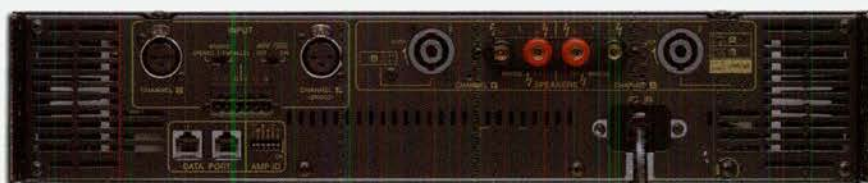
Ohm's law and its derivatives are the basis for most all of the calculations that we use to insure the

success of a show. It helps us determine our power requirements, our demand factor, our I<sup>2</sup>R losses, efficiency, and it helps us build safe and effective power distribution systems. Once we are familiar with the relationship between voltage, current, and resistance, then we can better understand this thing we call electricity. After all, we can't see it, we dare not touch it, and the only way we can observe it is through empirical observation or by modeling it mathematically. That's what Ohm's law gives us; a way of predicting its behavior.

*Now go part like you're Georg Ohm.*

Shock the author by sending an e-mail to [readena@austin.rr.com](mailto:readena@austin.rr.com).

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# THE LAUNCH OF THE PAR 43

Our hero puts a tentative toe into the murky waters of lighting



By **DUNCAN FRY**

**R**egular readers may recall that I have a steady gig with the Harris Tweed Band, a group of like-minded old farts who have a stranglehold on the bayside geriatrics party circuit. Struggling with the limitations of their minimalist low-budget production has been the subject of a few stories, and this one is no exception!

The phone rang the other day, and it was the drummer and self-appointed manager of the band on the other end.

"Dunk" he rasped, "you've just gotta get some lights, mate. It was so dark on stage the other night I couldn't see my walking frame."

Actually he said songlist, but walking frame sounds so much more appropriate!

"It'll cost you some money, you know." I replied, hoping this would kill the deal stone dead, but he was undeterred.

"Well, we made a bit of a killing on the combined 60th birthday and funeral the other week, so we've got a bit of cash to splash."

"How much?" I asked tentatively.

"What do you reckon we could get for, say, a hundred bucks?"

"A hundred bucks? That won't even buy a couple of globes for anything decent. Are you kidding?"

"Well, do what you can mate," he replied. "It doesn't have to be anything flash - just get something quick, alright? Gotta go - I'm late for my nap." And that was that.

I put the phone down and groaned to myself. Lights - the curse of every soundman's life. But, I had to admit, the last few gigs had been a bit gloomy, and some basic stage lighting would definitely enhance the look of things and maybe even hide some of the ever increasing wrinkles, so I set to work with a vengeance.

A quick Google on PAR 56 cans showed that there was nothing available under \$50 each, and that was without globes, so it looked like anything professional was going to be out of the question.



