

# CX

MONTHLY TECH NEWS  
For Entertainment and Broadcast

CX 68, MARCH 2012 . \$5.50

The Wall  
Inside Rock's  
Biggest Gig

Tech Shopping  
in LA  
Maiz flogs  
credit-card

LED Land  
Revolution  
updated



Photo by Bob King

ISSN 1320-5595



## REVIEWED:

Atmos Ninja HD Recorder /  
PRG Foton LED / DPA d:fine  
headset mics / Tascam DR-  
07 recorder / Allen & Heath  
GSR24M

## NEWS AND VIEWS:

Tradeshaw era ending? / PPSR surprises  
businesses / Festival ripoff? Weekender  
dumps debts / Cheap stage roof infesta-  
tion / Ross video expands / Dragons  
on tour / Hilary beats TSV

# TASCAM EXTRAORDINARY RECORDING GEAR

## Digital consoles & multi-tracks

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TASCAM also have recording devices for field recording; broadcast; TV & film; mobile facilities; studios; installed systems; post-production and many other applications.



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**SACKED**

Salient tale. The sales rep was marched out of the company on Monday without his contacts, emails or desk contents. The firm had exercised its rights at law by terminating him because they thought they could do better, or didn't need him.

Next morning, rep did his rounds and visited the customers who he had served well, to say goodbye. 'Just wanted to let you know I've moved on', he told them, and human nature being what it is, the story came out. Decisions were made.

Within a few days he had enough pledges of business to negotiate a new job with another firm. The businesses were loyal to the guy, not the supplier. His approach wasn't that of a victim, he handled himself well. A lesson for all.

**DACKED (The picture Facebook removed from CX MAG)**

Roadshow load number one was to Brisbane where All Access Crewing handled themselves well. The end loadout photo op produced this pearler, (right) and you have to agree – boys will be boys. On this topic, the trucking from ATS was superb.



Some of the venue practices are interesting, especially what is; and isn't; included in room hires. Worryingly the paperwork systems and procedures at the major convention centres are not co-ordinated. They should get on the same page. Some of them are very good at trying to charge stupid money – like \$12.50 for a chair!

**CX EDITORIAL****FLACKED**

We took some fire for the lead news item last issue. Australian Music Group has denied the National Australia Bank is about to close down Allans Music, Billy Hyde and MusicLink Australia.

Director John Helme told CX that they expect to refinance soon, and that Music Link did not lose any distribution agencies at the recent NAMM convention in Los Angeles. Mr Helme says media reports appear to be in relation to matters involving previous investors, Crescent Capital. He says his firm, Brackenbury Group, are committed private owners. He hopes to announce positive news soon.

**HACKED**

Being back in the events business again with our Roadshow has really opened up some great new horizons for this little publishing empire.

Across all the registrations we received, we reconnected with old friends and met new players. Our Facebook page at cx-mag is going well too.

Any time you get fed up with emails from us, use the unsubscribe button on the email or drop us a reply email. We take your privacy seriously, and like to think we respond promptly to every enquiry, however made.

- Julius

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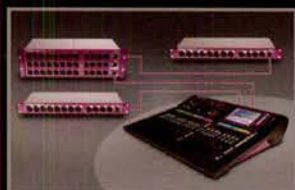
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# NEWS



## α INDUSTRY NEWS

# New Era for Trade Shows Roadshow breaks old habits

**A**s Integrate plans a costly two-hall show at Sydney Convention and Exhibition Centre this winter, its new owners are highly optimistic. Diversified Exhibitions Group Exhibitor Director Lauren Ebbeck told CX that they understood the dynamics of the audio visual industry, despite not knowing who was who on the floor at the CX Roadshow.

Ms Ebbeck was visiting Roadshow exhibitors in Sydney, accompanied by new exhibition manager Mary Signi. Outgoing Integrate manager Louise Erooks did not attend, and the Diversified duo felt it was not necessary to be introduced to potential exhibitors by someone who knew them.

The irony of this was amplified by positive exhibitor sentiment for the CX tour, where all site, transport and seminar AV costs were absorbed so that exhibitors had no last minute surprises, common with requests for power, rigging or freight assistance at the traditional trade shows.

The CX tour broke with trade show tradition by not offering shel scheme, indeed the exhibitors simply bought space without



any walls or signs. Power was supplied to each space, 20 amps for lighting exhibitors, 10 amps for others. No flown elements or rigging were allowed.

Anything could be displayed, provided it could be set up within 3 hours. The load in started at 7am, and by 9am the eight loaders were assisting exhibitors, with all empty cases removed by 10am. In reverse,

once happy hour had dribbled to a halt, almost all exhibitors were packed and gone by 7.30pm, and the loadout concluded by 9pm, closely managed by CX crew.

The midday start provided a tight focus for trade visitors, who had ample time to walk, talk and do business with the twelve distributors occupying the variously sized

>>>> Continued page 10

SOCCER  
 LAUGHTER  
 OPERA  
 HOSPITALITY  
 DJING  
 MUSIC  
 THEATER  
 LEARNING  
 FAITH  
 MY TEAM  
 KARAOKE  
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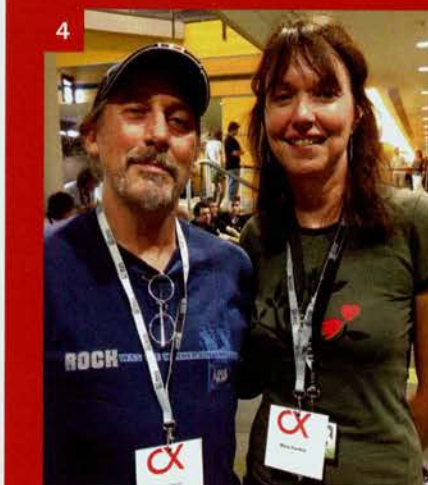
- 1 • Bosch stand - no walls, no rigging
- 2 • Mid demo, TAG stand
- 3 • Maiz and Brisbane iPad winner Mike Davies
- 4 • Educators Ian Taylor and Mary Carden from SBIT
- 5 • The CX Roadshow office

venues in each capital city.

Six seminar rooms provided over 20 events from 9.30am, including five paid seminars by CX, a SMPTE meeting, keynote talk by John Maizels, and fifteen distributor sessions on everything from Ethernet lighting networks to intelligibility and steering by Duran Audio. Attendance at these sessions varied by state, but the standout was the Outdoor Stage Safety seminar that attracted a wide audience.

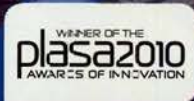
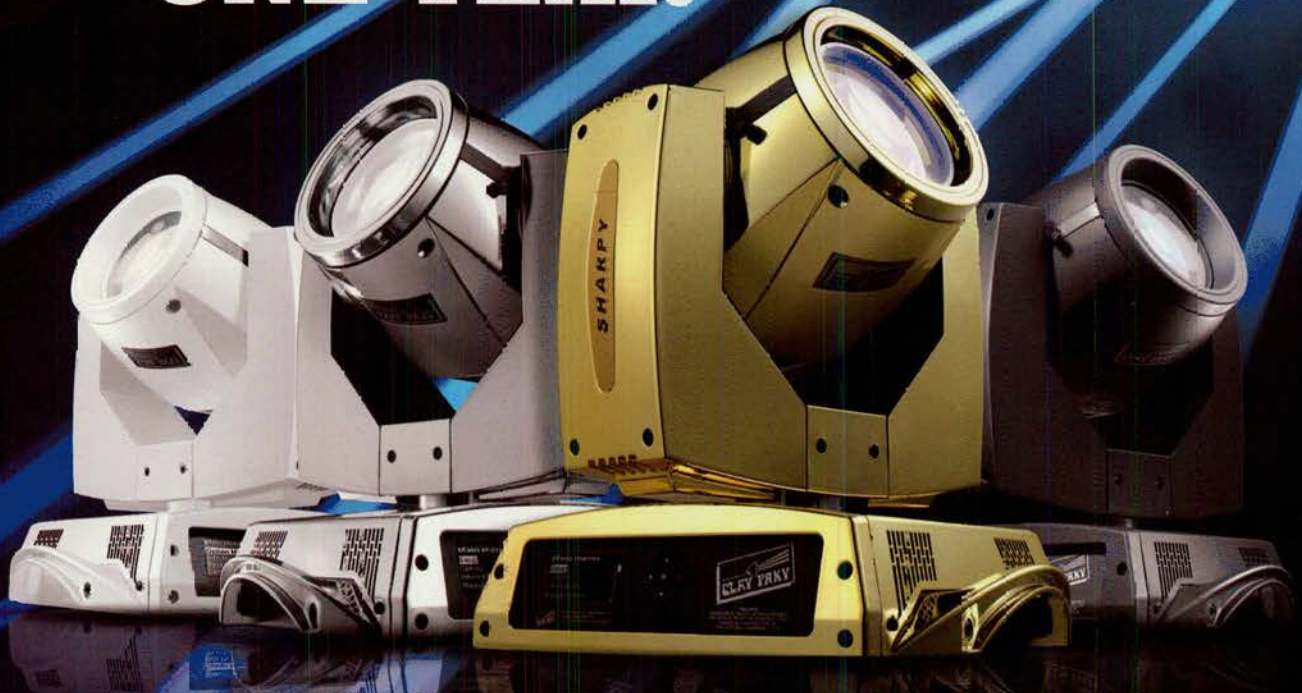
Visitors appreciated the cost effective and efficient way the show accommodated to the locals in each city. Many

>>>> Continued page 12



# SHARPY

# 5 ★★★★★ AWARDS IN ONE YEAR



**“Ridiculously bright”**  
Tim Routledge, Lighting Designer

**“Unbelievably fast”**  
Rehan Thornton, Lighting Designer

**“The coolest thing in a long, long time”**  
Scott Holthaus, Lighting Designer

**“An eye-popping beam”**  
Patrick Dierson, Live Design

**“The equivalent of a PAR 46 ACL beam on steroids”**  
Nook Schoenfeld, PLSN

**“Efficient and Green”**  
Natasha Katz, Plasa Jury and Lighting Designer



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said they simply cannot afford to travel and accommodate themselves in Sydney up to three times a year, which is necessary if you wish to see all the tradeshows. Typical comment: "Thank you for bringing the roadshow to Brisbane and good on the Brisbane Industry for turning up to support it. Go CX, go the roadshow and go Black Caviar – all winners", said Dyke Dunning of High Noon Stage Productions.

"Great show, good exhibitors, good information at seminars and all over in one day", added Dale Kennedy from Mackay. •

## Mechanics of the CX Roadshow

At the end of the day, it's a tour. The idea came from Graeme Stevenson at Production Audio Services, who was conditioned to outlaying as much as \$100,000 to stage a very large display at either ENTECH or Integrate. He reasoned a straight-forward product tour where his firm represented itself and the 20 or more brands they handle, would be great, but preaching to the converted. How to get new people?

Putting together a group of competing distributors made more sense, and would have the pull to get a cross section of visitors.

CX did the math – it was relatively easy to find a 600 square metre space in all the capital cities, with a bunch of seminar rooms nearby.

Then we divided one 48' semi into 12, and allowed 2 pallets per exhibitor, not knowing whether they would actually need that allocation. Once we loaded up in Sydney, we found we had more truck capacity for next time. We can subdivide some spaces, and get more firms, brands and experts onboard.

The idea is to make it easier for the exhibitors, who pay for the roadshow. Loaders do the in and out, and help out. CX do the power, planning, PR, site registration, event management and truck.

A mantra of cost efficiency, and a relaxed vibe, made the Roadshow very different to ENTECH for CX. Managing a very large show is stressful, and a three day setup is hard for exhibitors. The big trade show may not be dead, but the Roadshow is very much alive.

## Dirty Money Talk PPSR woe from the CX rip-off talkfest

When the CX Seminar on Dirty Money and bad debt opened in Brisbane, industry delegates heard that the insolvency profession has a new weapon, called the Personal Property Securities Register (PPSR). At the next seminar in Sydney, a wave of dismay emerged at the possibility of losing equipment when a venue goes broke.

Across both sessions, not one person had heard of the new online register, which requires a business list all equipment on a job, against the job, so that in the event of a closure the insolvency professional can sell off anything not listed. This new Federal Government legislation replaces state laws on proof of ownership, and was designed to assist banks and finance companies maintain ownership over leased and financed cars and trucks.

The building trade and contractor hire firms are now listing everything they send to a building site, at a cost per transaction on the new PPSR website. Privacy concerns have arisen where some builders say competitors can search to

see which developers have hired them.

Seminar delegates raised concerns, such as the case of the failed Xanadu production where under the new laws the receiver could sell the hired equipment if it were not listed on the register. Of particular concern are installations where equipment is supplied on site and progress payments stop in an insolvency. One installer suggested restructuring supply contracts so that only the final payments applied against actual goods, with labour and commissioning costs applied early.

CX told delegates in the hire, production and installation sector to research PPSR immediately, as the law came into effect earlier this year.



### A Typical Example

At presstime Playground Weekender was underway near Sydney. "A unique fixture on the Australian music calendar" is how the promoter, believed to be Andy Rigby (above), describes the event now in its sixth year.

So how can a festival run when it is in the Administration hands of Hall Chadwick, Chartered Accountants and Business Advisors? Simply enough, via the newly finessed technique of 'debt dumping'. The Festival that ran early March was not the same legal entity as Playground Weekender Pty Ltd which will probably be wound up with debts of \$1.8 million. Mr. Rigby has guaranteed payment of \$50,000 to Hall Chadwick, who handles the windup of the failed entity.

CX reported last year on disgraceful conditions at the site, with punters falling ill after using a small swimming pool, and complaints of lack of fresh water. A contractor refused to allow the show to continue until paid. Delays for the ferry across the river were said to be as long as four hours.

The festival owes Norwest, Chameleon, IJS and a host of site suppliers money. They also owe Payground Touring \$140,000 and a host of individuals are listed as unpaid. Andy Rigby himself says he is owed \$296,527.07.

# INSTALLATION SERIES

## Loudspeakers for Worship



### Hillsong Church Greater West, NSW

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### Bridgeman Downs Christian Outreach Centre, QLD

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# Ross Video open new facility

Anyone who has been in broadcast engineering more than 30 seconds will know of the great work done by Joe Talia in Melbourne. The industry is full of his gear, and it just keeps going. Ross Video of Canada recently acquired the Talia business from Codan, and have made a solid commitment to the Australian market by opening a new factory in Melbourne to manufacture locally. Rebranded as Ross Routing Systems, the line will be developed and extended by a strengthened local R&D group and a Technical Support presence covering Australia and New Zealand for all Ross Products.

The team includes players well known in the media industry: Spencer Preece has been hired as Australian Sales Manager, Amanda Leighton takes the lead as Product Support Specialist, Jacek Wieszniewski joins the team as Technical Support Manager and Melanie Talia continues her role after almost 20 years as Production Manager responsible for the manufacturing side.

CX attended the industry launch and official opening of Ross Video held in conjunction with SMPTE. At a time when brains and skills have been leaking out of Australia at lightspeed, Ross Video's investment is a significant move and shows faith in quality and acceptance of local ingenuity. It's also a recognition of the importance of baseband video and audio distribution, which we can expect to live for some time yet. Ross aims to have the router products available ex-stock, to build inventory of openGear and other Ross products, and to provide legacy customers with much-needed futureproofing.



Jacek  
Wieszniewski  
in the  
Demo room



Spencer Preece,  
Brad Plan  
and Amanda  
Leighton



The Maiz  
and Melanie  
Talia do opening  
speeches

## Stage Safety Debate Heats Up

### Seminar crew tell of rogue staging firms

CX's Stage Safety Seminar sold heavily on the Roadshow, with professionals from local government, venues, production firms and staging suppliers all anxious to avoid a major accident.

"We have 14 stages out, and do inspections and reports all the time", said Adam Parker from Butlers Events and Staging, "which makes us more expensive". It emerged at the Seminar that an alarming number of dubious stage roofing systems are entering Australia from Asia and that some local gov-

ernment bodies are buying them.

By way of example, Arts Projects Australia are a government-funded firm associated with Womadelaide. They have purchased a ground support system and intend making this available for hire to other production firms when not in use.

While APA almost certainly will adopt best practice and ensure users erect the system properly, CX hears of some public funded bodies with little or no live events experience buying potentially counterfeit-

ed designs with or without knowledge of the origins of manufacture.

A delegate at the Safety Seminar in Sydney told CX afterwards that his local government quotes have come under price pressure lately, clearly indicating firms are entering the market without paying for independent site inspections or engineering advice.

Several delegates stated that the requirements imposed by Melbourne City are best practice, and it was considered that local governments should adopt those.

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RKSSQJ22X3m	343.36	171.68
RKSSQJ22X4m	431.41	216.71

Description	
Roof Truss:	Steel: 30m x 6m Material: 6082 T6 Aluminium Alloy Max Loading: 550kg
Aluminum Stage:	Steel: 3m x 6m Height: 6m-1m Max Loading: 90kg/square

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ON AIR

Church  
Production  
News

# Inside a mega-church

G

ateway Church is a Christian megachurch in Southlake, Texas, that opened a new campus recently with a main auditorium that seats 4000.

