



MONTHLY TECH NEWS

CX120 NOV 2016  
\$7.50 AU

**+**  
**ICTech  
goes on tour**

Small but popular,  
baby AV show is born

Clay Paky's  
CP Nights:

**Lights and colour**  
Across the land **+**

**Australian  
Monitor Rebooted** **+**  
Hills back house brand

**AES in LA** **+**  
an audio journey

**> NEWS:**

- Ben Alcott loses UK case
- Mad IT guy smashes system
- Survey: crew are suicidal addicts

**> REGULARS:**

- The Mill Report
- Listen Here
- New Gear
- History
- Biz Talk
- ACETA
- Duncan Fry

**> GEARBOX:**

- Robe Spikie
- Sennheiser Speechline Digital Wireless
- JBL EON 208P Portable PA
- Rush MH 8 Mini Profile

**> ROADSKILLS:**

- Bring Me The Horizon
- Big Scary
- Vera Blue



**STAGE**



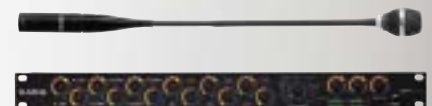
**WIRELESS**



**STUDIO**



**HEADPHONES**



**INSTALL**

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Presents:

# ENTTECH

## ROADSHOW 2017

**Sydney  
Tuesday  
7 Feb**

Royal Randwick,  
new convention  
facility

**Brisbane  
Thursday  
9 Feb**

Royal ICC at RNA,  
Brisbane

**Melbourne  
Tuesday  
14 Feb**

Melbourne Park  
Function Centre

**Adelaide  
Thursday  
16 Feb**

Adelaide  
Convention Centre

**Perth  
Tuesday  
21 Feb**

Crown  
Burswood

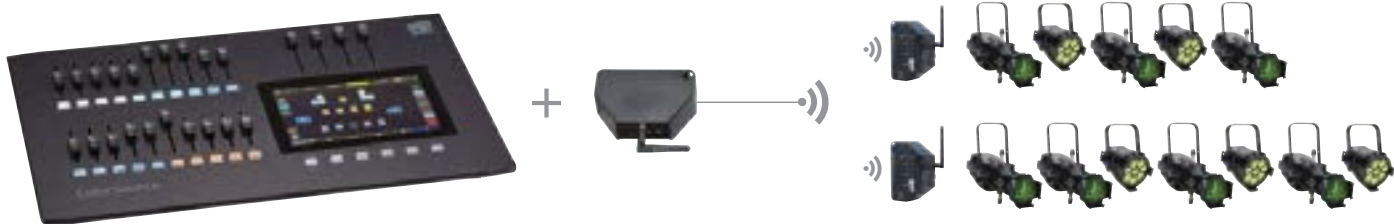
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***“I refuse to become a  
victim of bad LED lighting”***

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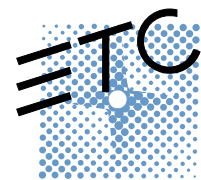
With a range of affordable RGB-L luminaires that provide high-quality light and colour, a wireless relay system that makes distribution easy, and control consoles that mix colours and run multimedia effects with the flick of a fader, a ColorSource system gives you everything you need to light your venue – with style.

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Toured their lively show around Australia



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• Cover photo by Tony Lukeman



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## Ben Alcott Story

What do we publish and what do we walk away from? The story broke in the UK where the press were all over Ben Alcott. We've reported on his case against his former partner who he says abducted their child from Australia. The story is on page 8. Ben is well known in the industry.

We posted this comment on our FB page after someone asked about the relevance of the story: *The UK press reports were one sided so we decided to talk to Ben to get his side of the story. He volunteered the info, in the hope one day his son will get both sides of the story.*

Ben replied: *In fairness and in the interests of transparency, I only "volunteered" the info after it became clear you were going to run the story against my wishes, and regardless of what was right and proper. I was contacted by email on Saturday telling me that you were going to run the story; I responded by email questioning why you'd ever want to give this story an airing in the first place (as it seems to have little to do with the Australian production industry).*

He continues: *We subsequently spoke over the telephone, and I once again questioned (four separate times, as Julius pointed out to me) why you'd want to run this story that clearly has no relation to the industry, but rather seems to be just salacious gossip mongering. As Julius pointed out, it "wasn't a debate" and he was going to*

*run the story regardless, so I could either provide my input or not.*

*Its also interesting to note you've chosen the headline "Ben Alcott loses UK court case" - surely, if anything, the story is about my child's removal from Australia and the effect of that, rather than "losing" a court case - how about "losing a child"? Anyway, I don't want this whole issue to succumb to the "Streisand Effect", so I'll leave it there - but I'd like it to be on the record that I would have much preferred to not have this "story" published at all, and I expressed this multiple times to you, both in writing and over the phone. It's a shame that my very personal tragedy was seen fit to be used as click bait.*

## 26 years of deadlines

This month 26 years ago I was working on edition one of Channels. Our History page that Dan Cole has curated shows the journey, and some of the extreme changes that have come with time. One of them is the internet, which was a distant concept in 1990. We relied on faxes.