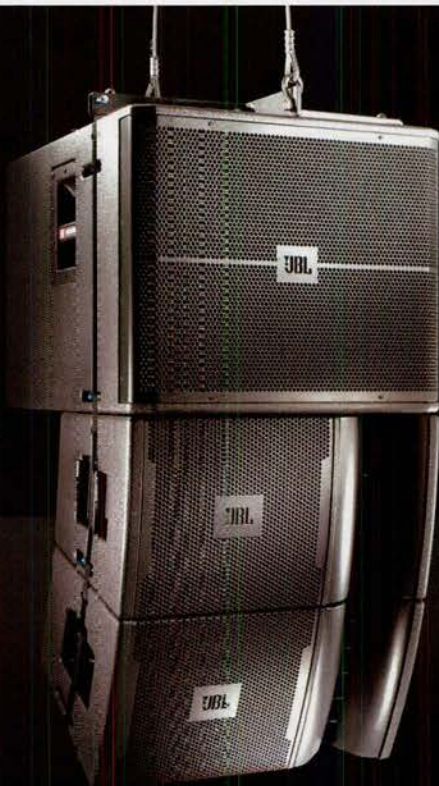
*Original can*



*Can opener*



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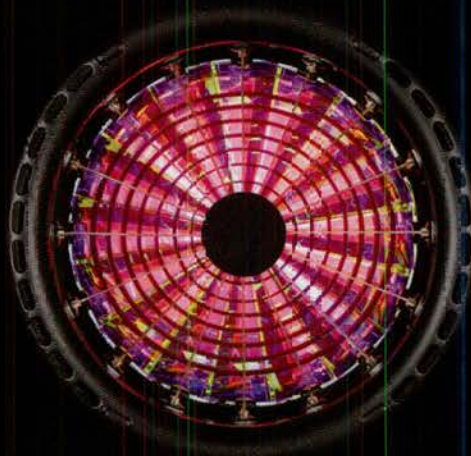
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## REGULAR OLD FART

And then a thought flashed into my head like a flaming Xmas pudding.

Many years ago, just for fun, we put out a press release announcing the new ARX lighting division. The first product was to be a revolutionary luminaire (sounds so much more up-market than light, doesn't it?) which we called the PAR 43, consisting as it did of old Nestlé 500 gram coffee tins with a Pattern 23 floodlight inside! Truly 43 Beams in every can.

We didn't actually make any of these things, and people who inquired about them (and we had quite a few calls, believe me) were directed to the launch date on the press release - April 1st!

At the factory we go through about a can of coffee a week, so by investing heavily in the 500g coffee futures market, I soon had six empty cans, a big bag full of coffee, and the caffeine monkey on my back. The perfect start to the lighting rig for the terminally tight-arsed.

Good old Blokeworld Warehouse had a deal on a six-pack of globes, and the factory next door to us had an even better deal on a bunch of globe holders courtesy of their Dumpster! They always have such

good stuff in there; it's a very peaceful way to while away a lunchtime browsing through someone else's old crap, and in this case very worthwhile.

Although I couldn't truthfully say that I had ever played around much with lights, I had seen enough of them to have a fair idea what I wanted to do.

Top of my list was making sure I didn't fry myself (no poetic justice intended!), so the wiring had to be totally idiot proof, even if other idiots than me would be putting it together. A quick search through the back of the factory turned up some power leads with moulded plugs and bare tails, from the days before all equipment had removable IEC connectors (jug plugs) on the back.

My plan was to mount the globe holder on the can lid, so that I could open it if I had to, and then pop it back on without disturbing the gels. So it was out with the can opener to make the bottom of the can the front, where the light would shine.

I then bent up some scrap steel to make U shaped yokes for the cans, and bolted them on with 5mm bolts and Nyloc nuts, so they could move

and be angled without coming loose.

Things were starting to take shape.

Power leads - 1 short, 2 long, and a switchable 4-way plug board were also courtesy of Blokeworld, and some red and blue cellophane would do for gels until I could get some of the real thing. There isn't a great deal of heat (or light, for that matter!) out of these things, so I didn't expect the cellophane to erupt into flame. And if it did, then it would all be part of the show!

Last but not least, I sprayed my little babies matt black. Wow, what a difference - now they looked like real lights!

The next gig, I arrived early to set up, so that the band would arrive and be dazzled by the hi-tech light rig, and also by my cleverness in putting it together.

I hung 2 cans from the handle of each 12" and horn box, angled across the front line. A couple of turns of baling wire for safety, and some gaffer tape for angling them. The last two cans I hung from a length of water pipe over the drums, pointing straight down and neatly enhancing the drummer's wrinkles and bald spot!