Their technical needs and solutions are informative for new or refit churches here.

Gateway's lighting director Kyle Russelburg had three factors in mind when looking for lighting: shooting for TV/web broadcast in HD, lighting for unique services, and hosting conferences.

Russelburg found what he was looking for in a large lighting system made up of 12 MAC III Profile, 16 MAC III Performance, 6 MAC 2000 Beam XB, 9 MAC 2000 Wash XB, 6 MAC 700 Profile and 12 MAC 250 Entour moving heads along with 66 Stagebar54L and 36 Tripix 1200 linear LED luminaires. Mid-air

projection haze is from 4 Jem K1 Hazers™. Complementing the lighting system are digital graphics and video from a Maxedia PRO media server across upstage Martin LC Plus 1140 and 2140 LED panels.

Russelburg describes Gateway as an active church with the fixtures operating about 10 hours a day, 7 days a week. "With running these fixtures at this rate I have been very happy with their reliability. I pretty much just change lamps and keep on going."

Lighting vendor for the installation was Barbizon Lighting.

The Martin lighting fixtures are located in several areas of the auditorium - off of catwalks, stage electrics, mounted in the ceiling and on the floor. "Just about anywhere I could fit a light we put one there," Russelburg says.

## Hillsong for Melbourne

After Garden City Christian Church in Brisbane became Hillsong in May 2009, the church has added several international destinations, most notably opening a new church in New York City. Now Hillsong have announced a new church for Melbourne, 'soon to be Australia's largest city', according to senior pastor Brian Houston. 'We don't know yet where it will be, but we expect to open next year', he told church members in February. Hillsong attract over 21,000 people weekly to its Sydney and Brisbane campuses. Of the top ten churches with over 4,000 attending weekly in Australia, nine lean towards the Pentecostal faith and all feature contemporary worship with concert styled music, high technical production standards and usually a TV facility.

Gateway  
Church -  
a model  
design

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# From 100v line to smart industrial AV

## Summit Innovations eats the scraps of the TSV collapse

**H**ilary Evans is CEO of Summit Innovations, and 8am at Keysborough (Vic) is muesli time. His young and pumped team are all running about, and the ultimate boss Carol Evans is on top of the management of this Australian firm who make things happen.

Summit do industrial audiovisual, software development and manufacturing on a mass scale, with over 4,000 restaurant clients in Australia, and a potential twenty times more in the US. They make and install some of the most innovative drive thru speed monitoring and communication devices in the world. So when you order your fries from the car in a drive thru lane you are more than likely using a Summit designed, manufactured and installed gear.

The CX angle is that Summit typifies innovation writ well, and a lot of the people installing and servicing those drive thru's are audio-visual integrators. They handle components 'out of the box', because as Hilary describes it, if a system goes offline in Katherine



By Julius Grafton

N.T., then he needs someone near to go fix it. "The guy who looks after electrical contracting in remote locations needs to be able to swap out a component with phone support from us easily – basically plug and play designs are employed in the mythology of this

process. Otherwise it is a 48 hour fly in, and would cost 4 grand to deliver", he says.

### Chubb and TSV

Not long after emigrating from South A



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frica, Hilary was employed at Jands in the service department. Then Designer Sound came knocking. They did 100 volt line industrial audio stuff, and so started to install those earlier analogue drive through takeaway food systems, the ones that sound like someone talking to you on a string and bucket. Designer Sound was part of a national group of similar firms, called Sontec.

"I worked for Nino Carbone at Sontec, and it went really well. He sold to Chubb – the security people. They didn't contract me because I wasn't an owner. So I left, and started my own business which I later went on to rename to Tecsound".

CX watched Tecsound grow, part due to Hilary pushing the envelope and part due to Chubb really screwing the Sontec business they acquired. It was a classic case of a big company buying something and moving on to go buy something else.

Tecsound ended up with a turnover of \$6 million by 2006 and Hilary prepared it for a float.

## TSV floats

Before the GFC you could engage an advisor and, after a lot of profile building, sell your business to investors on the Australian Stock Exchange. That's what Hilary did with Tecsound by floating this business under the name TSV Holding (Technology Sound & Vision), reaping over \$6 million at float day. Most of it went back into the business, because that is what helps a float – a story, a plan, and expansion.

A board of directors, representing shareholder factions, entered the picture – other firms were acquired, in this case many of the installers that Hilary had relationships with. Money was sloshing about. Hilary ran the business, it paid dividends and it grew to a \$100 Million dollar market valuation.

Hilary and Carol owned 14% of TSV held under escrow, but after a three month sabbatical two years into the float, a director with a major shareholding had them removed. Hilary says it was a difference of approach – he says he could double the business but a new CEO that believed he could triple it faster.

Then came an injunction – Hilary was ordered by a court to sit down and do nothing. He fought back.

## Court

After the float, Hilary kept the rights to some of the operating systems within some of the TSV devices, in particular a drive through system used by some of the big burger chains in Australia. Those chains soon started to need upgraded firmware, on which TSV could not deliver.

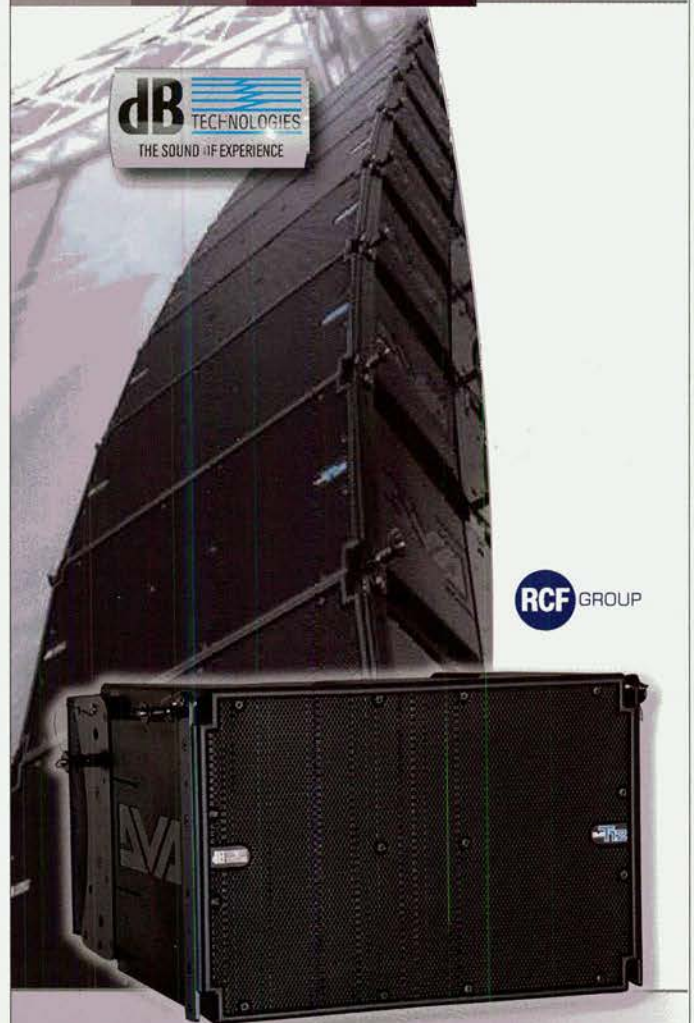
After they settled with Hilary they went out of business.

Now Summit is busy, shipping simple boxes of components to fast food joints across Australia.

Summit has taken the system as far as measuring everything electric, like the number of times and durations a cool room door is opened. This helps if a food poisoning case arises, since the store can prove on the day that the cold storage was within limits.

And now the store manager can be tracked – time at desk, time in kitchen, time facing customers. According to Hilary, if they are incentive driven then they 'aspire to this', which means they will wear the tracking device.

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# How To Train Your Dragon Arena Spectacular! Australian DNA for worldwide tour



**B**acklot in rehearsals at Fox in Sydney, Malcolm White appears relaxed despite the catalogue of things that can stop his latest show. Losing an arena performance of *How To Train Your Dragon* would cost the producers well north of half a million. And this is the most complex show CX has seen since *The Wall*.

It has eighty five tones of elements in the air, over all the arena. There is a railroad system of flying tracks, switch junctions and automated everything. A cast of 25, many of them aerialists. Behind the proscenium is a virtual airplane hanger of 20 large-to-massive dragons and creatures with their entourage of operators.

"The overall creature size is limited by a forty foot container. We can take off their tails and their legs, but that's it", Mal says.

When we visit they are asleep, un-powered. A tech is on a mechanic dolly under Nadder or Gronckle, gingerly repairing or massaging a talon.

## Walking with dinosaurs

When the first *Walking With Dinosaurs* arena tour travelled Australia mid naughties, the reaction was sometimes fairly typical for Australia. 'Monsters in cherry pickers', 'Curiosity with lasers and sound effects' narked the narks, and then it was off overseas after

selling very well.

"We did Burswood Dome – you should have seen that rig", Mal says, referencing Australia's most basic and air inflated concert dome, where nothing is flown unless a mother grid and ground support comes before it. Needless to say, 'Dragon cannot venture to Perth this time. It's the 85 tonnes in the air, and the limitations of the beautiful Burswood Dome and its inflated roof.

Dinosaurs collected a new production manager in Jake Berry (Stones and others) with new and evolving animatronics and an improved look. They parked the cherry pickers somewhere along the way.

*How To Train Your Dragon Arena Spectacular* is an arena show adaptation of the feature film *How to Train Your Dragon*. The show is be-

ing produced as a partnership with DreamWorks and Global Creatures, and is directed by Nigel Jamieson. Peter Hylenski is the Sound Designer, with a non line array distributed system of Meyer Sound. Phil Lethlean is the Lighting Designer, and Peter England the Production Designer.

Dragon has 66 2 tonne chain motors supporting the track (by Stage One), which carries dragons and performer carts in a multiple looped arrangement of junctions.

Almost all the technical production is supplied by PRG – video, lights, audio and rigging. All but the dimmer package comes from the USA. Australian firm Oracle are supplying lasers. Tait Towers are responsible for floor and set. PA People (Syd) are supplying the comm's system, and Black Tusk Enterprises (Mel) are doing automation. FilmTrix (Mel) are the pyro guys. ATS are doing the Australian trucking.



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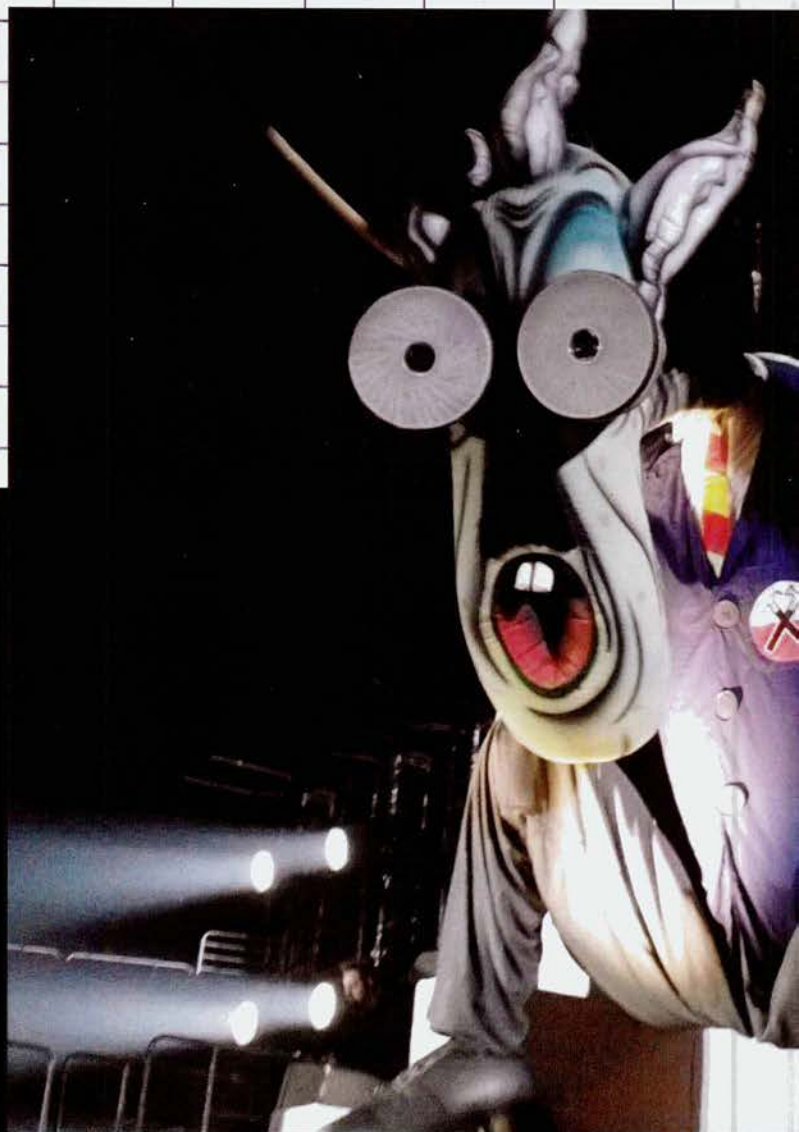


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# PINK FLOYD THE WALL



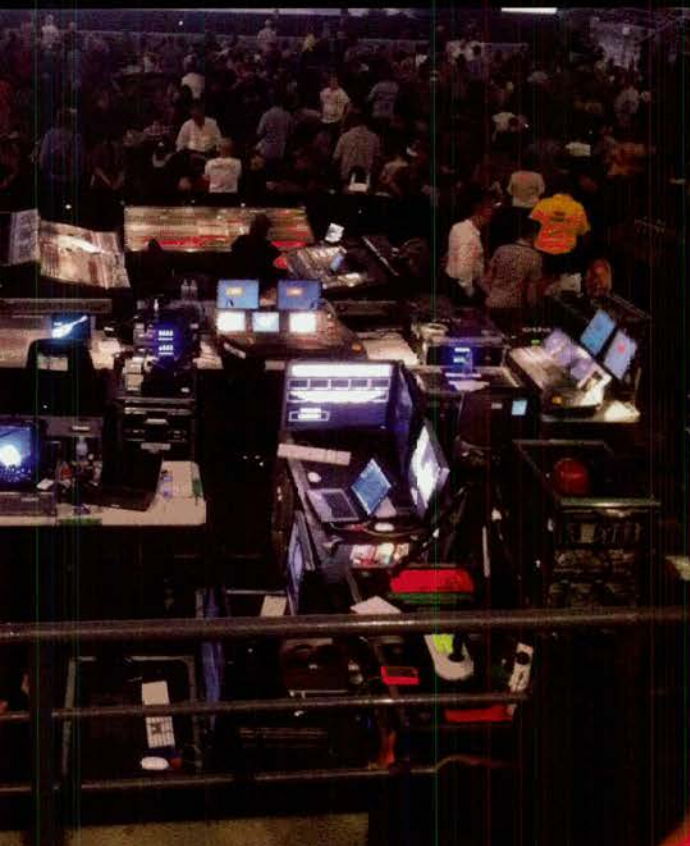
## THE WALL AMAZES AUDIENCES

One of the biggest and smartest productions we've seen

BY JULIUS GRAFTON

**THE STORY OF ROGER WATERS** performing The Wall as a concept show started in 1980 at Berlin. The Pink Floyd bass player and creative leader then departed the band five years later, and toured The Wall in 1990. He has restaged the show and it has sold out across the world.