I had a mobile phone that was in two (connected) parts, sized like a handbag. I took photos on black and white slide film, waited two days for it to be developed and then took the slides to be scanned at a reprographics bureau. The magazine was imposed onto film, from which printing plates were made. We used Pagemaker 4 software on a Mac II

CX with a 20mB hard drive. Woah!

To transfer files, we loaded them onto a Magneto Optical cartridge and drove across town. Compuserve offered an email service which we accessed using a dial up modem. Text was the only thing we could email. Through the 1990's we spent huge amounts on hardware and software as technology improved.

Now my pocket iPhone contains about 1,000 times the processing power and connects me direct to the world. The differences and changes over 26 years are simply staggering.

But the constant thing keeping us here is that we can tell a story. Over at [cxnetwork.com.au](http://cxnetwork.com.au) you can now download and read ALL our back issues, except these missing editions. **Do you have any of these? If so, please contact us!**

Connections #5, June/July 1993

Connections #17, Sept (and Oct) 1994

Connections #24, June/July 1995

Connections #28, Nov 1995

Connections #32, April 1996

Connections #73, Feb 2000

Connections #77, June 2000

Connections #82, Nov 2000

*Julius Grafton*  
CX Magazine

# CX November 120 2016 Volume III (+)

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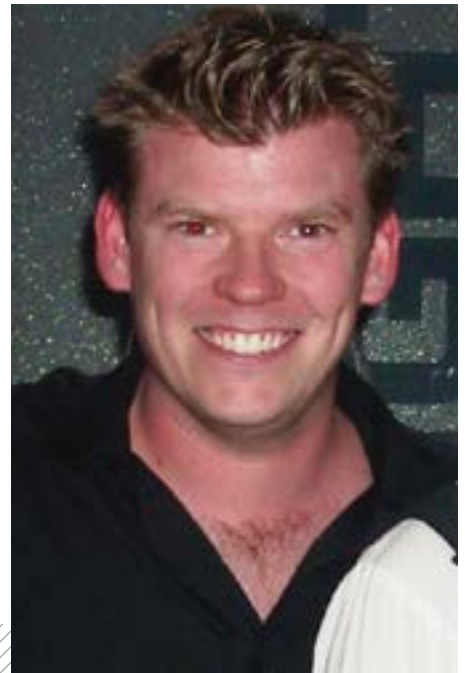


# This changes everything.

Introducing the TouchMix™-30 Pro  
With a host of all-new Pro features and even more “Results Made Easy” Presets and Wizards, the TouchMix-30 Pro will forever change your expectations of what a digital mixer should do. New Pro features include:

- 32 Total Inputs
- Large (10-inch) Multi-Touch Display Screen
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- Room Tuning Wizard
- Two Real-Time Analyzers (RTA)
- USB interface for Mac® DAW Compatibility
- 32 Track Record/Playback Directly to USB Drive
- MP3 Playback





# Ben Alcott loses UK court case

## Messy 'He says', 'She says' matter

**S**

ydney based video guy Ben Alcott lost a High Court case in London late September after claiming his former partner, BBC star Katy Ashworth abducted their son. Ashworth met Alcott in Africa in 2011 and they started a long distance relationship. The child was born several years later.

The case revolved around access to their son, with Alcott claiming that he routinely has difficulty obtaining access to the (now) three year old in the UK.

UK media leapt all over the trial, sending photographers and reporters to cover proceedings. The press somehow managed to report the judgement, despite the judge suppressing the name of the child.

Alcott and Ashworth were both named in many front page reports.

In the reports, Alcott was said to have had relationships with at least four other women at one time, and was quoted in media saying 'his decks were very crowded' and 'it was difficult to balance the different female interests in his life'. Alcott refutes the statements were his, saying that he was extensively cross examined and that the judge paraphrased.

There are two sides to this morality tale, he says. "We had a long distance relationship for some years. We broke up, we reunited. We agreed Katy would give up her high profile career



### IT GUY GOES MAD, TAKES DOWN GLOBAL RENTAL SYSTEM

On the week starting 29th of August the Cloud servers for RentalPoint were taken offline due to a reported co-ordinated attack by Russian hackers. Rental firms across the world using the Australian based system could not log on.