Thanks to a double adapter on each

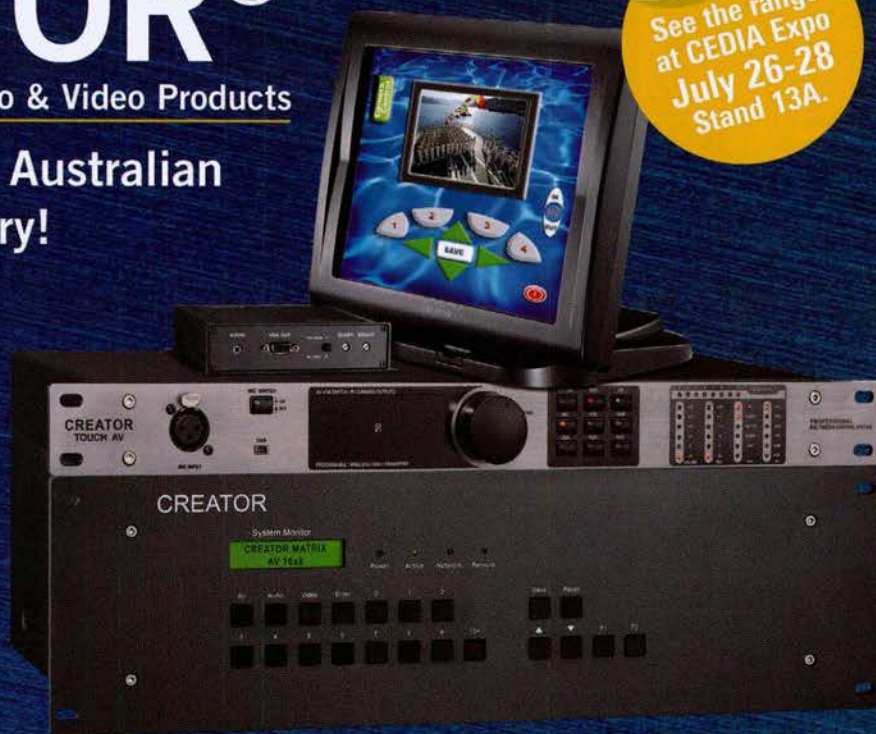
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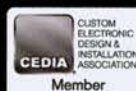
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pair of lights, I only used up three out of the four sockets on the plugboard, leaving 25% available for future expansion.

When the band arrived I said "Hey - check this out", flicked the switches, and they were suitably impressed. After all, any light is a hundred times better than no light.

"Are they moving lights?" the bass player asked.

"Sure they are," I replied. "Once that gaffer tape warms up they'll move all over the place!"

"Wow, that's great."

My sarcasm went unnoticed.

I gave the drummer the receipts for the stuff I had bought, and he was pleased with the price. "See - I knew you could get something for a hundred bucks."

"But what about the hours I spent putting it all together?"

He laughed "Ah, that's just part of the gig, mate."

For revenge I coughed into his microphone when he wasn't locking - that's just part of the gig, mate! **CX**

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# ROLL UP ROLL UP

Andy and Offspring head to the circus for some old-fashioned fun

By **ANDY MACKENZIE**

A couple of weeks ago while driving along Silverwater Road in the pouring rain and a vile temper I saw a sight to gladden the heart. There in the park under the bridge was the unmistakable shape of a circus tent! Yes, a circus tent like the ones in the books that offspring loves to read. Temper much improved, I struggled home through the rain to see if she might, just possibly, be interested in going to the circus.

Saturday afternoon. A couple of days have passed. It's still pouring, but offspring is oscillating with delight as we suit up and climb into the Tarago...

There's something about the circus which makes it different from all other forms of entertainment. Maybe it's the intimacy, maybe it's the variety of acts, maybe it's just something programmed in when you're a child. I don't know, but whatever it is – it works. We took up our ringside position and settled in for the action. And there was plenty of action. There were dancers and acrobats and clowns. There was a guy who convinced quite small dogs to do tricks, and another fellow who convinced only slightly larger ponies to do tricks of their own. There were girls on trapezes and various other aerial apparatus, a couple of guys on the high wire, and a man hurtling around in a contrivance called 'The Wheel of Death' (Imagine that in a booming voice with lots of reverb - it works better).

I loved it. Offspring loved it. Even the interval had its appeal as we squelched around, shoving ping pong balls into fiberglass clown heads and popcorn into our own. By the time we climbed back into the car I'd decided to come back and see what makes this show tick.

A few days later I visited again during a short break in the rain and met up with Natalie Weber, who was kind enough to take me for a wander round the place and tell me how it all works.