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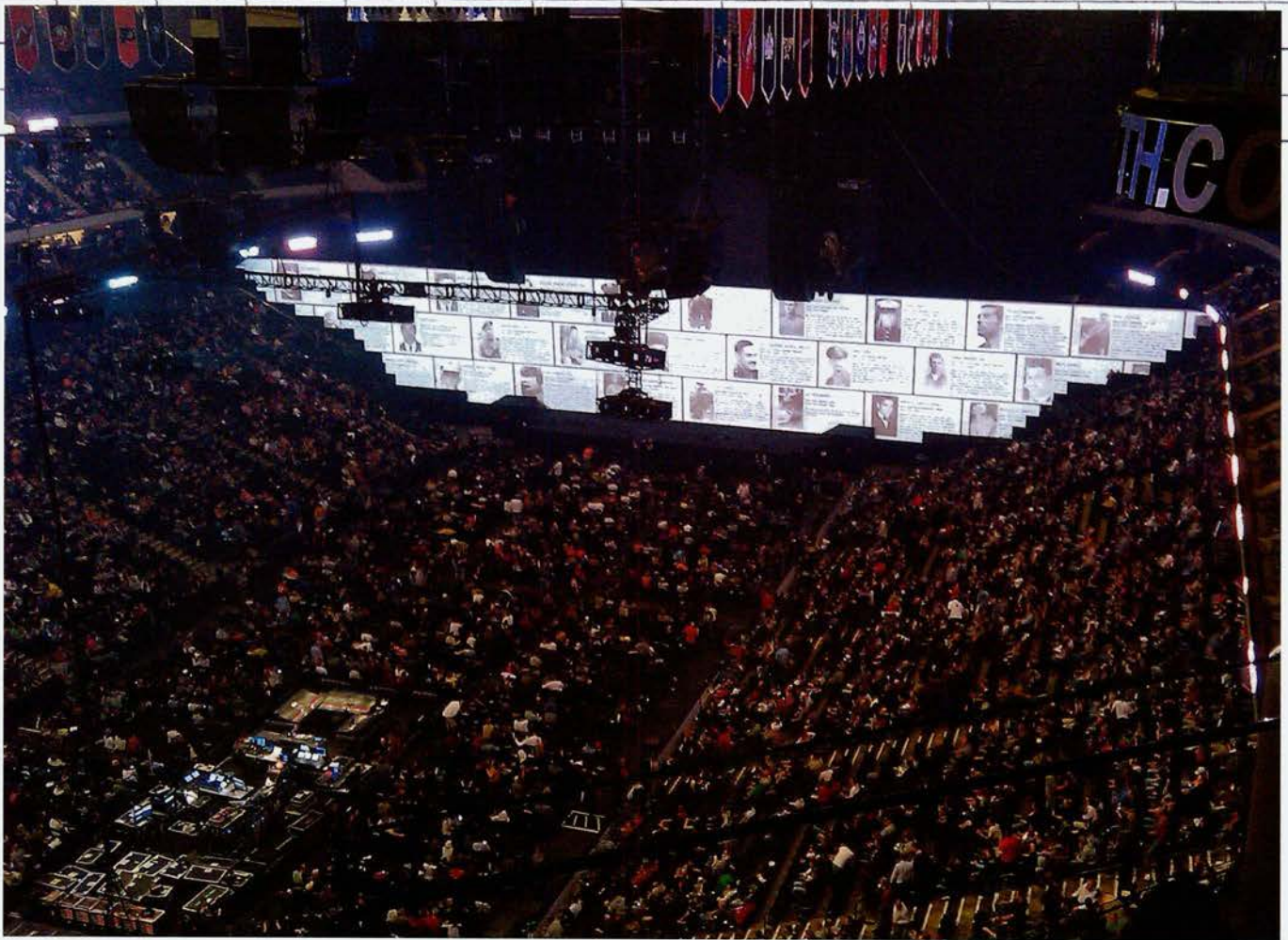
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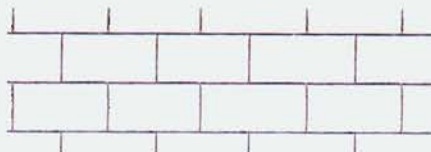


**A**udiences in Australia and New Zealand have just witnessed The Wall, which is a unique tour. It has all the elements that made Pink Floyd into one of the top selling rock bands, with 200 million albums sold.

The show ran in two halves without a support act. To start the show, the wall is built to full height only at each end, and is incomplete and open across the middle. Behind there is the band, and a large circular rear project screen that is a Pink Floyd icon.

The show opener was what most bands close with – the first song climaxed with a staggering chaser run of pyro snaked across the stage, up the front truss, and around the back. Roger Waters is an anti war activist, but by the end of the song Outside the Wall, the venue is smelling like a war zone.

Then the surround sound kicks in hard, as what appear to be two helicopters emerge from the back of stage. Ultra bright 2.5k followspots on flying chairs with operators



## SURROUND SOUND

Video that looks  
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Helicopters.

An airplane.

Flying Pig,

Teacher, Mother

and more!

No wonder this show  
keeps winning awards

strapped in emulate helicopters, and become a fantastic effect – the operators and spots are tracked around, up and down. As a beam moves, having the chair move as well adds a lot of dimension.

From the end of the first song, the crew of ten carpenters can be seen building the wall for the first half, as fast as possible. "It took too long at first", says production manager Chris Kansy, "and in rehearsals we had to keep working to get it right". The wall has more than 400 blocks, which look the real deal – and crew manhandle each one into place.

"The very end sections never come up or fall down, so they are a flat. But the rest are blocks", says Chris.

Up it comes, block after 1.2 metre block. Eventually it will hide the band, sprawled out behind. In between building, some of the carpenters do a quick costume change to act as extras, carrying flags in one song.

What a band it is – drums, 3 guitars, keys, Hammond organ, and five brilliant vocalists who all back Roger Waters. Waters mostly handles bass guitar but also

ventures onto guitar. Backline guitar technicians Colin Lyon and Tim Myer handle 40 or more guitars, in the 'chicken run' area behind the band.

### A statement show

This was a show without peer. It is a story known in part to most people, but strung together into a social commentary and statement that seemed a cut above any other arena show we've seen.

An example was the song; 'Mother, should I trust the government?', where the audience response appears to be an emphatic no. But "Not in Norway", Roger Waters says in the show program, "because there they look puzzled!" The words are projected onto The Wall. And that is what this show is all about, a wall. And it is being

built, all through the first half, while the show happens.

The first inflatable creature to appear is the Teacher, immediately known from the video clip. Local dance school kids come out, to be the extras. Waters pumps his fist in the air – he is with the audience, a massive journey from his disconnect in the 1980's as part of a band, as fractured and dysfunctional as any band could be. A time when he says he hated the audience.

### That wall

Before the audience walk in, the five projection points are fired up. Each of these is a floor cart loaded with three Barco FLM-HD20 projectors. From these five sources, the whole 240' wide wall area is covered. Each wall tile has texture projected on,

making the wall look very permanent.

As each block is positioned, a video mask cue is released manually by the masking operator. "It's a known build sequence", says Video Playback Operator Richard Turner. If the ten carpenters get a block out of sequence, then the playback queues for the masking are off.

You should have seen it. A block is placed, and blink – on comes its rectangle of video. One is taken out from time to time – so that a musician can poke thru. Click. The video goes out, as the block is taken back.

Before any show, the wall is fully built. There is a three hour allowance in the set-up for video alignment, "it never takes that long", says Richard. Even where the show is in the same venue for multiple dates, the wall is still built up each day so the video can be tweaked. A little movement,



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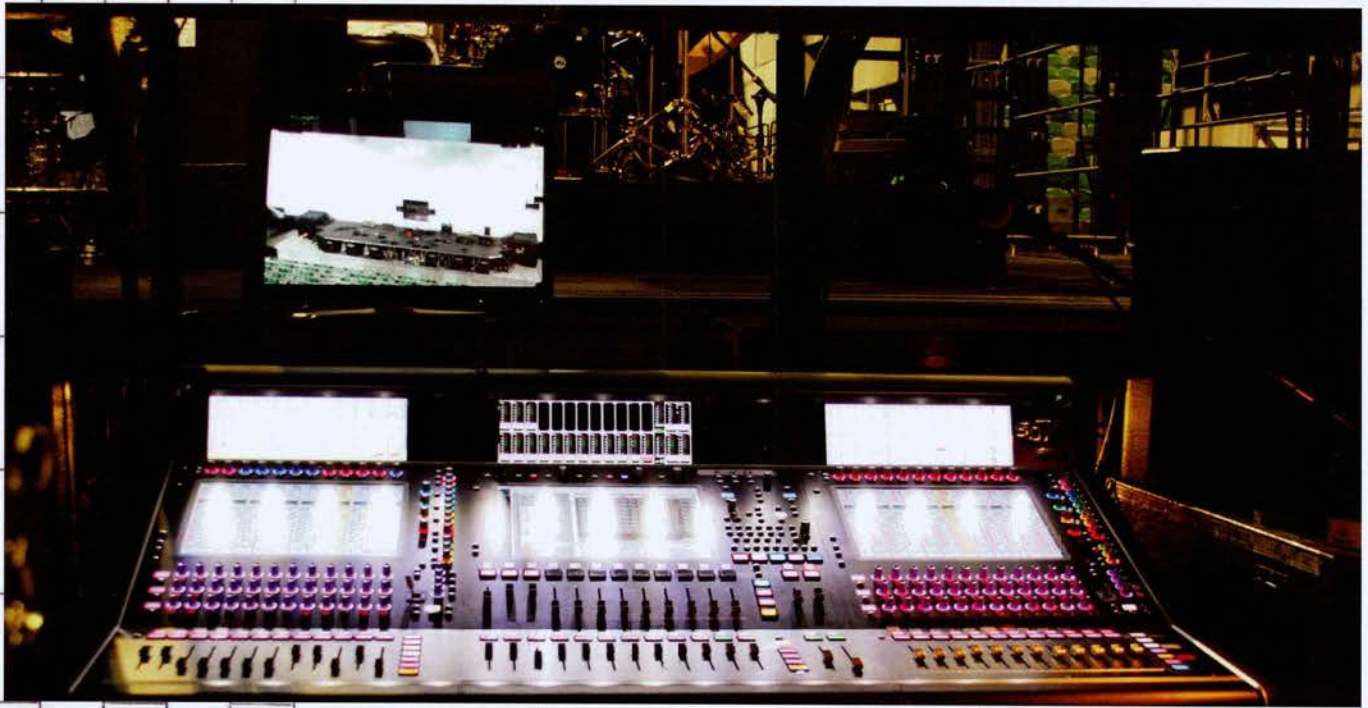
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Monitor desk stage right



Front stage setup, lifts, strobes on top and monitor grills



Chris Kansy, Production Manager

expansion or contraction, on the truss is all it takes to get one of the five sources out of alignment, so the projection mask is wrong.

The wall is fold-down frames, with a white cardboard face. The wall is always customized into the venue since all venue side seating areas are unique. The lead carpenter has an eye for what will work, and according to Chris Kansy, it comes together quickly.

They can do a show the same day, if they go in at 4am to get the rigging points up and the floor marked off. But mostly there is a build day before a show day.

Tait Towers did the mechanical structures for the tour. The wall has structural piles that rise pneumatically within the cavity as the wall is built. These have flip-out arms front and back, to quickly and precisely demolish the wall at the finale, when an airplane fly's the length of the venue and crashes into it.

## Distractions

The second half played in front of the wall. 'Is there anybody out there?' is performed with one block removed, light roaring through. In Comfortably Numb, the video on the wall and the guitarist on top of the wall draw the audience atten-

tion, while suddenly the band materialize in front.

One song has Roger Waters appear in what looks like a little lounge room, that is hinged down from the wall. He gets in there through a tight little passage, and manages to ride the furniture down to the horizontal as the room opens downwards in the blackout. He then repeats the journey as it folds away again. It's yet another unexpected reveal, in a show full of the unexpected.

Having a whole band appear, complete with gear, is a big surprise – several stage lifts get the gear up, and the crew work incredibly quickly to spread out pedal boards, and get the drums into position.

Suddenly, the whole show is in front of the wall, mixed from a second XL4 console, with a second set of underfloor foldback wedges.

Did I mention the flying Pig? It isn't on wires. Rather this is a fairly large blimp arrangement with several small motors providing motion under radio control. It slowly navigates around, over the audience, and descends very low at times.



**RICHARD  
TURNER**  
Video  
playback  
engineer

## Surround sound

Pink Floyd was the first band ever to use surround sound in the 1970's. This tour has three clusters of speakers out beyond the front of house position, and a line of subwoofers pointing up in the air for some shock and awe effects.

In Australia the tour collected a Jands P.A., meeting the global Clair Brothers specification where an i5 line array system was required for the main left and right PA.

The surround clusters were made up of 16 Nexo Alpha boxes, with low boxes at top and mid high under. Three MSL 4 Meyer boxes do the infill. Each of these three clusters, each covering 360 degrees, were cabled back to the massive (112 seats removed) FOH control area.

System Engineer Bob Weibel explained that the surrounds had no time delays applied. "They take playback material, which is not musical, just effects". This makes for a reasonably easy deployment – just three lines out of front of house, plus a rear sur-

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FOH audio consoles

woofer line.

Playback is something this tour talk freely of. In fact this is the most open of tour regimes. The audience are invited to take photographs – some have posted entire videos of the show on YouTube. The ushers have a relaxing time not having to run around busting people with 'professional' looking cameras.

Stage left is Playback, where the show timecode originates in duplicate, lest one fail. The surround is omni-present, mastered and engineered within the music like you'd only hear from someone whose career started with quadrasonic live sound.

### PA

The audio crew won an Outstanding Creative Achievement award at the TEC Awards, and from the fidelity and quality of the live mix it is not hard to see why. Trip Khalaf mixes the show, and acts as tour manager. He is famous from his Trip Around The World series written some years ago in Total Production magazine, probably the most outrageous account of touring with un-



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named (but obvious) artists like Madonna, Whitney and M. Jackson.

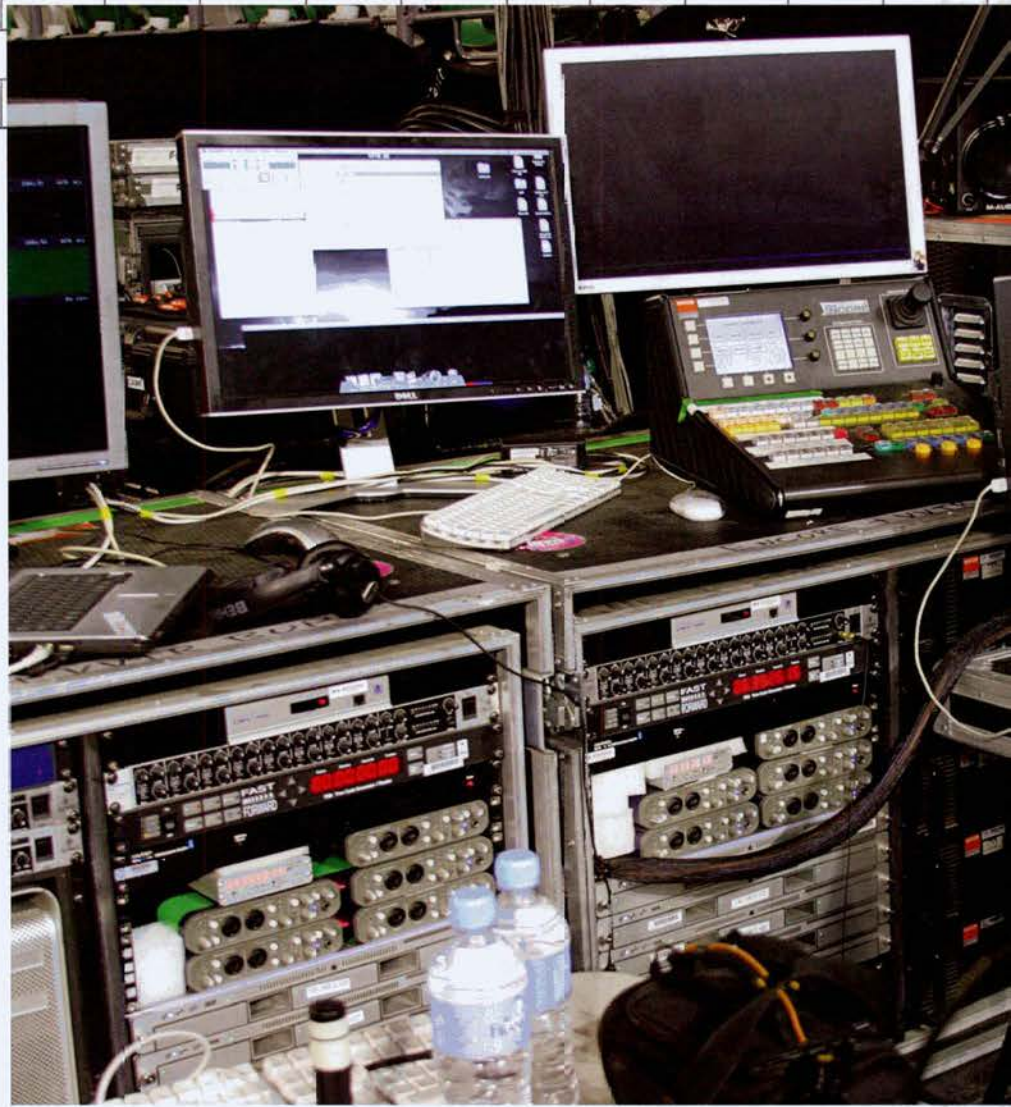
Bob Weibel is always there, making it right for Trip. Setting the two Midas XL4 analogue consoles is a massive task, given the thousands of knobs and buttons thereon. "Trip uses them because he can", says Bob asked about the reversion from digital.

One Yamaha PM5D console sits to the right, this handles the surround sound inputs and all outputs: main system left and right, infill, subs under the front of the stage, surround left, middle and right, and surround subs on one page. The second page has effects returns for the three racks of analogue effects that sit behind.

The Australian leg of this two year tour started in Perth and exited Auckland, where the Jands PA was returned to Australia and almost everything else was loaded into 2 x 747 cargo aircraft for the South America leg.

Jands tech Nick Giameos was delighted to work on this tour, 'some of the songs bring a tear to your eye', he said.

Under the stage wing on stage right, monitor engineer Ian Newton was in charge of a mammoth task, with some in-ear systems but a lot of traditional monitor wedge



Video playback

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Barco Encore screen switcher.

With three projectors in each of the five point sources, there is plenty of redundancy. "We lost one, one time. So we can adjust the others to equalize the intensity".

The projectors have DMX barn-doors to feather the output and make the blends smooth. There is always an overlap in a blend, and aligning a system and getting the white balance sorted is a fiddly dark art. Which is why the vision team are allocated three hours, and which is why the entire wall is built up again after a show in a multi-run venue, so the projections can be tweaked the next day.