"Over a period of days, our various Cloud servers in different countries were on and offline. Late one evening after a call to 911 (by our IT specialist), police attended our Canadian office and took our IT specialist to the mental ward of the local hospital. Immediately after we commissioned an audit and had all servers swept for malware", the company told clients.

"All our servers and systems were normal. The 'crisis' was in his mind, he was convinced his cell phones were also hacked,

and that the Russians were listening in. All systems were immediately restored."

"Many Cloud clients were offline, some for an extensive period of up to 2 days, with disruptions continuing for some time."

"Non Cloud clients were not affected. As a result, we have strengthened our disaster recovery plan. RentalPoint started in 1986, and has never had a crisis anywhere as bad as this one."

"We are mortified that this happened, and assure you that as a result, RentalPoint Cloud systems are stronger and more resilient than ever before. During the crisis our staff worked into the night as late as 5am to get systems restored. We have reached out to the family of our (former) IT Specialist, and they advise that he is under care."

and move here with our son. She was only here a few days and pressures built on her, then she just disappeared”.

Ashworth filed statements just two days prior to trial to allege she had discovered items of female clothing at Alcotts home, and found multiple messages from other females on his computer.

“She did not like me talking to women”, Alcott says, “and two of those women were in fact clients”.

Alcott says he was forced to take legal action alleging that Ashworth had ‘abducted’ their child as his legal options were very limited. He asserted that the child should be returned to Australia. The court found otherwise, saying that Ashworth had come to Australia on a trial basis only.

Alcott’s company Damn Good Productions rose from the ashes of Black Sheep Productions (ACN 065 239054), which went into receivership in 2009 after a family dispute. Eventually Mark Roufell from liquidator PBD would report the firm owed in excess of \$2.5 million, roughly half to the tax office.

Damn Good Productions works in Sydney and London, where Alcott made a name for himself working on many Jamie Oliver productions. He subsequently has had many roles, including touring as a video director for rap act 50 Cents.

The personal tragedy with Ashworth ended in the High Court, where Judge Verdan QC heard that Alcott wanted the child to be returned to Australia. Alcott says the case sprung from Ashworth refusing mediation and making access to the child difficult.

“His case is that the move to Australia was intended to be a permanent move and that immediately before the mother (and child) returned to England, (the child) was habitually resident in Australia,” media reports quote the judge.

“The mother opposes the father’s application asserting that (the child) never became habitually resident in Australia.”

Alcott says the case was never a trial about the parents, yet last minute maneuvering led to the accusations against him being reported. “It’s about a little boy, and me being able to see him. I flew over there for his birthday, and at the last minute there were reasons given as to why I could not see him.”

“It (the reporting of the case) is devastating for her (Ashworth) too”, he said. “And that poor little boy is going to read about this online in the future.”

“He’s a brilliant kid”.

# Crew are a bunch of addicts

## We may die young, says survey

**A**t 196 pages it can be daunting, but the Entertainment Assist report ‘Working in the Australian Entertainment Industry’ should be mandatory reading before anyone works on or off a stage.

The study was run by academics at Victoria University and tested a sample of over 2,000 performers, crew and support workers. Included were 119 lighting crew and 128 audio crew.

We’re a poorly paid bunch, with average earnings well under 60 grand for 62% of us. Most of us, (19%) earned under 20 grand which proves the casual and freelance lifestyle is no cakewalk.

Professional jealousy isn’t on stage either, it goes to the fact that to be chosen for a gig, someone else misses out.

We love drugs and alcohol too, 32% of us have had a mental illness and 23% of us have used Meth/amphetamines in the past year, of them a quarter are addicted. “I can work all night without blinking”, was a comment. Cocaine use is running at 12 x the national average, yet we are paid well under average wages and many of us are under the poverty line.

But the data on suicide is the wakeup call, with insane levels of ‘ideation’ for the last 12 months (average 19% of us, verses 2.3% of the general population) and average 33% of us over our lifetimes (v 13% of the general population.)

Suicide planning runs at almost 20%, and a staggering 6% of us have had an actual attempt.

What happens next? Susan Cooper is the General Manager of Entertainment Assist who commissioned the report. She says we need an industry alliance, to take ownership of the issue. “At the front end we need education, to develop curriculum and roll them out, help build a sense of resilience. We need to look at work place practices, and develop support networks.

ENTECH Roadshow will provide a platform for this across all five cities in the February tour.