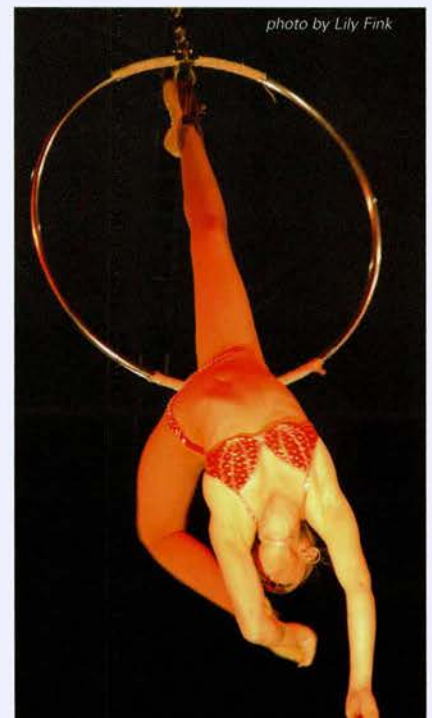
Let's start with the people. Natalie and her husband Rudy own Weber's Circus – as distinct from Weber Bros. Circus, owned by Rudy's brothers. Rudy's family are German, and they've been in the circus for six generations. Natalie, on the other hand, comes from a long established Australian circus family, having grown up in the Stardust Circus along with three brothers and three sisters. Between the two, that's an awful lot of circus heritage.

And it's not likely to end there, either. Natalie and Rudy's eldest daughter, 18 year old Wonita, appears in a number of acts in the show, including one in which her 12 year old sister Dakota also appears. Six year old Wonona doesn't appear in the show...yet. Rudy performs as well, guiding his troupe of ponies through their routine, but Natalie doesn't anymore. Years of performing as an aerialist, horse vaulter and tumbler have taken their toll and her elbows aren't what they once were.

But it's not all in the family. Not this family anyway. There is a common

thread running through the backgrounds of many of the performers, namely that they have circus heritage. It may still be possible to run away and join the circus, but it seems more common to stay home and join. I wonder if circus kids ever run away to join the tax department?

One of the defining features of the circus, as mentioned earlier, is the Big Top. In the case of this particular circus, the tent is like a member of the family – built by Rudy's own hands. Well, pretty much. All the



Wonita's aerial work is a feature of the show

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photo by Lily Fink



Rudy gets a lot of performance out of little ponies

steel – the king posts, the cupola that supports the mass of overhead rigging and the seating risers – is all Rucy's handiwork. The skin of the tent was custom made in Italy to fit the hardware and it wasn't cheap, coming in around the hundred thousand dollar mark. The tent's not the only thing he's built either. The family home is without doubt the most impressive bit of traveling construction I've ever seen. It's a 48 foot trailer with bits that fold out and close up and everything that opens and shuts. The whole family lives in the trailer, with the exception of Wonita, who figured that at eighteen she's old enough to move out of home. She's got her own van next door.

The entire cast and crew, a total of about 25 multi-multi-skilled people all live in trailers and caravans of varying sizes and styles. This is really the only way to do it when you're touring 48 weeks of the year. That's right. 48 weeks a year, anything from five to twelve shows a week and a tour that might last three or four years... These guys work hard. The current tour started on the NSW north coast in January and by June they'd only got as far as Sydney. Given that this is a nationwide tour, stopping in just about every town along the way, this could take time.

As well as the traveling township, there are a lot of vehicles on the road with this crew. The tent infrastructure packs up reasonably small to fit on a couple of 48 foot trailers, the bulk of the rest of the stuff fits into a couple more, and there are a swarm of smaller vehicles including the genset that powers not only the show but the whole township.