As to the projectors themselves, they are going well. "They can be tricky to get going", Richard says, and the after market globes get changed after 400 hours, which is around every 2 months of show time.

The video system comes from XL Video.

sends from a Digico SD7 console. "Nick is doing a great job", Bob Weibel pointed out.

## Video foibles

Richard Turner and his crew of four have the most critical role, because losing some or all the projection would be as obvious as a major audio fault.

"We have two sets of servers, with an output per projection point and one for the rear projection circle screen" he told CX. "The rear project has five R22 projectors behind, three of them in use here. The others supply extra juice at the start, and give us extra where we have to use wider lens's."

The video itself originates as six final Cut projects, synchronized to the playback timecode which comes with a spare, redundant line just in case. All six server outputs are locked via hardware, and the two sets of servers (6 and 6 spares) feed into a

## Lighting

Show designer Mark Fisher did the original Wall show way back, and lighting designer Marc Brickman came on board to update the show.

On the road, Lighting Director Marl 'Sparky' Risk operates from a Grand MA console in the middle of the FOH control area. To his left, the follow spots are called by his crew chief, and the follow spot chairs are tracked and operated by another crew member.

The spots are Lycian M2 units, while two Syncrolite XL10s sit atop the 'Chicken Run' to give countermanding searchlight effects. Either side of stage, six vertical stacks of VL3500 Wash FX produce what Brickman describes as his signature. "The sidelight to m lighting creates a dimensional palette to get lines of light in a horizontal way like cutting with a knife. People look beautiful in that lighting",

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Surround cluster, several projector carts and main system

he told Live Design Online.

The circular rear project screen is ringed with 24 Vari\*Lite VL 3000's, while 32 High End Cyberlight 2.0 units are used on front truss and tracking pods. Ten PRG Bad Boys cover the forestage.

At times the strobes smash through everything – there are 33 Martin Atomic strobes, many with colour scrollers. Neat touches include kicklites on the mic stands, to uplight the musicians, and a slew of stubby Pars under the back deck to highlight the structure.

## The Rest

PRG hold the global lighting account for the tour, and most of the gear came over to Perth and 16 truck loads of it (8 per 747) will continue to South America. 2 PRG Australia crew worked on the tour, along with 3 JPJ Audio crew.

From Perth, the 23 trucks supplied by ATS Logistics made the long haul to Brisbane, and a bunch were converted to road trains 2 hours out of Perth. This saved driver and prime mover costs, since one prime mover can haul three trailers

as far as Toowoomba, again just a few hours from the destination. Phil Duncan from ATS says this is the first time his firm has done this, and it is a live option for future tours to and from Perth.

Once landed in South America, the shows go outdoors and scale up, with more wall anc as many as nine projection sources (verses five thus far).

A load in requires around 100 loaders, and the load out 125 crew.

Final point, there are around 1,000 individual shots of pyro, loaded by 3 technicians.

- CX saw The Wall at Rod Laver Arena
- The whole concert can be seen on various YouTube clips.

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# LED Lighting - the revolution

Now LED has started to mature as a product, it's begun to take over

**GETTING RID OF** lamps and having a cold running stage light was the stuff of science fiction, even only a decade ago. Suddenly, it happened. Now everyone wins - except the bubble makers, right?

By Jimmy Den-Ouden

**L**ighting has caused 98% of theatre fires in the past 200 years. That doesn't mean we're about to stop using lights in theatres, but now we have a "not-hot" option. Advancements in LED technology have seen smarter, cooler, and greener fixtures become widely available in the past several years. This story discusses some of the challenges lighties face, and how LED can help to overcome these.

## The challenges

Heat is one of the biggest problems with conventional lighting. We've all seen performers sweating after even a brief stint on-stage under a hot lighting rig. Not only performers, but audiences feel

the effects of heat generated by lighting. Venues require cooling systems capable of countering this heat - such systems are costly both to install and run. Ultimately, what's being achieved is a lot of electricity is being turned into heat, and then even more electricity is being used to remove that heat.

Fixtures heat up quickly and cool down slowly. Delicate filaments in tungsten lamps are especially susceptible to damage when they're hot (ie; when they're being focused). Fixture heat can burn workers too, not to mention cause fires in the most extreme cases. Some venues impose OHS policies stating that no equipment running over a certain temperature may be on-stage. Some venues specify no floor lighting, since drapes drifting over low lights

has caused fires.

This sees tungsten and discharge fixtures prohibited from use, thus reducing the scope lighties have to be creative in their designs.

Power consumption ties in neatly with heat. There's a reason most decent sized lighting rigs run on 200A of Powerlock cable - it's because they need to. Poorly balanced loads can cause problems - both technically and financially. Some energy authorities will bill based upon the metering of the phase with the highest usage. Venue hirers typically wind up footing the bill for this power consumption - which is fair, but can be costly all the same. We live in a world where discussions of carbon credits, and carbon taxes are common. There's more pollution than ever before,

and the legacy we're leaving future generations looks a grim one. Whilst riding a pushbike to work is a great way to help the environment (CX supports Ride to Work day!), it's not quite as effective as chopping 100A off your show's power consumption. It's simple really – less power demand means less oil burnt, less pollution, and a better world tomorrow.

Noise can really kill the dramatic effect of a stage show. It can also reek havoc with broadcast audio in a TV studio. Fixtures which run hot need forced cooling – commonly this is done with cooling fans. While a single fan in a rig might not be noticeable, multiple this across a few dozen fixtures and all of a sudden it starts to become far more problematic.

I recently saw an excellent stage show, marred only by the noise of the lighting rig keeping its cool in the quiet parts of the show. The same thing happens in theatre – either way it's a major bummer.

Noise is not the only lighting problem to plague TV folk. Colour temperature is something nobody thinks about when looking at things through a set of eyes – our brains compensate for varying colour temperatures and figure out what things are supposed to look like. Cameras are not so smart – non matching colour temperatures stand out like dogs balls on screen. Once a camera is white balanced to a specific colour temperature that's fine, but electronically dimmed tungsten fixtures change colour temperature as they dim.


Intense colour is hard to achieve on traditional fixtures due to the fact they employ subtractive colour technology. You start with white light, then a gel is used to filter out every frequency of light except that of the colour you require. The stuff that gets filtered out is turned to heat in the gel. The lower the transmission of the gel, the more heat it will cop. So really dark gels like congo blue need to be replaced frequently – I've heard of gel changes happening during show intervals. Not only do you have the cost of a lot of gel, but then taking into account that these deep saturated colours allow so little light through and you start to realize



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that you need a lot of fixtures to provide enough colour. More expense.

Even with the amazing range of traditional fixtures on the market today, a lot of these challenges still exist. Not because the fixtures suck – most of what we see is excellent product. It's simply a function of the technology they're based upon.

A better way

I put an LED headlight on my bike recently. It's smaller and harder than its predecessor, uses less power, and converts more of it into light than heat. Professional LED lights yield the same benefits, but on a much greater scale.

To say that all LED fixtures run totally cold is wrong – they don't. For a while it looked as though that would be the case, but in recent times manufacturers have started to run their LED modules at higher levels and thus they now generate some appreciable heat. A couple of units actually generate quite a lot of heat, but the kicker is that they're much cooler than a conventional tungsten lamp capable of the same light output. The difference is that the heat comes off the back of the LED, and doesn't manifest itself in the beam. Most of the fixtures we've reviewed effectively run cold enough that even after several hours at full intensity you can still handle them safely. So LED brings definite savings in heat – how much will depend on the fixture but even small gains add up to significant ones when multiplied across many fixtures.

These gains in cooler operation mean that fewer forced cooling mechanisms are required – both in the fixture itself and in the venue. Implementation of LED fixtures pretty well guarantees an immediate drop in the noise floor of the lighting rig, and reduced energy requirements and cost of cooling the venue.

In the same way that a solid state guitar amplifier is more rugged than one based on vacuum tubes, so too are LED fixtures more likely to work when treated roughly than tungsten ones. Better reliability means less time spent on fault-finding and fixture repairs. Most fixtures these days are rated to run 50,000 hours (around 17 years at 8 hours a day, 365 days a year). Even after this time, many have replaceable LED modules and

## Problems with LED – or why everyone's not already using them

When plasma screens were initially released in Australia, they carried a pricetag of roughly \$1,000 per diagonal inch of screen size (Did you know that?). Now you can buy a 42" screen for under a grand, rather than \$42,000.

Technology becomes cheaper as it matures. Manufacturers find better ways to build things for less money, and LED fixtures are no exception – they're becoming more affordable as time passes.

But they still cost more than tungsten fixtures to buy. This initial high cost of ownership deters many people, as does the idea of investing in a technology which is not yet fully matured. We ran a financial profile on this in August last year – see CX62.

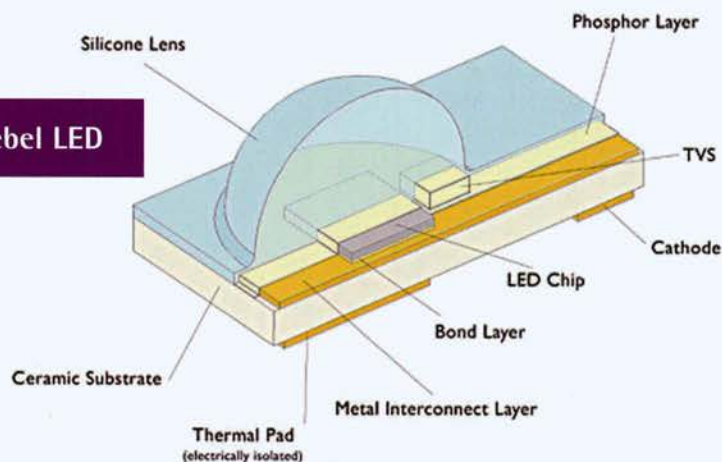
There's a constant fear that something better is around the corner, and will appear as soon as you've signed the \$50k purchase order. There is admittedly less of a danger of this with a tungsten fixture, but pause for a moment to think about who invented the incandescent filament based light bulb and how long ago it happened (Edison, 1879). Are you really going to wait another 100 years to put lights into your venue?

The LED fixture development cycle is a lot further advanced than many people believe. Manufacturers aren't dumb, and there's a good reason most of them are moving in the direction of LED.

Existing rental and venue owners are likely to balk at the cost of turning over their entire stock of convention fixtures to LED based units. Which is totally fair – for larger organizations this translates to a truckload of cash. The good news here is that it's not an all or nothing situation – advances in the technology mean LED fixtures are now "backward compatible" with their tungsten and discharge counterparts. In other words, a staggered changeover from tungsten to LED is now a realistic and easy option, where a couple of years back it would have been much harder.

LED fixtures can emulate many colour temperatures, and even the colour temperature change and dimming curves of tungsten fixtures. They even look like conventional fixtures in appearance. The only giveaway to the audience will be the lack of sweat they experience. Really, aside from the initial cost of ownership there are relatively few downsides to LED fixtures. LED droop and LED flicker are two of the common problems encountered with LED fixtures.

### Inside a Luxeon Rebel LED



as such are likely to satisfy even the most forward thinking consultant/investor/decision maker.

Most LED fixtures are remote controlled via DMX. This means they only require a hot power feed, rather than a dimmer circuit (plugging LED fixtures into a dimmer is a BAD idea!). Venues being newly commissioned can make significant savings on the installation of dimmer racks, patch bays,

and individual lighting circuits all have to run back to a dimmer room. Because LED fixtures require less power to operate, more fixtures can safely be run from a single circuit. How many depends on the fixtures used. So less copper is required to wire a venue, and that's a huge saving.

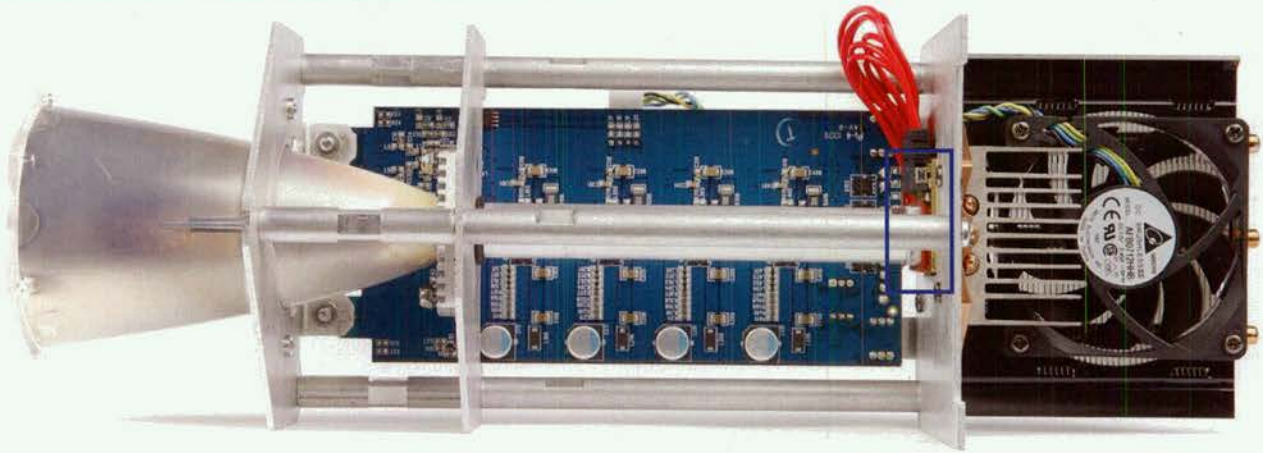
LED manufacture has advanced to the point that fixtures are now capable of rivaling their tungsten counterparts in

terms of colour accuracy. This is a big deal.

Many LED fixtures have variable colour temperature choices, and when you dim them the colour temperature remains constant. Which is also a big deal.

With a tungsten fixture, if you need to dim it down to a level then a suitable colour correction gel is required in order to bring its colour temperature back to match the rest of the rig. Dim an LED fixture, and

**VLX Wash "Engine" - LED chip is highlighted**



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the colour temperature remains the same – no correction gel required. Colour mixing and saturated colours are easier too. LEDs produce colour based on their construction, so an LED fixture just makes light in the required colour, rather than filtering out unwanted colour. There's no wastage, so it's more efficient.

## Tech stuff

LED fixtures are based on a new generation of LED modules – Cree, Luxeon, Lumious are some of the common brands. The actual light emitting part of these modules is bloody small – the module used in the VLX wash is 38mm<sup>2</sup>. Some modules have lenses mounted on the actual module, others rely on an external optical path. Modules can be single colour (such as the Luxeon Rebel), or multi colour.

Some fixtures employ both single and multi colour modules – they may use an RGB module plus a white module. Some fixtures use modules of up to 7 different colour to achieve super wide colour range.

Professional LED based fixtures typically work one of two ways. They have either individual coloured LED modules which emit light through a common lens. In other words, the multi coloured output of the chips is homogenized with the emitted beam of the fixture. Other fixtures do this internally – using a multicoloured LED chip, the output of which is homogenized in a collimating device. This happens before the beam is emitted from the fixture – so all you see looking into the lens is the desired colour rather than the RGB colour components required to make it. We call this LED module and collimating assembly an LED engine. All this happens before the light

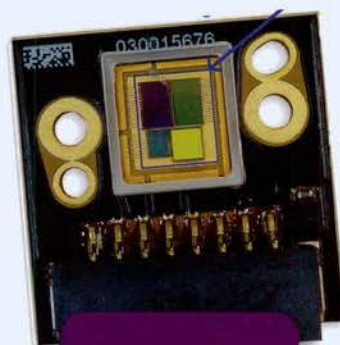
output hits the actual beam shaping optics of the fixture.

Just to further cloud the waters, some fixtures use more than one engine – the VLX Wash for instance uses seven 90W RGBW engines.

The advantage to the externally homogenized model is that it's a cheaper way to build the fixture. There are some excellent fixtures around which employ this model. There are also some horrible implementations – think back to the very early LED par can. If you can see LEDs and the PCB onto which they're mounted it's a good indication that the beam output of the fixture is likely to be poorly controlled.

An internally collimated lightsource on the other hand is more expensive, but does not exhibit multicoloured beam artifacts the same way as an externally homogenized source.

The physical construction of modern LEDs looks quite different from the kind you buy off the shelf at the local electronics store, but the reality is that it's basically the same. The real difference is that pro LEDs are mounted to a PCB with a heatsink on the back – this is so they can effectively



**RGBW  
LED CHIP**  
Doesn't look  
much like  
the LEDs  
we're used  
to seeing,  
does it?



## Conclusions

LED is good, and it's here to stay. It's a huge step forward in terms of making what we do more environmentally sound. The initial cost of ownership will eventually be defrayed by the long term cost savings. New venues stand to make greater gains with significant installation savings to be had in addition to cheaper running costs. LED is no longer just the domain of moving and effect lights. The technology has matured enough that we're starting to see widespread uptake.

Just remember that you do get what you pay for, so if the price seems to good to be true then it probably is. So will the lighting revolution be televised? It already has...

### Further Resources

Like to find out some more? Check out the following for additional tech info.