## ACCENT VISUAL MICROEDGE

Accent Visual MicroEdge screens feature a tiny 10mm wide black bezel around the perimeter, making them look like a large flat panel display. Available in sizes up to 135 inch diagonal (16:9 format), the MicroEdge screens achieve the required structural integrity by hiding the bulk of the frame behind the projection surface. The result is a very clean, contemporary look that's suited to high-end commercial or residential applications. The Accent Visual MicroEdge screens are fitted with HD Cinema 130 fabric – a premium display surface featuring a



high density of optical micro-grooves that deliver highly defined images at up to 4K resolution.

Australian distributor: Amber Technology  
www.ambertech.com.au or (02) 9998 7600

01

## CONTACTA HLD7

02

The HLD7 is a modular hearing loop driver for perimeter or phased array configurations, designed for medium sized facilities such as meeting rooms, lecture halls, places of worship and small theatres. Key features include built-in DSP and 90° phase shift for phased array applications, sleep mode to minimise power consumption when idle, high frequency compensation, and continuous self-testing. All controls are on the front panel, and can be locked after installation is completed.

Australian distributor: Amber Technology  
www.ambertech.com.au or (02) 9998 7600



## EVENT LIGHTING STROBEX

The StrobeX is a 480W intense white LED strobe with 936 0.5W 6500K SMD5730 Cool White single LED chips, outputting 1450 lux at three metres. Advanced control options turn this from a simple strobe into a blinder, or cool white flood with a range of chase patterns, where speed and intensity can be controlled for spectacular effects. The LED lifespan is rated at 50,000 hours, and it can be run in 4, 6 or 10 channel DMX modes.

Australian Distributor:  
Event Lighting  
event-lighting.com.au  
or : (02) 9897 3077

04



## COMMUNITY DP6 AND DP8

03



The D SERIES Distributed Design DP6 and DP8 are 6.5-inch and 8 inch pendant loudspeakers designed for open architecture spaces or any location where a pendant form factor is desired. Featuring high power handling, high sensitivity and realistic sound reproduction, the DP6 and DP8 can be used in a wide variety of speech and music applications. Both models are equipped with a built-in autoformer, allowing the full loudspeaker output to be realised with 70V or 100V distribution lines.

Australian Distributor: Hills  
www.hills.com.au or 1800 720 000



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## PRESONUS STUDIOLIVE 32

PreSonus have announced the StudioLive 32, digital console/recorder. The third-generation StudioLive mixer is fully recallable, with 33 touch-sensitive, motorised faders and 33 recallable XMAX preamps. AVB networking is built-in, as is onboard multitrack Capture recording to SD Card. The mixer has 40 total inputs, including 32 input channels (16 mic, 16 mic/line, 1 talkback), 16 FlexMixes (aux mixes, subgroups, or matrix mixes), four dedicated subgroups and four internal effects buses. It also includes UC Surface 2 touch-control software for Mac, Windows and iPad; Capture live-recording software and Studio One Artist DAW for Mac and Windows; compatible with free QMix-UC personal monitoring control for iPhone/iPod Touch, and Android. The StudioLive 32 is expected to be available in December in Australia with an RRP of \$4,699 inc GST.



09

Australian Distributor: Link Audio  
linkaudio.com.au or (03) 8373 4817

## QSC TOUCHMIX-30 PRO

QSC's new TouchMix-30 Pro digital mixer has 32 input channels (24 mic/line, 6 line, stereo USB), via 8 sub-groups, 8 mute groups or 8 DCA groups, and 16 outputs. Central to everything is a large 10" multi-touch touchscreen. 120 live instrument, microphone and other audio source presets are included, with 6-band fully parametric EQ, variable high-pass and low-pass filters, limiters and more available on the channels. All outputs feature 1/3 octave graphic, 6-band parametric EQ, limiters, delays and 12-band notch filters. Fourteen mono mixes can be paired as stereos and two pairs of auxes can drive wired IEMs directly. The TouchMix-30 Pro includes six stereo effects processors with pitch-correction, anti-feedback and room tuning wizards, two RTAs, a touch-and-route patch matrix, 32-channel direct-to-hard drive record/playback, 32-channel DAW Apple interface and MP3 playback from USB. Australian RRP is \$3,999 inc GST.

Australian distributor:  
Technical Audio Group  
www.tag.com.au  
or (02) 9519 0900



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## REVOLABS EXECUTIVE ELITE 2-CHANNEL



10

Australian  
Distributor: Hills  
www.hills.com.au  
or 1800 720 000

The Revolabs Executive Elite 2-Channel is a wireless rack-mount microphone optimised for speech. Users can mix and match any combination of wearable, gooseneck and tabletop microphones. Wearable microphones and adapters have eight hours talk time; gooseneck and tabletop microphones have 20 hours talk time; all use field replaceable rechargeable batteries. Audio mixing from the two microphones is available within the system or can be retained as two separate audio streams. The Executive Elite 2 can be managed locally or remotely, and its distributed architecture allows antenna and processor to be separated, even into different rooms, for the widest variety of installation options.