Technical production for the show is basic, but effective. The lighting is primarily par cans and floodlights with a couple of little effects projectors. Audio exists only to run CDs and the odd voiceover. From a technical point of view, the most interesting aspects of the show are the rigging and the quick changeovers achieved by the cast/crew (the members of the cast also act as the crew for the show, collect the tickets at the door, sell the popcorn and even drive the trucks. It's just the way things are done). The rigging is interesting from the point of view that with a lot of aerial performances in the show things and people need to go up and down quickly. The cupola at the top of the tent supports all the overhead rigging which flies in and out to lift and lower the trapeze, the rings and the Wheel of Death.

Changeovers are extremely smooth and rehearsed.

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The Wheel of Death...



The dancers worked on the South American theme

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Many of them take place in the blackouts between the acts when only a limited amount of time is available, but even without time pressure they were quick. At the interval, when everyone else wandered outside to eat popcorn and stuff, I stayed to watch the chargeover. Everything was sorted out in time for me to get bored and wander off myself for the last few minutes of the interval. Then at the end of the show, the Wheel of Death disappeared and the start set was reconstructed all in the space of about five minutes. Very, very slick.



# The Power of Sine Wave

# Wave

## IES Sine Wave history of success

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Matrix Dimming Rack



Het Muziektheater,  
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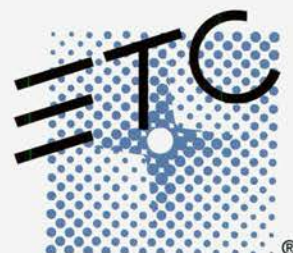
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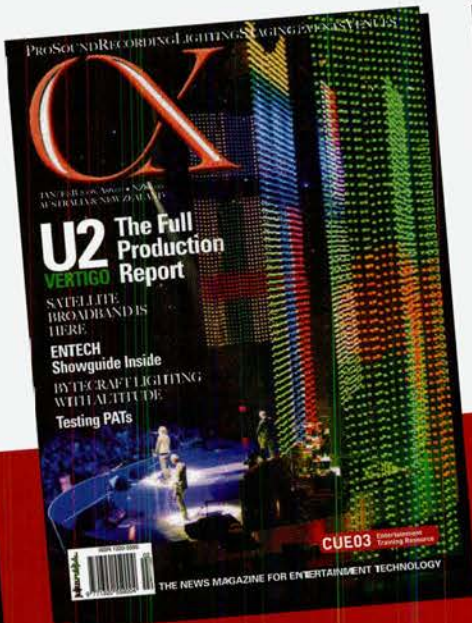
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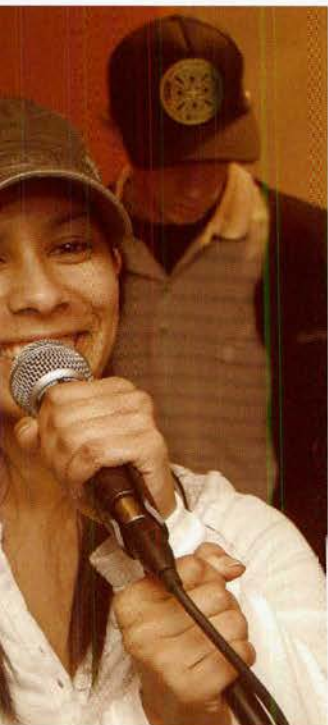
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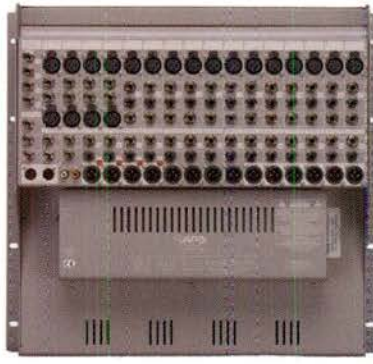
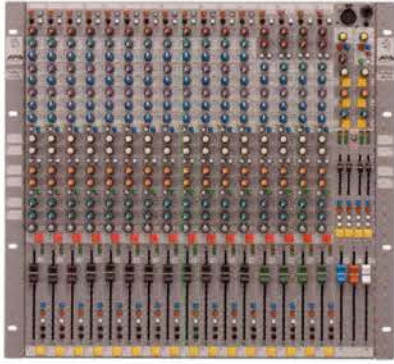
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