ETC has some great info about colour mixing on their website – [www.layersoflight.com](http://www.layersoflight.com)

Philips also has an excellent interactive demo on their site –

[http://www.lighting.philips.com.au/lightcommunity/trends/led/what\\_are\\_leds.wpd](http://www.lighting.philips.com.au/lightcommunity/trends/led/what_are_leds.wpd)

dissipate heat. Why? Because they need to. Since less of the small amount of heat generated is transmitted in the beam, it needs to go somewhere – so out the back it goes.

LED droop refers to the LED device losing intensity when it gets too hot. Good fixture manufacturers run their LED modules within the specified operating temperature ranges to avoid this. Most newer fixtures even have thermal management options to eliminate this problem. Some allow you to choose between brighter short term or more consistent long term output. Output is also tied in with the cooling system – if you have a fixture running in "quiet" mode you'll likely lose a bit of intensity from full output – usually somewhere around 10%.

Just to make this more confusing, measuring the brightness of LED fixtures is made difficult due to things like pulse based drive circuits, conflicting sampling windows, and a number of confusing terms like luminance and illuminance (which sound similar but carry different meanings).

Flicker is generally symptomatic of a cheap fixture, and if you can see it with

your eye it will be a hundred times worse on camera. It's caused by cheap components and poor control circuit design. Switching shutters at a different frequency (to the flicker) into the camera can sometimes combat the problem, but the better option is just not to buy junk fixtures to start with.



Luxeon Rebel LED



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# Find your way through...



## When is a lectern with two microphones a really bad idea?

**A**nswer: much of the time. See how you go with this test: which of the following is a good reason to have two spaced microphones on a lectern open at the same time? (a) To protect against failure. (b) To cover more than one person. (c) To cover a speaker who turns from side to side. (d) To look impressive with the client because multiple microphones sound better than one.

Answer: none of the above, with half points for (a). As soon as two microphones are separated by more than a fraction of a wavelength and electrically combined, you will get objectionable phasing effects. Let me put that another way: you WILL get objectionable phasing effects. It's an unavoidable outcome of the laws of physics which apply to waves of any sort.

I don't know why schools don't teach the laws of physics as related to microphones... or maybe they do, and nobody is listening.

There's only one perfect solution: don't use two mics simultaneously unless they are pretty much in exactly the same place. Use one or the other but not both.

You owe it to yourself to see how the physics works. <http://www.falstad.com/ripple/> has a brilliant downloadable simulation. You can drag point-sources together or apart, and you can see the interference pattern... which in sonic terms is what leads to sound that goes all squishy and phasey. Download the free app and play with the "two sources" and "double slit diffraction" if you dare. Both show what's going on when mikes get too

close.

Back to lecterns: if you have two microphones on a lectern, either tie them together so the talent can't stuff their own sound, or ride the gains so that only one is on at a time. You owe it to your audience.



## People who don't pay



**N**othing is worse than working for someone who doesn't pay. Especially if there's a trust relationship before you start. You know, like when you work for a person who is, or who has become, a friend. Maybe someone with whom you've shared good and bad times, weddings, parties, good gigs, bad gigs. There are some things that you forgive when you're working for someone you trust.

I'm not talking here about paying slowly. That happens sometimes, for all kinds of reasons. The cheque's in the mail. No, I'm talking about the one thing that is completely unforgivable under any circumstances, and that's lying about your ability to pay.

There's a goes-round/comes-round picture here, in which person A does the wrong thing to person B, and it ripples down the chain like dominos. And I've crewed for people who have been let down by their debtors, but who mortgaged their kid's inheritance rather than not pay a genuine invoice. That's honest. I'll walk on coals for those people.

But to one person who told me repeatedly that there was a few days of glitch and the money was on the way: I'm out of patience. I must be, to put this into a column in a national magazine where all your suppliers and some of your customers might ask me "who was that?". And what do I do... lie? Oh, no. That would be unforgivable.

When you book someone to do a gig, big or small, you've taken a responsibility to them and their families, and your standing in a small, small industry. If they do the work and you don't pay them, be ready to be written off by everyone who might have stood up for you.

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## What to do about burns

At the age when everyone else was learning to play cricket, my dad taught me how to solder... first with a very old soldering iron the size of a cattle prod, and then with a Scope. We all had Scope irons in those days, and they could get very, very hot. You learn by making mistakes, and in the early days I overheated my fingers rather frequently. Not badly, but I quickly learned also how to deal with burns, as a sort of unavoidable consequence of bad technique. The mira-

cle cure of the day was Butesin Picrate, a gunky yellow glop from a tube which made the pain vanish and did something magical which cleared up evidence of burning and scarring. I can't recommend it highly enough although it's apparently no longer available (disclaimer: YMMV, I am not a doctor, etc).

Over the holidays I burned my arm on a barbecue – there was actually one day in this year's Sydney summer when the temperature was warm enough to light

one – and I went on to prove conclusively that I don't know enough about burns. My thinking? Keep the area uncovered and let it dry out. Bzzzt.

If you burn yourself badly enough to cause nasty looking skin, get attention. I did, but a bit late. The Pharmacist's advice was to keep the burn covered and moist, preferably with one of those new expensive pads that doesn't stick, doesn't dry out, and doesn't let the burn get infected. Wish I'd known that at the time.



## Department of amusing observations

In a US airport restroom (where nobody goes to rest) the vending machine sells toothpaste, headache tablets, combs, and Alka Seltzer. In an Australian airport loo, the vending machine sells glow-in-the-dark condoms.

We Aussies have an interesting and practical perspective.

## CUE03 stake holder meetings

Finally, this month's education wind-up. IBSA, the organisation which owns and develops the Live Performance Training package, is doing a complete review of the units which relate to us in this industry. Live Performance. The so-called CUE03 package will be updated based on feedback from stakeholders, which (if you're reading this) probably includes you. Don't complain that nobody told you: go to <http://www.ibsa.org.au/news-and-projects/current-projects/12-20.aspx> and stay informed. Better: get involved.

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## THE PLANE LANDS,

you stand on the kerb and then... what? The US is a big place, and LA is a big town. Choose: waste your spare day sitting in a Denny's, or do some serious techno-spending. John Maizels takes on LALALand, and says...

# Let's Go Tech Shopping!

**O**n my last trip to the US, I set out to find some urgently needed bits which had proved impossible to get in Australia, but when the trip became a bit staccato (see CX67 for why) I left empty handed. In January, I was back with a mission, aiming to cover as much ground as possible in two days, and report back with the spoils. The mission was successful, although not in the one-stop way that I'd originally intended. No matter, because I found some neat places in the process.

Serious shopping is about nabbing the perfect purchase for a bargain price, but problem-solving in a strange town is about who-has-what, where they are, and what it takes to get there and back. Local knowledge is everything, as I found, and a bit of advance info can save much heartache. I'm a seasoned LA techshopper, so I figured I'd quickly find what I needed, zip in and out, and get on with the rest of my life. Somehow the universe knew you were watching, and played me like a classic Hollywood Road Movie.

So let's go over the script. Before you start doing anything in Los Angeles, there are some things you really need to get right. The name of the town is pronounced "LossAnjaLess" (it doesn't rhyme with ease, OK?). And the song is correct: "LA \*is\* a great big freeway. Prepare to get a car and drive, fortunately not as daunting as you might think. Learn the language: petrol is called "gas", and

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gas is called... "gas". Avoid downtown LA: there's not much there of interest and it's likely to be a big traffic jam. For that matter avoid rush hour, which is any time between 1AM and 11PM. Finally you'll need some decent picture ID, without which nobody will sell you anything on a credit card. Your passport or driver's licence will be fine.

In case it isn't painfully obvious: I'm a shopper. Even when I don't have anything to buy, I'll hang out in a mall and look at the shops, at stuff in the shops, at things that go with the stuff in the shops, and... you get the idea. Shopping is the thrill of the chase and the grab of a bargain. And with the Australian dollar at an all-time peak, a credit card can be made to go a long way in the US, where tech products might already be stupidly cheap.

My list of Oz unobtainables looked something like this:

- Brass stand adaptors (to match a European 3/8" mic clip to a US 5/8" stand).
- A four-conductor one-metre iPhone audio extension lead (TRRS plug to TRRS socket).
- A professional XLR microphone-to-iPhone adaptor.
- A cover for my iPad.
- A USB to XGA screen adaptor.

Why not try for all of those at an office store (eg: Staples = Officeworks), a discount store (Best Buy = Harvey Norman), a department store (Sears = Myer) or a hardware store (Home Depot = Bunnings)? That would be an exercise in disappointment. In every case, the US example on the left is like the Australian store on the right, except BIGGER. They're all fine stores for consumer electronics, but my list was way esoteric.

Except for the one Fry's Electronics which is close to LAX (more on that later), serious tech/gig shopping means you're going to hit the road and go 35 miles north or 40 miles south from the airport. 45 minutes plus freeway traffic is easily an \$80-100 cab ride so, unless you're loaded with cash and desperate to be ferried around, start by renting the car. Tip: check Priceline and Expedia for daily rates, which can vary wildly between mainstream renters. A one-day rental in February from Fox was under \$30 - that got me a midsize car for a day of hard driving: \$8 for the car, \$13 of one-off charges and \$9 to refill the tank after 180 miles. Bargain!

I tossed a coin and headed north towards Burbank, home to TV networks, movie studios, post houses, recording studios, and (surprise?) a heap of pro suppliers. Lesson 1: the Burbank/Hollywood area is a great place to find gigging supplies in a hurry. Unusually for LA, everything is close.

## One shop fits all

Fry's Electronics started life as a grocery store, and

it shows. My first Fry's experience, back in 1993, put me into overload. After 30 minutes my eyes locked into a wide open and oblivious gaze, a phenomenon now known in our household as "Fry's look". Fry's is just like any supermarket, except that you'd load your cart with an oscilloscope, PC memory, a fridge, telephones, stethoscope, DVDs, headphones, a food processor, lubricants, an electric drill, and printer paper. After you've bought your swag, you will be funnelled through a checkout line where you can also buy magazines, recording media, drinks, chewing gum and potato chips. Fry's in Burbank has over 100 checkout counters, although they tell me it's only that busy on Black Friday, the day after Thanksgiving (take note: a million times worse than our Boxing Day). Fry's staff aren't always as knowledgeable as you'd hope, but they work hard to be helpful, even after a long, long day. Fry's stays open late.

Every Fry's is uniquely themed, and it's worth going to different stores just to appreciate the decor. The Burbank Fry's is 1940's small-town America during an alien attack. Happens all the time. A space ship has crashed through the front of the store; the lobby area resembles a gas station, and check out the jeep which has been carved in two by a death ray. There is a massive flying saucer at the back of the store, bug-eyed-monsters in the rafters, and tentacles have come up through the concrete floor to support the computer department's benches. To really appreciate Fry's, you must check their website flyers and the newspaper print ads. You can buy most of what you need to support an electronics lab or set up a home hifi. Fry's is also great for PC component bargains (although the Thailand floods have decimated supply and the hard drive stocks are a bit thin).

It's worth checking Fry's shelves for stuff that has been returned. Such items are discounted, often steeply, but still covered by full warranty. I picked up a returned aluminium clamshell Bluetooth keyboard/case for the iPad (solving two problems and saving \$40), and an outer soft case made by Cygnett from Melbourne. Fry's didn't have the iPhone extension, but did have a prepack right-angle TRRS male to bare ended 2m cable. Ka-ching! The lead cost \$6, and I figured on finding a socket somewhere else.

## Music stores

There are two national music store chains in the US: Sam Ash and Guitar Center. You should visit both, and their Hollywood stores are conveniently across the road from each other. If you're after mainstream gigging stuff, either is likely to have what you want. You can find pretty much any known instrument (or spares for one), lighting, sound gear, and accessories. These shops tend to be very noisy. Expect to find six kids doing bad Chopsticks for every pro who can do a plausible Jimi. The staff don't pass judgement, and you don't need to feel embarrassed about picking/testing/playing/comparing. That said, standing next to a ten year old girl who casually channelled



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Micro Centre Shop



Guitar Central Keyboards



Sam Ash Torrence

Rachmaninov on an electric piano left me feeling somewhat inadequate.

The two music chains don't necessarily carry the same stock, and not all stores have all items. Don't be surprised if you have to shop around to find what you want. Look for items that are unique or not available elsewhere, like the Sam Ash house brand "Samson" which includes a range of value-priced condenser mikes, and their coloured popshields (in a five-pack of red/blue/green/yellow/purple, SM58-sized and occasionally called "clown noses"). Both chains do a roaring trade in second hand gear; completely unpredictable but bargains aren't unknown. Ask in the store if you're looking for something specific or special.

Expect the unexpected. Remember the XLR to iThingy adaptor? I thought I was chasing a cable, like the range made by Sescom. Guitar Center surprised me with a Tascam iXZ iPad Mic and Guitar Interface (connects a mic or guitar to an iThingy, supplies phantom power and manages headphones to boot). Serendipity. Good display worked for Guitar Center, and I bought the iXZ for \$50; you'll get a review in CX soon. Research also showed that Guitar Center have mic stand adaptors in their catalogue, but they didn't have any in the store. In any store, anywhere, as it turned out. Not so good.

Brett Arney is an Australian ex-rocker who has worked for Guitar Center for 17 years and currently manages the GC Sherman Oaks store. As only a neo-local can, he went out of his way to give me important where-to-find it tips, and as we became more animated his staff vainly attempted to understand native Ocker. Brett told me that if they don't have stock of a requested item, they are happy to source it from one of their distribution centres, or get it drop-shipped directly from the vendor. It's just a matter of giving them sufficient notice. Good advice.

Which of the two chains is right for you? Guitar Center claims to aim slightly more towards the pro end of the market, and Sam Ash a bit towards schools, but I think it's a fine distinction. My experience has been that Sam Ash staff are a bit more likely to take time with you, and a bit more knowledgeable, but again that's incredibly individual and depends on how busy the store is when you walk in. I had both exemplary and ordinary experiences at stores of both chains.

There are at least seven Sam Ash stores and eleven Guitar Center stores in the greater LA area. More than anything else, choice is really about who has what you want, and which store is close. But if you go for no other reason, visit the RockWalk at the Guitar Centre store on

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So let's take stock. I had 1.5 of two iPhone adaptors, no mic stand adaptors, and a covered iPad, and none of those purchases was as expected. Feeling vaguely successful, I headed off to the REAL electronics stores to backfill the gaps in the list.

## Saviour of the Roadies

Brett Arney had pointed me at Tour Supply, a specialist outfit in Burbank which provides full-service support for gigs ("Your One Stop Shop for the Touring Professional"). You can send them the rider and they'll fill it. Twenty seven 110 volt transformers? No problem. Another fifteen microphones? Sure. Two machine heads and a fremto nurgle dingler pickup? Stocked in the workshop. Emergency repairs to the amp and fretboard? Done onsite. Staffer Allen Moreno told me how, for one gig, Tour Supply was asked to find socks and coughdrops in a hurry and deliver. All in a day's work, although it does make you wonder what the artist was doing at the time. Tour Supply is nestled off a courtyard in a factory complex, surrounded by band rehearsal spaces. Like most US stores, their shopfront is totally bland but inside is friendly and they are happy for professional users to drop by and ask questions – if you can find them, then you've qualified as the customer that they want.

**SMILE A LOT**  
Tell them The Maiz sent you. It won't make any difference, but I'd appreciate the branding!

## The core bits shops

Pacific Radio Electronics is where you go if you're building an OB truck, and when you run out of patience with Fry's (which is just around the corner). Tools; wire in all colours and gauges; wallplates; audio, video and data connectors; premade leads; power distribution, fibre and batteries. I've never seen a stock of patchcords like they have... in fact, I don't even know another walk-in place that has bantam leads in quantity. They also have full size non-short tip-ring-sleeve jack leads in a range of colours. PacRad did have a Sescor iPhone TRRS

audio extension which was way expensive and stupidly short, so no deal! Bizarrely, they stock TRRS 2.5mm plugs and sockets (Huh?? Who uses those?) and 3.5mm TRRS plugs, but only panel-mount 3.5mm TRRS sockets. How frustrating is that? I bought a socket anyway to go with the Fry's lead, and picked up a rubber pad designed to protect the kitchen table while punching down a Krone keystone socket.

Electronic City Inc specialises in covert and overt surveillance gear. They carry a good range of components, including unetched PC Board (apparently there are people who do prototyping still) and a great range of power supplies.

Coast Recording Equipment Supply was the real find of the trip. They were my last ditch hope for mic-stand-adaptors. To get to their sales office you walk through the warehouse, which holds the most intriguing collection of audio gear I've seen for yonks: eight-track one-inch tape machines, broadcast consoles, amps, effects units, speakers, old microphones, outboard racks... you name it, they had it. Jerry Cabbage, President of CRES, explained that a big part of their business is provision of classic and historical gear for movie sets. Seems only yesterday that I was recording on an Ampex AG-440, so "historical" sounded a bit weird. CRES also have stock

of some hard-to-get items. Finally I can obtain dbx K9 cards that fit into Dolby CAT-22 slots. Jerry came through with the stand adaptors at an OK price, and then surprised me by having stock of earpads for Sony pro headphones. They sell the headphones too, and MD441/MD421 mic clips at below-unobtainium pricing. Good to know.