## JBL PRX800W

05



JBL Professional have introduced the PRX800W high-powered portable PA system. The PRX800W features wireless control and DSP, class-leading power and a lightweight design to make transportation easy. The PRX Connect mobile app for iOS and Android connects wirelessly to each unit in the system simultaneously, providing full control over the DSP built in to each speaker, with control over 8-band parametric EQ, speaker delay, mute, gain and more. Powered by a 1500-watt Class-D amp, the all-wood cabinets feature durable tongue-in-groove joints, DuraFlex® protective finish and dent-resistant 16-gauge steel grilles.

Australian Distributor: Jands  
[www.jands.com.au](http://www.jands.com.au) or (02) 9582 0909

## MARTIN RUSH SCANNER 1 LED

06



The Martin RUSH Scanner 1 LED delivers high output and super-sharp optics via two separate colour wheels, one rotating gobo wheel, one static gobo wheel and a three-facet prism. High-speed pan and tilt capabilities make the RUSH Scanner 1 LED an ideal fixture for creating dramatic lighting effects and boosting the energy in dance clubs, cruise ships and other nightlife venues. The compact size is also ideal for rental companies seeking to produce memorable events through powerful and dynamic lighting effects.

Australian Distributor: Show Technology  
[www.showtech.com.au](http://www.showtech.com.au) or (02) 9748 1122

## ROBE SPIDER

08

The Robe Spider is a superbright WashBeam luminaire, using 1x 60 Watt and 18x 30 Watt LEDs combined with a 12,5:1 zoom optical system ranging from tight 4° Beam to wide 50° wash. All 19 RGBW LEDs are controlled by an internal 18bit LED dimming system, and the Robe exclusive Flower Effect is driven by the 60W RGBW LED multichip to create sharp multi-coloured spikes of light, rotating in both directions at variable speed. Dynamic video effects are easily achieved by mapping individual pixels and controlled by DMX desk or media servers via sACN with internal HTP merging, DMX or via the Kling-Net protocol.

Australian Distributor: ULA Group  
[www.ulagroup.com](http://www.ulagroup.com) or 1300 852 476



07

## HIGHLite LASER II

HIGHLite LASER II delivers 13,000 lumens from a stable solid-state light source, capable of producing over 20,000 hours of illumination. Image Edge Blending is included as standard, as is active 3D functionality with frame rates up to 144 Hz. Input options include DisplayPort, Dual HDMI 1.4, DVI, 3G-SDI and HDBaseT. A diverse selection of both fixed and zoom lenses and extensive lens shift ensure that integrators installing the HIGHLite LASER II have complete flexibility with respect to projector placement. The HIGHLite LASER II is covered by a five year / 20,000 hour warranty.

Australian distributor:  
Amber Technology  
[www.ambertech.com.au](http://www.ambertech.com.au)  
or (02) 9998 7600

# THE MILL REPORT

By Andy Stewart

## JUICING THE BUDGET



Joe's in a band and wants his newly recorded album mixed to sound **"totally awesome."** **Good idea Joe.** The band is made up of great players and their music sounds worthy of special treatment. But they only have a tiny budget, and none of them can attend the mix sessions because, ironically, they all work full-time. **But they're insistent: they want the best mixes possible...** for which they're prepared to pay, well... peanuts. Sound familiar?

**A**t our first meeting, while sipping a fashionably discombobulated café latté, Joe got right down to business: "Hey man, we really want you to mix our album because we've heard great things about you."

"That's nice Joe, thanks... happy to help if I can," I responded politely.

"I've had a bit of a listen to the rough mixes you sent last week and it all sounds good to me. I'm sure I can make things sound pretty happening, and am more than happy to take on the job."

"Great! That's awesome! When can you start?"

"Well, I'd have to check my diary, but I reckon I can probably make a start on it in the next couple of weeks, depending... I haven't seen or heard the multi-track files yet, but unless there's something particularly egregious in there, it should go pretty smoothly. I'm not too sure how long it might take or how much input into the process you'll want – are you intending to come to the sessions?"

"Probably not at this stage – most of us are working."

"Oh, okay."

"So how much do you charge?"

"Well, I'm \$750 a day, including the

studio."

"Cool! But we only have four grand."

"Right, okay, well given that the album is going to have 11 songs on it, I'd say the budget won't be anywhere near enough, particularly if you want the mixes worked up to an international standard. And besides, I don't do half-baked work, I'm sorry. The only thing I can really quote on is my daily rate because it's almost impossible to predict, before we start, how long things might take. Everyone works differently."

"Hmm, well we're pretty sure we can't get any more dough, but I guess we can have a look at whether there's some gig money around that we can throw into the pot."

*'Gig money!'* I think to myself. *'That's bound to add about forty-five dollars to the kitty.'*

"Well, see what you can come up with. In the meantime, maybe I can just do one mix for you to start things off. That way you can hear what I do and get a sense of whether it's worth spending the extra cash to do it right. It will also give me a clearer picture of how involved the mixes are likely to be. I'd hate to see your album finished off in a half-arsed way. If you want to crack the market you really need to make the album sound great, first and foremost."

"Agreed. We want it to sound awesome."

### MIX 1

So I do a mix, and the band is over the moon about it.

There are a couple of small issues, most of which seem to relate back to tracking edits of the session file that they hadn't liked prior to my involvement. I am unaware of these issues until they bring them up at our second meeting:

"The mix sounds amazing man, we're kind of blown away by it," Joe says with genuine humility.

"Cool, glad you like it!"

"There are a few issues though: a funny timing problem at 1:30, another at 1:56 and a couple more things later in the song – around 3:30..."

"No worries, we can look at all those issues easily enough, but right now I'm more concerned to make sure that you're happy with the general sound of things."

"Yeah, we love it. Oh, and as for the money side of things, we really want to just be able to concentrate on mixing with you from now on if that's okay. We've handed over any discussion about the budget to our new manager. Is that cool?"

"That's fine. I'll chat with him about all that later on then..."



CMG AV's new staple in their live lighting production

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MAC Quantum Wash

**Martin**  
by HARMAN

## THE MANAGER

So a couple of days later I ring the manager – a veteran with tons of experience – and we discuss the budget. I explain to him that, from where I stand, the budget is impractical, and that it needs to be increased by a few grand – not a huge amount of money. He tacitly agrees but insists that it can't go any higher.

“Cool,” I say. “I'm sure the mixes can be pulled together for around that figure.”

I assure him that all I'm trying to do here is make sure the mixes are awesome, and that I don't have to work for free for a week to get them to that point.

He agrees.

On this basis, and with our gentleman's agreement in place, I proceed to mix the entire record, going far beyond the scope of works originally budgeted for – which so often happens in these situations to most engineers I know.

Several versions of each mix are done, with the band coming back to me in dribs and drabs each time with only mostly relatively minor changes, although there are also some significant contradictory opinions amongst the responses; not ideal when you're trying to land mixes smoothly and on budget, but hardly unusual either.

But like so much of this sort of work, even when only minor changes are requested – especially to mixes that incorporate analogue chains – it all takes time.

So in the end, even after I discount my daily rate – which I don't like doing – a certain budgetary pivot point is reached. I'm now off the clock until things can be wrapped up. Meanwhile, the job is now starting to stagnate and clash with other projects. The various band members are beginning to gravitate back to the rough mixes for inspiration and answers, continually want to muse over possible edits to the song arrangements and experiment with minor changes to everything from vocal effects to tambourine levels, “just to see what that might do to the sound...” all stuff they could have done (if they'd been there) at the sessions!

It's the classic malaise of 21st Century mixing: infinite possibilities and tweaking options (that bands often have no idea will even work – ‘hey, we

just want to try it and see’) hitched to a finite, often woefully inadequate budget. For an experienced engineer, this generally unpaid work at the end of a project can quickly become a source of great frustration.

Eventually, I ring the manager to explain how things are travelling; that things are all but done now, barring a few final touch-ups to a couple of mixes. But before I can mention the fact that I've been working off the clock for two days and the mixes still aren't finalised, he proceeds to launch into a negative tailspin about our budget agreement:

“That figure is no longer viable,” he asserts gruffly, “they just don't have the money. And also, the band is very unhappy with a couple of the mixes.”

Now I know this isn't true because I've spoken to them repeatedly about each mix, both face to face, and on the phone. Something doesn't add up about this conversation.

Suddenly, thanks to some breathtaking managerial mismanagement, I can see all my work going south – or at least the reasonable assumption that I be paid for it – and I politely suggest to him that I should ring the band to find out what they're unhappy about.

Turns out that there are problems within the group. They're unhappy with how the two ‘questionable’ mixes were performed in the first place, and now they're starting to blame one another and

the producer for the impasse they've reached.