## Computer stuff

Micro Center specialises in all things IT, in a way that's bigger and better than the long-gone CompUSA. There's only one Micro Center store in LA, and it's 35 miles south of the airport but worth a look. Check their website for specials and bargains. I've purchased disk drives, tools, books and closeout items at Micro Center, and got my money's worth. If you go online, check the Refur-

bished and Clearance tabs on the website, but make sure first that you've selected the store nearest you. You can remotely order stuff for pickup, although closeout items have a way of hiding until you get to the store. Also they have strategically placed specials bins in the store, which are worth a rummage. Thanks to a total brain-fart, I forgot that I'd gone in to buy the USB screen adaptor and came out with an audio cable instead. Oh well. Next time.

## Other stores

I shouldn't wrap without mentioning some other worthwhile stops in passing. Harbor Freight is a low-cost tool outlet with stores all over the US... just none anywhere near LAX or Burbank. It's hard to go into Harbor Freight and come out with nothing, because their shelves are loaded with things you just have to have, at just-have-to-have prices.

If you need tools, nuts, bolts, nails, or building materials then you'll have to go to a Home Depot or Lowe's. If you need tools extra quickly, every Sears department store has a very respectable hardware section and most major malls sport a Sears. In the Torrance area, just south of LAX, there is a Sears Outlet store that has weird hardware stock, but yielded good quality \$10 shirts as backup stage blacks. And that outlet is right next to an Office Depot and a Sam Ash.

Finally, there is a Fry's less than 10 minutes by cab from the LAX terminal. It's the one with the Tiki Island Paradise theme, and you could easily kill an hour or two there, secure in the knowledge that no traffic jam could prevent you from getting back for the flight.

## All shopped out...

Here are a few last tips that will make your LA experience just that bit better.

Keep the receipt. Exchange and return is a way of life with the Yanks. Even if you come back six months later, your Australian accent and the legitimate claim that you weren't close enough to do the return in person will often convince a store to accept the goods if they are in original condition (or if they were broken, which is always valid)

KNX 1070 is your friend. That's the call-sign of the CBS All News (All The Time) AM

station. If there's one spot on the car radio dial you need to know, it's KNX. Learn to listen for the traffic reports every ten minutes, and check the web so you know what a "sigalert" is. It could save you hours on the freeway.

Research via the store websites. Some are good, some are crap, some are excellent reading. Familiarity will save you time.

Smile a lot, and trade on your accent. People still love us.

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Your US rental car has the wiper and indicator stalks reversed compared to here. You will, sooner or later, wash your windows at someone instead of indicating a turn.

Know the price. Do what the locals do: most stores will cut a deal if you ask about the "for-me" price.



Fry's  
Entry

"(name of store) near here" works well on Google maps.

Know your baggage allowance for the trip home, and don't pack tools in hand-carry.

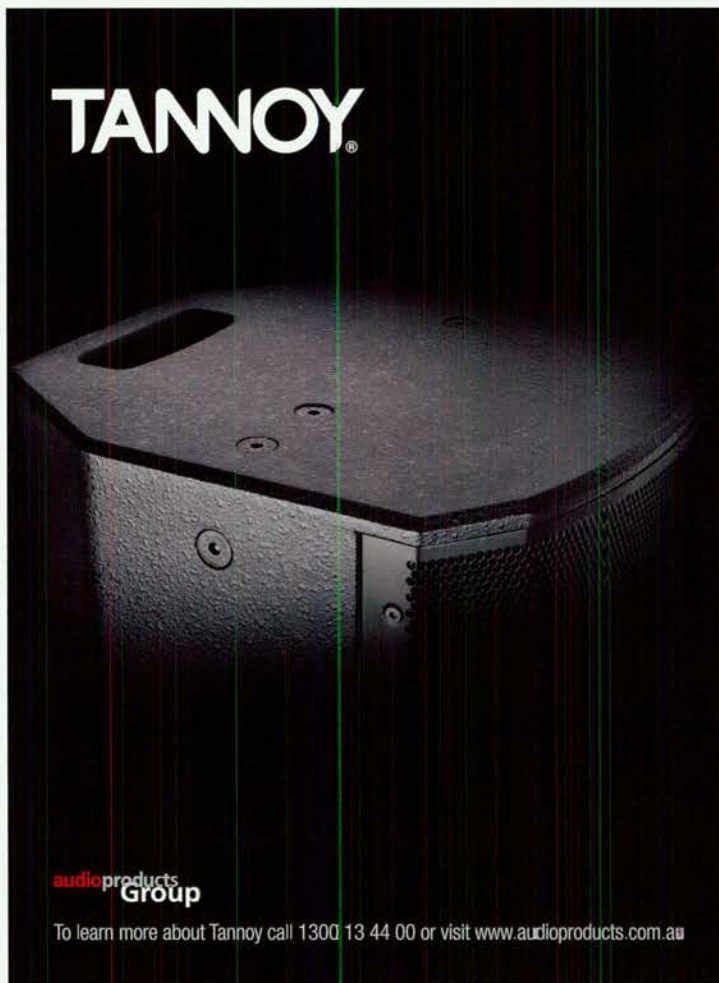
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## Atomos Ninja HD Recorder

We seem to be seeing more and more portable HD video kit. Enter the Ninja

By Jimmy Den-Ouden



For video of this GEARBOX review, click here in the interactive CX-E version of the magazine. If reading print, please visit [cx-tv.com](http://cx-tv.com) to find this review.

**T**he Ninja is yet another example of how a little time can make a world of difference in product development. It's an HD video recorder not much bigger than you hand, and fully loaded with batteries and a disk it weighs 900g. Yet it's surprisingly functional.

The Ninja is constructed from an aluminium casing. Nearly the entire front fascia is occupied by the colour touch screen, from which you control all functions on the device save for power. There's a power button on the right side, and all input and output connectors are on the left. The back panel is setup to hold a pair of batteries – they're actually the same type of battery as a Sony NP series. Good news for anyone who already owns some of those... Threaded inserts are mounted on the top and bottom of the casing allowing the unit to be mounted simply using common accessories.

Input to the unit is via HDMI only, and the Ninja can record audio embedded onto

the HDMI stream. Alternatively you can select analogue input for audio and use the stereo mini-jack inputs. The analogue inputs seem to prefer -10dBv signal level, with +4dBu signals peaking even when the input is fully attenuated. But as long as you understand this it's not a problem. A pair of LANC connectors allows remote operation, and a line/headphone output allows basic monitoring of audio. Both inputs can be simultaneously active for 4-channel recording.

The Ninja is supplied with nearly everything you need to record – you get a pair

of batteries, charger, and even a dock to plug the included drive caddies directly into your computer via Firewire 800, or USB 2 or 3. Twin caddies are also included, but you need to source your own drives. While they are basically just standard 2.5" laptop drives, it's important to check out the drive compatibility list on the Atomos website before purchase. Some drives have features like shock protection inbuilt, which make them a poor choice (the shock protection shuts the drive down momentarily!). You're not even stuck using a spinning disk – in high vibration environments you can choose an SSD instead to make sure that once you hit record, you're the only reason it will stop.

The whole Ninja kit arrives nicely packaged in a little plastic hard case, and is very well presented in general.

Video recording is done in Apple ProRes 422, LT, or HQ formats. This means that the recorded files can be dragged directly into a Final Cut Pro timeline with no transcoding required. This is a big timesaver, and

Brand: Atomos  
 Model: Ninja  
 RRP: \$1,100.00 inc GST – BYO drives  
 Product Info:  
[www.atomos.com](http://www.atomos.com)  
 Distributor:  
[www.corsairsolutions.com.au](http://www.corsairsolutions.com.au)

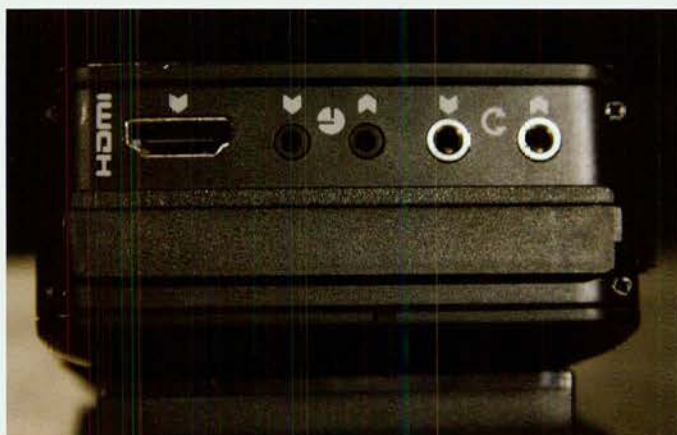
the manual even shows you how to do it with lots of screenshots.

Running only on batteries might seem a little odd, but the paired batteries mean the unit will start on slot 1, then when that gets low it will automatically switch over to the other battery slot. This allows replacement of the exhausted battery, and hence continuous recording. You need a battery in slot 1 to power up the unit.

Speaking of recording, that's very simple too. Once the unit powers up, you press the record button on screen. That's it. You can change the record format before you start, and there's also a monitor function to display incoming video on the touch screen so you know what's actually going to the disk.

Audio metering is basic at best – there are some on screen meters but they seem to have only 3 stages, the third of which is clip. Still, it's enough to be workable. The user manual is comprehensive and written in words you can understand without being an engineer, and the touch screen menu system has the same real-world feel to it.

Each time you start the recorder it opens



◀ Pair of LANC connectors allow remote op, both inputs can be active for 4 channels

a new file, and you can browse through these via the touch screen and play them back. Most users will likely just record their content then drop the disk into the caddy immediately. Recording is quick to start and once it's running not much will stop it except for the stop button. Powering the unit off requires you to hold the power button for 4 seconds, and the batteries lock in super tight to their slots. It seems like the HDMI cable being pulled out is about the only realistic point of failure, and if you mount it sensibly that's not

much of a problem either.

The Ninja certainly is a groovy little box. Since a lot of the gear we're now seeing includes HDMI output(s), it seems about time we accept it as a real transport format – the Ninja certainly does. The intended design of the thing is to hook it up directly to your HD camera and avoid the video compression that occurs on many internal camera-recording systems. While it certainly works well for that, it's not necessarily its only purpose in life. We're just trying to figure out how they make it for the price!

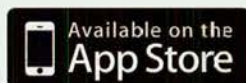


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# PRG Foton

## A different kind of LED fixture

By Jimmy Den-Ouden



For video of this GEARBOX review, click here in the interactive CX-E version of the magazine. If reading print, please visit [juliusmedia.com](http://juliusmedia.com) to find this review.

I asked the guys at PRG to send me over a Foton to review after I saw it on the website and thought it looked interesting.

Foton is an LED fixture. It's made from metal, and in appearance it resembles something which would have Denzel Washington calling for the bomb squad. The basic shape is a cylinder, with a large chunk of heatsink in the central section – more on this later. The front end looks in photos like it has a huge chunk of glass lens attached – this is in fact an optical illusion. The beam originates from a flat panel light source about the same size as your thumbnail, and is then controlled by swappable plastic reflectors.

Changing the reflector is pretty easy – just unscrew the front end of the housing and replace the reflector using a spring clip retainer to hold it in place. Our test unit came with 20, 30 and 60 degree reflectors, but you can get up to 120 degrees if you need it.

The light field varies in flatness depending on which lens you use, but the basic rule of thumb seems to be that the wider the beam, the flatter the light field. At 60 degrees, the output resembles that of a Fresnel. At 30 degrees there's a hint of a hotspot in the centre, but it's quite subtle. Output is stated

at 1000 Lumens, using less than 30 Watts. We pitted it against an 800W redhead and it didn't keep up, but at less than 1/24 the power consumption it did a lot better than we expected. There are AC and DC models available – the DC model we had used an external power supply, which connects via 4 pin XLR. Control is pretty simple – there's a switch to turn it on and off, and a potentiometer to dim it. Dimming is extremely smooth, and there's no flicker at all. The Foton also seems to go to much lower levels before the LEDs extinguish – it really is like dimming a tungsten fixture.

Being LED based and built like a tank, it's a fair assumption that you could deal the unit a more than fair share of abuse and it would still work exactly the same way. Weighing in at 1.3kg, you could easily case several units in a small Pelican case and carry it in one hand. Barndoors, gel frame and a filter tray

are also available. Being convection cooled, there is no fan noise at all. This however comes with a downside – Foton runs hot. Really hot. I left it on for a few hours then picked it up and discovered it was actually a bit too hot to touch. We're constantly extolling the virtues of LED – one of which is heat savings. With the Foton, these are minimal. LED life is quoted at 50,000 hours so given this and the heat, it's a fair assumption that there's some serious work going on inside.

Foton is hard to categorize. It doesn't move or change colour, so it's not an effect light. There's no external control capability on the DC model – so in that form it's not a theatre light either. So what is it good for? Colour reproduction is the short answer. The CRI on the fixture is 95+, the highest I can remember ever seeing on an LED fixture. Cinematographers and DOPs will love it. The dimming function doesn't affect the colour temperature; you simply get more or less illumination with the same colour accuracy. Daylight and tungsten models are available. It would also do really well as a photographic light.

In spite of sporting a burnt thumb thanks to it, I can't help but like the Foton. It oozes quality, both in construction and output.

**Brand:** PRG  
**Model:** TruColor Foton  
**RRP:** \$1,450.00 plus GST  
**Product Info:** [www.prg.com](http://www.prg.com)  
**Distributor:** [www.prg.com](http://www.prg.com)



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By Jimmy Den-Ouden



## DPA d:fine series headset microphones

With headset mics come certain challenges.

The d:fine range looks set to make the whole process a bit easier.



I never much liked using headset mics – at least not on stage. Yet for drama the idea of putting a performer on a handheld microphone really doesn't work, so headset it is.

DPA has been making microphones for some time, with their heritage being in measurement mics. This means tight manufacturing tolerances and exacting standards – translating in the real world to consistent, predictable frequency response.

The d:fine range of headset mics is available in three colours: black, flesh, and lime green (by special order). Pickup pattern choices are omnidirectional or cardioid. You can order the mics with suitable connectors to attach to a range of common RF belt packs, or with a phantom powered XLR adapter for use in fixed applications.

**Brand:** DPA  
**Model:** d:fine headset microphones  
**RRP:** \$799.00 inc GST for the cardioid, \$749.00 inc GST for the omnidirectional  
**Product Info:**  
[www.dpamicrophones.com](http://www.dpamicrophones.com)  
**Distributor:**  
[www.ambertech.com.au](http://www.ambertech.com.au)

The construction of the headset itself is a bit different from what we're used to seeing – it attaches over one ear, with a bendy rubberized hook which curves around the front part of the ear. There's no rear bar or hook for the opposing ear simply because there doesn't need to be – d:fine headsets weigh very little indeed. So it's a headset that has very low visual impact. The boom can be detached from its cable and spun around enabling easy use on either ear, as well as making replacement of a damaged cable an option (rather than the whole mic). Did I mention it also sounds nice?

It sounds really nice. The d:fine headsets have a smooth, and very full range frequency response. The cardioid model seems to achieve better vocal response in areas where ambient noise exists – it's also likely to have better feedback rejection

than the omni. I recorded my own voice using both the omni and cardioid mics (set at the same input gain) and then listened back. The directional mic has more overall level in general – it picks up what is needed rather than just everything. Listening back, you could easily be forgiven for thinking you were hearing a handheld mic. You can slide the mic boom back and forth in relation to the ear clip, so it's pretty easy to position it exactly where it needs to be.

There are some other nice touches to the d:fine range – starting with the case. Moving away from the low profile plastic cases, these mics are supplied in a rigid fabric covered zip-up case. The case has a holding plate to secure the mic, and the cable sits behind. The accessory pocket includes a range of multicoloured clip-on rings (enabling the mic to be identified), windsocks, and even a slip-on make-up cover. The idea is that the cover goes onto the mic before its user goes to make-up, then once this is done the cover is removed. Any mic will suffer if clogged up with face goo, and the DPA is no exception. Thankfully the makers have thought about it. Another example

## Omni versus Cardioid – why???

For a long time headset microphones have been omnidirectional. This works when you can't get the mic exactly where you want it – put it in the right vicinity and you'll pick up what you need. Problem is, you'll pick up every other noise around. This includes everything from crowds at footy stadiums through to cooling fans in moving light farms.

A cardioid mic picks up sound from a particular direction. So it follows that if you point the mic at the sound source (i.e.; the mouth of the person speaking), you'll pick up more of the sound you want and less background.

How well does it work? We did some in-house testing, using pink noise to simulate background noise floor. With no background noise both mics worked well, but once the pink noise was running the directional mic yielded significantly better results on speech than the omni did. So for optimizing your (wanted) signal to (unwanted) noise ratio on headset mics, cardioid seems like a win.

of this is the sweat stopper – a tiny clear plastic ring on the boom designed to stop drops of sweat reaching the capsule. The d:fine range is a perfect example of the old saying "you get what you pay for".



For video of this GEARBOX review, click here in the interactive CX-E version of the magazine. If reading print, please visit [juliusmedia.com](http://juliusmedia.com) to find this review.

# JANDS EZICOM INTERCOM SYSTEMS

– SIMPLE  
– RUGGED

The **NEW** Jands Ezicom systems are an evolution of the popular, easy to use and cost effective communications system. Intended for use in all stage and theatre productions, they are ideal for low and medium complexity systems and intended to be set up and used by untrained users while still delivering a professional performance.

### Rugged Design

The Ezicom range has been designed to be tough and is coupled with a robust, proven circuit design. This circuit design ensures high intelligibility meaning **NO BUZZ!** The E101 belt-pack comes in an extruded aluminium chassis with high impact injection moulded end caps ensuring it can take the bumps and bruises it gets when used every day.

### Simple Operation

We've simplified the front panel design to make the new Ezicom systems even easier to use. The E401 Master has a reduced control set to ease learning and minimise mistakes. Because there are fewer controls, they've been made bigger and are easier to find in a hurry, plus all controls are backlit so you can always see what you're pressing.

The remote mic disable facility and program input connector makes the stage manager's job easy

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**JANDS**

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# TASCAM DR-07mkII Handheld recorder

## Entry level price with pro features

By Jimmy Den-Ouden



Brand:  
Tascam  
Model:  
DR-07mkII  
RRP:  
\$299.00 inc GST  
Product Info:  
[www.tascam.com](http://www.tascam.com)  
Distributor:  
[www.cmi.com.au](http://www.cmi.com.au)



For video of this GEARBOX review, click here in the interactive CX-E version of the magazine. If reading print, please visit [juliusmedia.com](http://juliusmedia.com) to find this review.

**M**any readers will recognize Tascam as a tape machine company. This was true for a long time – even back to the days when reel-to-reel units were not only commonplace, but also the only option. Time has since marched on, and recognizing the need to keep up with it Tascam has shifted into digital gear.

The DR-07mkII is a handheld, 2 channel recorder with in-built microphones. Each mic rotates through 90 degrees, so you can have an open stereo pair or a tighter XY configuration. When you spin the mics, the recorder pops up a notification on-screen and asks you to confirm the config change with a button press. Recordings are stored to a microSD card, and the unit ships with a 2Gb card included. 2Gb buys you just over 2 hours record time at 24 bit 48k WAV.

A wide range of recording formats is available, from 44.1k to 96k WAV at 16 or 24 bit, as well as MP3 at anything from 32k through to 320k. Selecting record format

is pretty easy – all done via the on-screen menu system. The display is LCD backlit in gentle orange, which is not as nice as an OLED screen but is certainly functional and easy enough to read.

Recording with the DR-07mkII is dead simple. Switch to on, press record, and then press play to begin. Set record levels using the previous/next track keys while referring to the on-screen meters. When you're done, press stop. It really doesn't get much easier than this. I did some test recordings in the office, and even with some gain applied the noise floor seemed very low (I couldn't hear one). The stereo imaging is really nice – using simple internal mics the recorder yields great results. Other cute features include an inbuilt tuner as well as some basic reverb effects, which can be applied to the input or output. A small size mic stand thread is recessed into the case.

The unit will run on AA batteries, or you can power it via USB using the inbuilt mini USB connector and supplied cable. If the recorder loses power while running (I

simulated this by pulling the batteries) you end up with a zero file size – or in other words no recording. It may react better under real conditions and close the file when it detects a low battery.

When you connect the USB lead the recorder prompts you to select "Bus Power" or "Storage" mode. Choosing Storage mode sees the SD card inside the DR-07mkII appear just like a normal USB drive on your Mac or Windows computer. Transferring files happens at USB2.0 speeds, so you won't be waiting hours either.

There's an external mic input between the inbuilt mics – it's a mini jack capable of supplying "plug in power". I'd want an XLR or two if I were connecting external mics, but if that's what you're after look at the DR-40 instead (4 channels, XLR inputs).

But external mics isn't what the DR-07mkII is about. It's designed to be quick to setup and record with, using the internal mics. It's definitely all that, and retailing at under 300 bucks the price is certainly attractive.



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**Web streaming of live events** (New, from Nov CX 2011)

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The review hub of **CX-TV**. Channel manager **Jimmy Den Ouden**

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- Blackmagic Design Smart View Duo
- Blackmagic Hyperdeck Shuttle
- Christie MicroTiles
- Chroma Q
- Clay Paky Sharpy
- Clearcom DX210
- Coemar Ledko
- DVA line array d3 Technologies.
- EAW KF200 powered 3 way speaker
- ETC Fire and Ice LED
- ETC Source Four Fresnel
- EV DX46 digital loudspeaker processor
- EV RE320 mic
- EV X Live powered speaker
- HK Elements PA
- iPad Prompt-IT
- iPad Studio Live remote
- iPad switch
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- Martin Mac101
- Meyer-sound Constellation
- Panasonic AW HS 50A video switcher
- Perceptive Pixel AV touch screen
- Phonic PAA6
- Phonic Summit digital mixer
- ProTools 9
- Robe Robin 300 LED wash
- Roland M480 digital audio desk
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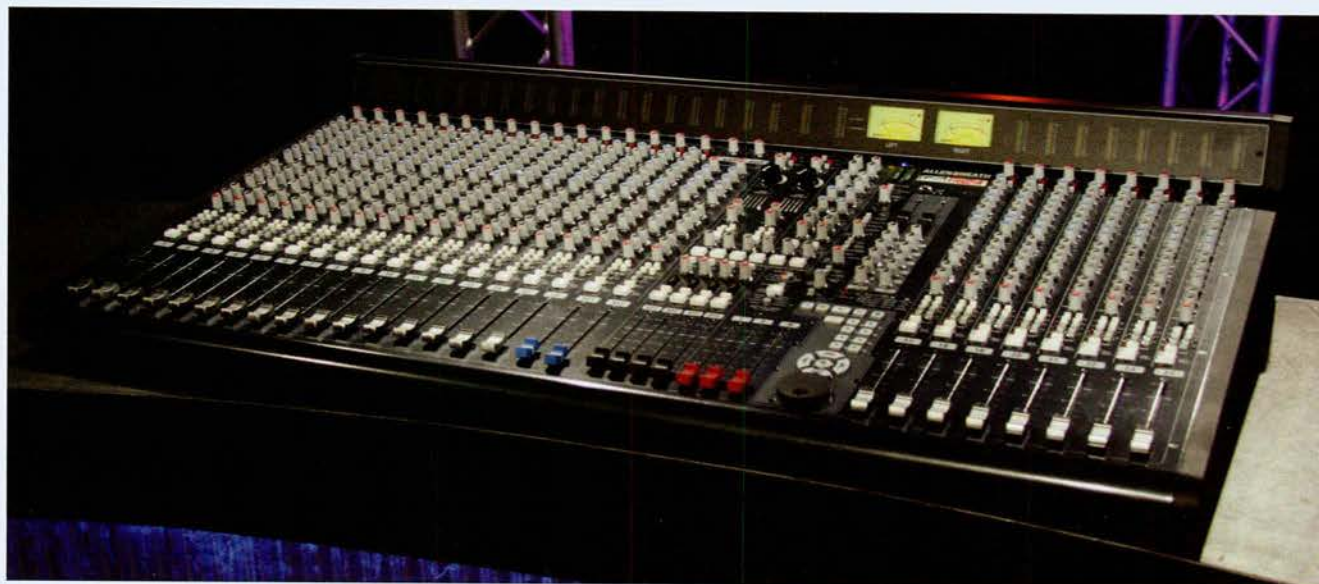
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By Jimmy Den-Ouden



# Allen & Heath GSR24M Console

## It's quite a lot of console....



**W**hen the GSR24M arrived at the office, my initial reaction was one of some surprise. "Gee, it's really big for 24 channels". Turns out it's designed for studio use, so with this in mind the size starts to seem less of an issue...

The GSR24M is fundamentally a 24 channel console – that is to say it has 24 fully featured mono mic channels (with EQ, aux sends, etc...). A lot of people will try to tell you that half a stereo channel is a valid contribution to channel count – really it's not. Stereo returns and such don't count – they're just gravy. "Retail channels" as one of my mates calls them.

The mono inputs have all the expected connectors – XLR for mic, TRS for line in, unbalanced insert, and direct outputs. The gain pots, EQ and aux section are reminiscent of the ML3000, though it's worth noting that the 4 band EQ includes 2 full parametric mids, the lower of which sweeps as low as 18Hz. The switchable HPF is fixed at 100Hz, which I think is more useful than the fairly common 80Hz variation. Line input, phantom power, and phase reverse switches



sit adjacent, but there is no input pad. Presumably you're expected to have XLR-TRS adapters if your line level sources originate on an XLR. You can send to 4 subgroups and 6 auxiliary busses, plus L/R and Mono. The auxiliary busses appear to be 2 pre, 2 globally switchable and 2 post, though it's actually not stated on the console.

4 stereo returns are included, and laid out in the same confusing fashion as they are on the MixWiz, ML, and other A&H consoles. They all work just fine, but it's unclear which controls correspond to what. There is also a pair of valve channels – these sit proudly amidst complete with Bakelite look knobs to control drive into the valve circuit. There's no EQ or aux capability on these channels, but if that's a problem I guess you could bounce them via mono channels using a cable to run direct out to line input.

Having used a live console for recording work, I can say that a decent control room section is more important than many users think. The GSR24M has this nicely wrapped out and includes an option to output 5.1 mixes, or have multiple pairs of monitor speakers connected (main and alternate).



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Solo can be PFL/AFL, and run in single, additive, or SIP modes. Channel mutes are standard A&H on/off pushbuttons. So far it all sounds pretty standard.

But not entirely. In an era where we're seeing internal power supplies become the norm, the GSR24M uses an external one. It links up with an umbilical to the console, and this is a good thing since it removes the noisiest part of the console circuitry from where all the audio is. In other words it lowers the noise floor of the desk, which is a good thing since a noise floor is not what most people are looking to record.

## Moto magic

Not that you'd realize it without doing some research, but the GSR24M actually has motorized channel faders. Thing is, you need to plug it into a computer to make them do anything. To do this, you'll require one of the expansion cards – there's 32 channel analogue card and a 32 channel digital card. Since the console already has direct outs all the analogue card will really do is save you some dough on connectors (it uses 2x D37 plugs), and give you midi in and out. The digital card is more interesting – it allows 32x32 digital routing in and out of the console to either Firewire, 4x ADAT Lightpipe port pairs, or a combination of these. You can clock the digital card externally via WordClock input, and it will run up to 96kHz on Firewire or 48k on ADAT. You also get MIDI ports in and out. What's all this good for?

Recording seems to be the obvious answer. You can route all your input signals to a recording device (ADAT Lightpipe or PC based), and record. You can then return these signals via the same connection and drop them back into the channel strips either pre EQ or post fader. The routing is really quite clever, and the users manual includes some good application diagrams to illustrate the differences. Each channel can be routed independently of its neighbours. With a little setup, the faders will track automated moves in your DAW, and it reciprocates by recording fader movements. Fader automation is setup via midi translation – so you

need a midi translator program to make it work. Once this is done, the GSR24M emulated a CM Labs MotoMix (3 times – banks of 8 faders). Midi control signals are fully documented in the users handbook, so if your DAW supports custom commands you could potentially bypass the translator step.

The console Solo keys can also be used as Select or Mute buttons in your DAW – just disable the Solo function on the console. There's a transport control built into the centre section of the console, and this also runs via midi commands into the DAW. These commands are one way only, so if you stop the DAW using the mouse or keyboard the play light on the console will remain illuminated.

## So how does it sound?

It sounds good. It's clean, the noise floor is very low, and you can smack the preamps ridiculously hard before they distort. Even when showing a peak on the channel meter the signal remained quite clean. The pop which occurs on the LR buss every time you assign or unassign from it is something I'm less than

kept on, but in the designed application this would be less of a problem. The valve inputs work, and multicolour LEDs show how hard you're driving the tubes. I was struggling to hear a significant difference with the drive circuit in, but then sometimes subtlety is a good thing. I happily record anything from rock to jazz on this console.

I worked in a venue many years ago where the previous tech had installed a digital board with lightpipe cards for recording. The GSR24M would have done the same job for about half the price, plus it would have felt a whole lot better to be mixing the gig on.

Without the digital card the GSR24M is a nice (pricey) 24 channel desk.

Once you add the card in, it really does have a lot of flexibility and allow you to record, mix, and control your recordings however suits you best.

**Brand:** Allen & Heath  
**Model:** GSR24M  
**RRP:** \$14,995.00 inc GST for the console, add \$1,195.00 for the digital card.  
**Product Info:** [www.allen-heath.com](http://www.allen-heath.com)  
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# ACETA NEWS

# aceta



**Australian Commercial & Entertainment  
Technologies Association**

## Every workplace needs skills

**T**he issue of having the right number of Australians with the right skills in the right places is an issue common to many industries at the moment. However unlike the mining industry the music and entertainment industry as part of the larger creative industries does not have the capacity to supplement our needs with fly in, fly out (FiFo) workers.

One of the key agenda points for ACETA is to develop a practical plan that will help secure for our industry the suitably skilled workers and professionals needed to meet future growth and demand.

The underlying problem is both one of supply and demand. On the supply side we have a skilled but aging technical workforce. People who were trained in our trades schools, technical institutes and through the likes of the Postmaster Generals Department (PMG, later Telstra), the ABC, Defence and others. Fundamentally, this was a workforce that had a strong engineering base and emerged through the growth in broadcast and telecommunications.

On the demand side the creative industries, of which music and the enter-

tainment industry play a significant part, continue to grow. According to the *Centre for International Economics*, the creative industries in Australia were valued at \$31 billion in 2007/8<sup>1</sup>. Arts Minister Simon Crean in launching the *National Cultural Policy Discussion Paper* late in 2011 spoke in similar terms and noted that, 'the creative industries were continuing to grow not just a little, but significantly'. To put that into context the creative industries while smaller than the mining or finance industries is *bigger* than our agricultural, communications, hospitalities and utilities industry outputs.

Furthermore data published by the United Nations Conference on Trade and Development forecasts creative industries growth is to continue, as it has over the past decade or more, at twice that rate of economy overall meaning that we will need to expand the existing workforce of more than 287,000<sup>3</sup> workers in the years to come.

So why is it the industry feels it is missing out on the kinds of people and skills it needs?

In part it comes from a shift in the training on offer. There are far fewer truly engineering based courses available and many, many more audio production style

courses available from both the universities and the private providers. The activities undertaken and the skills learned through these courses in the main doesn't match what takes place within the industry on a day to day basis. Lots of music production but not so much in the way of skills beyond running a digital audio workstation or selecting a microphone for recording. There is, no doubt, a mismatch between the types of skill developed in

an employability sense and industry need.

There are limited opportunities to address this. Fortunately, the current Creative Industries training package, known in education circles as CUE03 is being reviewed. The industry is currently rep-

**CUE03  
will be re-  
placed soon.  
Now is the  
time for all  
interested  
parties to get  
involved to re-  
frame training!**

resented in these discussions through the likes of John Maizel's of SMPTE and CX's own Julius Grafton amongst others. No doubt as a result of this review there will be some new or revised study units emerge but it is not likely to radically change the training package in the way the industry feels it needs in the short term.

We simply can't rely on others to do the heavy lifting for us. In this case the education bureaucracy, because we can't guarantee the outcomes. Nor can we suppose that we have the power to significantly shift the authorities from their plotted course. If through these consultations there is a shift in the structure of these courses a few degrees then we would have to consider that a success.

The reality of the situation is that if the industry wants to positively influence the next generation of workers then it needs to be at the forefront of their development.

**How can this be achieved? Well it will require some effort but the implementation of the following would go a long way.**

- Proactive promotion of the industry and the opportunities that lie within (industry growth, potential international career, convergence with T, a life style choice)
- Broad-based support for an industry accreditation scheme (many other technology reliant industries have their own) coupled with;
- A recognition and reward system for those participating
- Co-operation with the education providers in this area (they are easy enough to locate and identify) fol-

lowed by;

- Direct interaction with students from certificate through to degree level
- A program of Industry internships
- Employment/training bureau

ACETA is beginning to develop its response to the issue of not having 'the right kinds of people coming to our industry'.

Not all of the above can be rolled out quickly or easily in support of industry needs and much of the above requires genuine industry support and involvement if it is to have any impact.

Nonetheless in the coming weeks the ACETA Education and Workplace Skills action plan will start to put some flesh on these bones as we launch the first of our initiatives in this area for 2012.