## RECONSTRUCTION GROUP

You can see where this is going. Somehow, the confusion and internal posturing within the group are problems I'm supposed to absorb financially? It's like expecting a builder to wear the costs of a house construction because the owners don't like their architect's design any more.

Bands are difficult to work with in so many respects, but one of the hardest aspects of mixing – particularly in Australia where budgets are often smaller than the price of a band's international airfare to a more exotic destination – is trying to make budgets extend far enough to allow for mix experimentation, and the inevitable

delays, disagreements and time consumption this involves.

But far worse than this is the expectation by young bands that they can indulge in constant fiddle-faddling with their mixes, at the engineer's expense, as if he or she has nothing better to do than endlessly recall a band's songs for yet another open-ended tweaking session, only then to be faced with yet more emails of instruction about what to change next.

Eventually this sort of relationship sours, no matter how good, or professional, or diplomatic you are. No professional engineer can be expected to continually rework a song with the same myopic self-interest that a band possesses for its own work, for free. In the end everything has a use-by date, even a mix.

## CAFÉ CONTRACTS

So, a word of warning to any engineers out there contemplating their next album production or mixing job with a band they don't know: get the budget sorted before you start – in writing. And remember, if the budget looks tight at the beginning, it's going to be hopelessly inadequate by the end.

I don't think I've ever known a project to take less time than was originally predicted. With that in mind, just remember: mix projects can expose relationship tensions like camping holidays with school mates, and projects are always much harder to remain motivated by at the end than at the beginning. The deadly cocktail of long days, waning interest in the music you've been listening to for weeks, and the predictably poor pay you somehow agreed to back at the café can lead to serious, sometimes catastrophic relationship problems with the band by the time you're in the home straight, which can be further exasperated by this coinciding with not having received any progress payments along the way.

Provided you're happy working for free at the end of a large project, then fine, go right ahead. If, however, you do want to be paid properly for your work you need to have the end of the project squarely in mind when you negotiate your fee prior to its commencement. Unplanned negotiations drawn up on the back of a placemat over a café latté are almost guaranteed disasters – plagued by optimistic timeframes, and rarely if ever concluding on budget or schedule.

Don't go into these sorts of meeting with no plan or rock-solid fees and charges in mind, or you will almost certainly end up working for free.

Andy Stewart owns and operates The Mill in the hills of Bass Coast. He's happy to respond to any pleas for recording or mixing help... contact him at: [andy@themillstudio.com.au](mailto:andy@themillstudio.com.au)



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# ICTECH ROADSHOW 2016

## Converged AV Goes On Tour



The inaugural ICTech Roadshow, the travelling tradeshow for the converged AV and ICT industries, has completed its first national tour, stopping in Perth, Adelaide, Melbourne, Brisbane and Sydney through October. While small in scale in its first year, exhibitor and attendee reaction has been overwhelmingly positive, and the show will return bigger and better in 2017.

Attendance at all shows was above expectations for an event in its first incarnation, with quality attendees talking tech one-on-one with leading suppliers **avt, Extron, Panasonic, Jands, Midwich, Lightware, and Axis AV**. In a follow-up visitor survey conducted after the Perth and Adelaide events, responses confirmed why the Roadshow model works so well for the Australian market – only 19% of attendees visited a market equivalent centrally located tradeshow in 2016.

The free education seminars running at ICTech proved a major drawcard, with Extron's session on AV control systems, avt's hands-on SVSi training and 'Industry Transition from Dedicated AV to Networked AV', and Matt Vance's 'Soft Codecs' and 'Introduction to Electroacoustics' being the most popular. Lightware's eastern states-only two hour seminar 'Behind the Scenes of HDMI and HDBaseT' presented by Lightware's József Szvetnyik, drew InfoComm qualification holders with its two Renewal Units on offer towards their CTS, CTS-D or CTS-I.

### Highlights - Stand By Stand

#### Axis AV

Axis AV were displaying their iMAG Systems video over IP brand, concentrating on their Thunder and Lightning models. Thunder uses JPEG2000 compression to distribute video on a one gigabit network, and is compatible with all resolutions up to 4K. Built-in processing allows integrators to use it for video wall, point-to-point or matrix applications. Lightning offers a similar feature set, but is built with AptoVision's Blue River NT chip set, enabling it to distribute completely uncompressed 4K signals with zero latency on a 10 gigabit network.



Chris Smith of Axis AV

iMAG Systems  
Thunder and  
Lightning

## Midwich

Richard Builder at Midwich:

"We're celebrating Biamp joining the Midwich family" said Midwich's Richard Builder, "and we're looking forward to Biamp's TesiraLUX AVB product landing in January, finally bringing vision into the world of AVB and Tesira servers. We're also showing Biamp's Devio video conferencing, USB audio and huddle space solution."