<sup>1</sup> and 3 Creative Industries Economic Analysis, Centre for International Economics (2009)

<sup>2</sup> United Nations Conference on Trade and Development (2009)

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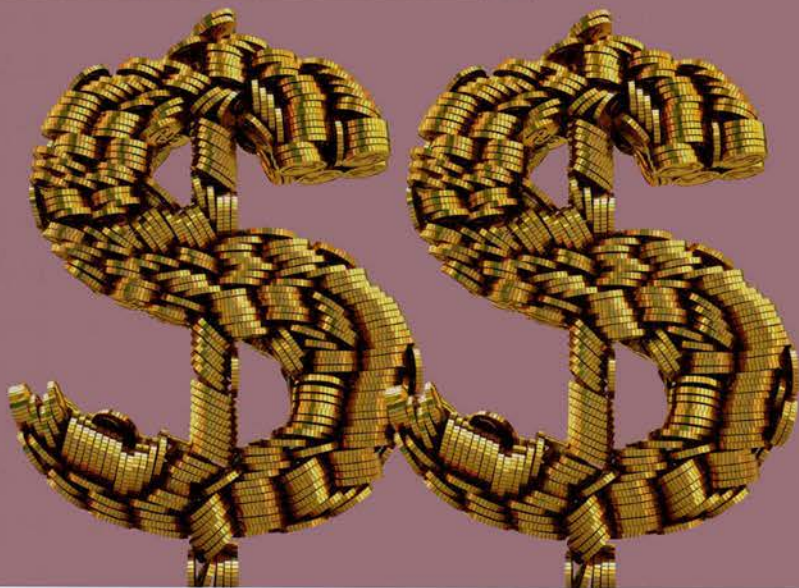
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# Getting Paid

part 1



By Paul Matthews

**O**K so you've got the van all kitted out, you're doing it right, the phone has been ringing and the schedule's full. After installing fire alarms for someone else for twelve years your dream has finally come true. You're self employed, the money's rolling in and you're thinking about putting on some staff.

Before you let the little empire take off let's stop for a bit and consider why you're here. "Because I'm my own boss" might be the reason you cut free from the old grinder – but in the end your little business venture is just that. A business. And business is about MAKING MONEY.

Let's get something straight first up. If you're not good at money and sums then running a business (no matter what size) is NOT for you. If you're lousy at tax and loans then the temptation will be to get an accountant to handle your money. This is one of the biggest mistakes that all small contractors make when starting a business. If you can't read and understand all three sections of the tax pack then business is NOT for you!

The only way to know if you're making money is to handle it yourself. Otherwise you very quickly lose track of what's coming in and what's going out – and how much your business costs to run. It's the little nitty gritty things that count. Knowing exactly where your money comes from and where it's going every month will give you the edge over the other guys. Your quotes will be sharper – meaning you will get more jobs. Your margins will be fatter.

**... BUT IN THE END your little business venture is just that. A business. And business is about MAKING MONEY.**

Even if the jobs are cheaper, you're making more.

At the end of the year, PROFIT is equal to whatever you're paid less whatever you have had to pay to get the work done. If you want to make more profit then you either have to charge more, or pay less for your supplies and labour. The sweet spot in any business is to charge the maximum your customers are willing to pay whilst paying as little as possible for the stuff you need to make it happen.

Your ability to charge more will be governed by how good your customers think you are. People will pay a premium for excellent, reliable service. Charging top rates will be limited by your customers' ability to afford you – and of course how much your competition is charging – if there is any out there.

It is common in contracting circles today for lazy estimators to quote on a "last job plus" basis. Instead of going to the trouble of studying a set of plans for an install

and adding up all the materials and labour needed to complete it, some contractors simply take a quick "gloss over" the spec to get an idea of the size of the job. In some gross cases they only consider basic figures like floor space. They then go back into their records, pull the actual figures from a previous similar install already completed, add a small margin for inflation (typically 3%) and then quote the result to the client.

It's a good system in boom times but falls like a pack of cards when things slow down. If you do this, over time you will find you are being undercut by other smaller contractors who still take the time to do detailed estimations. A while later you're barely surviving – sweating on the final payment from the last job in order to pay for materials to start the next. All it takes is one hit – such as a delayed payment or a job stalling that you thought was going to start – and it's all over red rover!

Early on in your business, take the time to establish your own price lists, preferred product lines and standard labour charges for common tasks. Update them annually. Always fully estimate jobs – and then use a "last job plus" figure as a "check sum" to see if you have come in anywhere near where you think you should be. Keep in mind your customer's ability to pay. Your aim should always be to present the customer with the lowest quote possible because then YOU will most likely get the job. You can't make ANY money or rely on "word of mouth" if you don't have any customers!

For most tradies the fattest margins are always to be realised by making sure you pay LESS for the things that you need to run your business. Labour costs are fairly static. A grade 3 Electrical worker is going to get paid more or less the same hourly rate regardless of whether he works for you or your competition. So when it comes to contracting, your ability to save money on labour costs are somewhat restricted. Hire unqualified workers at your peril, if you enjoy call backs and doing jobs twice.

There's lots of other things you can do to get the things you need by paying less. The most obvious one (which the big boys know well) is to buy in bulk. Is there really any need to offer 43 different amplifier or speaker models to your clients? Could you be served better by finding a "one size fits all" model, screwing the price right down with the supplier and then buying a truckload which will then last you for the next 12 months and go into practically every job? YES!

WHERE are the bulk of your customers and jobs located? Is there really any need to pay \$4300 per week for that factory unit only 10 minutes' drive from the airport? Or might your needs be better served at \$800 per week on the city's outskirts? In most cities the average driving time between jobs is much the same regardless of where you're located. Basing on "the fringe" often also puts you closer to your workforce meaning you can attract better workers for less than you might have to pay them in the middle of the city.

It's these kind of decisions that can give your business "the edge" when it comes to quoting. If your costs are lower then your quotes can be lower but your profit remains the same (or if your lucky, even increases). But you won't know any of this if you get an accountant to do it all for you - because you won't understand which bits of your business are making money and which ones are losing it.

If you must - handle all your monthlies yourself, prepare your own annuals and then hand the lot to an accountant to check over and create a final balance sheet before submitting your own tax return.

If you're going to be in business then remember that regardless of how you feel about turning up for work each day you're there for one reason and one reason only - to make money. And if that's not your aim, then best go back to working for the man.

Fast.

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<p><b>Australian Health Directory</b>            W: www.healthdirectory.com.au</p> <p><b>JIGSAW</b>            Community Services Database            Online database of geographical community services            W: www.crisissupport.org.au/jigsaw</p> <p><b>National Aged Care Info Line</b> ☎            (8.30am-5pm Mon-Fri excl. National public holidays)            T: 1800 500 555            W: www.health.gov.au</p> <p><b>Salvo Care Line</b> ☎            T: 1300 36 36 22 (24/7)            W: www.salvo.org.au</p> <p><b>Seniors Portal</b>            W: www.seniors.gov.au</p> <p><b>Entertainment Assist</b> provides crisis support, preventative assistance &amp; education programs for Australian entertainers &amp; back stage people. Tax deductible donations to Entertainment Assist allow us to continue providing critical services to entertainment industry people. Discover ways you can donate to Entertainment Assist by visiting:  <a href="http://www.entertainmentassist.org.au">www.entertainmentassist.org.au</a></p>	<p><b>Emergency</b> ☎            Police Fire and Ambulance            T: 000 (24/7)</p> <p><b>Kids Helpline</b> ☎            T: 1800 55 1800 (24/7)            W: www.kidshelp.com.au</p> <p><b>Lifeline</b> ☎            T: 13 11 14 (24/7)            W: www.lifeline.org.au</p> <p><b>MensLine Australia</b> ☎            T: 1300 78 99 78 (24/7)            W: www.mensline.org.au</p> <p><b>Salvo Crisis Line</b> ☎            T: 1300 36 36 22 (24/7)</p> <p><b>Suicide Call Back Service</b> ☎            T: 1300 659 467 (24/7)            W: www.suicidecallbackservice.org.au</p> <p><b>ENTERTAINMENT ASSIST</b>  <a href="http://www.entertainmentassist.org.au">www.entertainmentassist.org.au</a></p>	<p><b>HELP</b>  <b>VIP ACCESS ALL AREAS</b>  <b>NATIONAL SUPPORT SERVICES DIRECTORY</b></p> <p>Before times get tough, talk to someone or ask for help  <a href="http://www.help.org">www.help.org</a></p>	<p><b>Headspace National</b> ☎            W: www.headspace.org.au</p> <p><b>Reach Out</b> ☎            W: www.reachout.com.au</p> <p><b>Beyond Blue</b> ☎            The National Depression Initiative            W: www.beyondblue.org.au</p> <p><b>Care's Australia</b> ☎            Carer Advisory &amp; Counselling Service            T: 1800 242 636 (8.30am-4.30pm)</p> <p><b>Counselling Online</b> ☎☎            Alcohol &amp; Drug related concerns            T: 1800 888 236 (24/7)            W: www.counsellingonline.org.au</p> <p><b>Life Circle Australia</b> ☎            People diagnosed with serious illness &amp; their carers            T: 1300 364 673 (24/7)</p> <p><b>Sane Helpline</b> ☎            T: 1800 18 SA NE (7263) (8am-5pm Mon-Fri)            W: www.sane.org</p>	<p><b>National Children's &amp; Youth Law Centre</b> ☎            W: www.lawstuff.org.au/lawstuff</p> <p><b>Centrelink</b> ☎ (8am-5pm)            Employment Services T: 13 2850            Youth &amp; Student Services T: 13 24 90            W: www.centrelink.gov.au</p> <p><b>Centrelink</b> ☎ (8am-5pm)            Disability, Sickness &amp; Carers T: 13 2717            Employment Services T: 13 2850            Family Assistance Office T: 13 6150 (8am-5pm)            Seniors T: 13 2300            W: www.centrelink.gov.au</p> <p><b>National Gambling Helpline</b> ☎☎            T: 1800 858 858 (24/7)            W: www.gamblinghelpline.org.au</p> <p><b>National Legal Aid</b> ☎            W: www.nla.aust.net.au</p> <p><b>LEGEND</b>            ☎ Crisis Support &amp; Suicide Prevention            ☎ Telephone Counselling            ☎ Information &amp; Referral service            ☎ Online Counselling            ☎ Face to Face Counselling</p>	<p><b>Kids Helpline</b> ☎            T: 1800 55 1800 (24/7)            W: www.kidshelp.com.au</p> <p><b>The Line</b> ☎            T: 1800 200 526 (24/7)            W: www.theeline.gov.au</p> <p><b>1800 RESPECT</b> ☎            Sexual assault, domestic &amp; family violence            T: 1800 RESPECT (1800 737 732) (24/7)            W: www.1800respect.org.au</p> <p><b>Al-Anon Family Groups Aust</b> ☎            Hope &amp; help for families &amp; friends of alcoholics            T: 1300 252 666 (8am-5pm)            W: www.al-anon.austern.org/australia</p> <p><b>Alcoholics Anonymous</b> ☎            W: www.aa.org.au</p> <p><b>Relationships Australia</b> ☎☎            T: 1300 364 277 (8am-5pm)            W: www.relationships.com.au</p> <p><b>Family Relationships Advice Line</b> ☎            T: 1800 050 321            (8am-5pm Mon-Fri, 10am-4pm Sat except Public Holidays)            W: www.familyrelationships.gov.au</p>

types of adapter connectors on it, so I wasn't too optimistic.

And that was it. My setup work was done! The gig went pretty well, all things considered. The compere was a chunky woman who told the filthiest jokes I have ever heard. I wish I'd written some of them down for later, but I was too busy wetting myself laughing. The drag queens looked (and sounded) like exquisitely dressed truckies in evening gowns, miming to 'I Will Survive' and similar ditties, and were very, very popular.

Sadly (for me) the Dykes on Bikes turned out not to be lipstick and Lycra Lesbians but a bunch of solidly built ladies wearing leathers and riding Harley Davidsons. Ah, the band had quad boxes with Marshall heads on top. One was a 100 watt plexi, the other a 200 watt, so in reality there was no need to mic them up. The bass player had a 200w Ampex, and the drummer had the loudest kick and snare I had ever heard, so doing any mixing up would only have sent the speaker cones in the PA leaping into the audience on the first couple of beats.

So I setup one mic for the lead singer, and placed the working wedge in front of it for her. I put the spare mic on a stand for the guitarist who did backing vocals, and optimistically put the non-working wedge in front of him as well, just in case it came good by itself! Its lead had three different types of adapter connectors on it, so I wasn't

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won't let us mic up the drums anyway, so you might not need them all."

"I might not need all four of them?" My sarcasm dribbled away unheard.

"Perhaps I'd better mix from the side of the stage," I suggested.

"Yes," she agreed, "but as you can see it's a bit narrow on stage. You'll probably better off mixing from the back of the stage, in the changing room, behind this curtain. Oh, and we'll need to keep one mic free for the compere."

"Hang on - who gets changed in the changing room?" I queried.

"The drag queens of course. They'll be getting dressed here and will go past you to get on stage." She looked sternly at me "Don't upset them!"

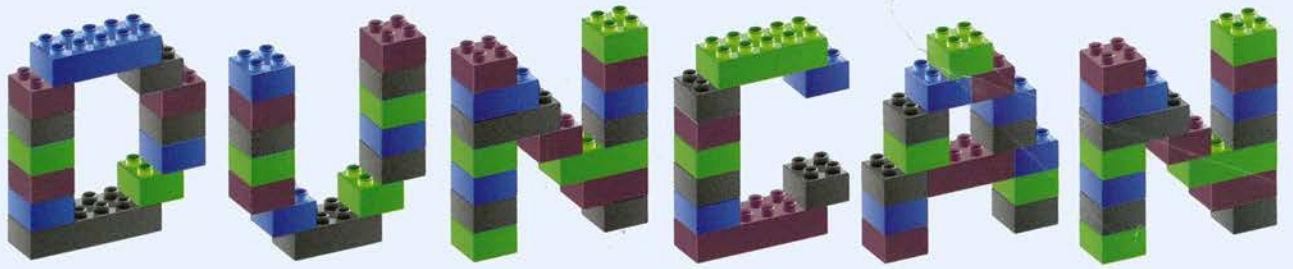
"Right - let me see if I've got this straight. I won't be able to see the band, and I won't be able to hear them either, and in reality I can only run a couple of vocal mics anyway, but this is what I have to mix with and deliver a good sound to the audience, in between the drag queens pushing me out of the way. Is that right?"

"Yes, that's right," she agreed.

"You don't get many bands playing here, do you?" I asked.

"No, mainly acoustic duos and solo artists." She looked at her watch. "Gosh look at the time - I've got to get back to the bar. Oh, and one more thing - you'll need one of





FRY



# Dykes on Bikes

The sisters are doing it for themselves

© 2012 Duncan Fry

**T**o read the pages of CX it would be easy to think that in these days of digital mixers, powered speakers, condenser vocal mics and other innovations that the standard of live sound production has improved somewhat.

In some places it must have: just not at the grass roots end of the business.

I had a call the other week from a girl singer I had worked with a couple of times before, asking if I could mix for her band at a function that Friday.

"Sure," I replied, flicking through the diary. "I don't have anything on that night so it'll be fine. Where is it?"

The gig turned out to be at the Raw Prawn and Sausage, an inner urban hotel that was a fairly easy drive from my place and with ample parking. A rarity these days, that's for sure.

"What about the system?" I asked. "Will I need to bring anything?"

"Don't worry," she assured me, "they say they've got a good house system, plus a couple of powered wedges, and a heap of mics. We're booked to do an early set, then there'll be some other acts, and then we'll do another about an hour or so later. We'll need to get there early to set up and do a line check at least, so how about I meet you there at 7 for an 8 o'clock start?"

It sounded too easy.

"Will the other acts be using the system?" I enquired.

"Not really," she replied "they're solo

artists – as long as there's a microphone and they can play a backing track it'll be fine. It'll be a nice cruisey gig for you."

It sounded too good to be true, and as it turned out, it was! I had one last question.

"What's the function?"

"It's a fundraiser for a girls' bike club – the Dykes on Bikes! See ya there." And then she was gone.

So, a gay girls' bike club, then. Sounded good. Perhaps they would be those stunning svelte women in skin tight Lycra

Here's a short list:

We did have a 12 channel mixer so that gets a tick. However, 8 of them were stereo channels – so we had a grand total of four mic channels for the whole band!

I guess that was OK, because it turned out we only had four microphones anyway! Which matched up well with the four mic leads.

"Where's the mix position?" I asked the very helpful girl who was showing me the setup.

***"LET ME SEE IF I'VE GOT THIS STRAIGHT. I won't be able to see the band, and I won't be able to hear them either, and in reality I can only run a couple of vocal mics anyway, but this is what I have to mix with and deliver a good sound...."***

who pedal up and down Beach Road in Melbourne, breaking men's hearts as they go. Lipstick lesbians, someone had called them. Maybe the gig would be full of girls like that. That wouldn't be too hard on the eye, would it? I was starting to look forward to the gig already!

Friday came, and I arrived at the pub at 6.30, to check out everything before the band got there. Forewarned is forearmed, they say, and it's good to make sure there are no surprises.

And 'surprise surprise,' as Gomer Pyle would say, there were a few.

"Well, we often mix from the DJ console," she replied, pointing down to the end of the room. "If you like I can take the mixer down there."

"You've got a multicore then?" I asked

"Oh yes," she said. Then her face fell. "Ah, but it stops halfway!" Then her face brightened again. "But you could extend it with a couple of the mic leads."

"But then we'd only have 2 mics." I said.

"Hmm, yes, that's true. But the council

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