"Exterity's IPTV products are a growing market, taking over the MATV space, with huge potential for hotels, health, and large facilities like convention centres and theatres. We're also supporting vision as a reseller of Samsung, NEC, Epson, LG, and Planar Leyard."



Richard Builder of Midwich

Biamp's Devio on the Midwich stand



## Lightware



Lightware's Patrick Kong with Rafi Jerejian of Cyviz

Lightware's MX2-8X8-HDMI20



"We're emphasising different technologies in different states," explained Lightware's Patrick Kong. "Each city has different audiences and primary industries. One of the products we're excited about is our new MX2-8X8-HDMI20 HDMI switcher, which can run 60 Hz at 4:4:4. It'll be shipping in early 2017, and we'll soon be able to announce that we have new fibre products with KVM capabilities."

## Panasonic

"We're showing our new Z970, a 9400 ANSI laser projector" said Panasonic's Wayne Standen. "The laser market is quite buoyant; everyone's looking to save money on lamp replacements, reduce maintenance, and put them into high access roofs that they don't need to get to with cherry pickers or lifts. We're showing the unit with the ultra-short throw .38 to 1 lens. It gives a big 'wow factor' and gets people thinking about how to do installations a bit differently. We're talking a lot about our range of integration cameras for soft VC, and we're demoing our 4K 20-inch Toughbook Notepad, which also works as a giant tablet. If you're working with plans and drawings, you can go onsite, draw on plans, and blow it up without having to worry about the battery going flat, with up to two hours battery life."



Panasonic's Wayne Standen with the Z970 Panasonic's 4K Toughbook

## Jands

"We're really focussing on the Shure MXA ceiling array microphone," said Jand's Scott Harrison. "It gives you eight coverage zones of audio that you can move to anywhere in the room. It's designed to sit in the ceiling grid and provide unobtrusive quality audio for video conferencing applications."

"I really like the new Crown power amplifiers," added Jand's Mitchel Lockyer-Lane. "The new CDi Series is a refresh of the old CDi range, and now includes a network port for use with Audio Architect. The new DCi is a multichannel amplifier with Dante on-board, making it really easy to get any signal off of a Dante network, into the amp, and out into the real world."



Jand's Mitchell Lockyer-Lane and Scott Harrison



Shure MXA

Crown amp rack at Jands



## Extron



Extron's David Plew

Extron TLP Pros flank a 23 inch Dell



"We're talking about our control systems", said Extron's David Plew. "Previously, everyone has associated Extron with switching, so we want to talk about our capabilities with room scheduling and control."

"We're showing off our TLP Pro 1520 touch panels, and how to integrate our control systems with third party touchpanels from manufacturers like Dell. The TLP Pro 1520 is a 15" touchpanel with capacitive, edge-to-edge glass, and has video preview inputs that support high resolution video from HDCP-compliant HDMI sources and Extron XTP devices."

"They can run on PoE+, making them really easy to cable and power."

# avt

avt were highlighting SVSi's N-Command, its networked AV control solution. "It's a centralised control solution leveraging existing standards like HTML5," said avt's Kenyon Page.

"Typically it's used to serve control to individual spaces. It can be integrated with third party devices, and has great interoperability for BYOD. It's a solution that lends itself very well to enterprise because of the way it delivers and can scale. The N8000 Series provides control over video over IP equipment configuration, content management, NVR recording and playback, bandwidth utilisation, and matrix switching. You can also turn audio and video on and off, adjust variable bit-rates for each video streams, and set IP addresses."



# EVENT LIGHTING

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# Clay Paky's CP Nights

## Show Technology shows off!

With a raft of fixtures new to Australia, Clay Paky distributor Show Technology held two major launch events in Sydney and Melbourne in October, with staff on hand from Clay Paky itself to rave about their new features. The cream of the lighting industry was in attendance, and Jason Allen was there to get the low-down...

Held in Melbourne's Docklands on Tuesday 11 October and in Sydney's spectacular Star Events Centre on Thursday 13, Clay Paky's 'CP Nights' launch saw the debut of fixtures including the funky new SpheriScan and effects bar SharBar, along with in-depth demos on the abilities of the Scenius Spot and Profile. Clay Paky's own Giulia Sabeva, Sales Support Engineer based in Italy, and Alfonso Zarate Takano, Regional Sales Manager, APAC, were flown in to educate the cream of Australia's lighting community on the features of the new fixtures,

with major figures from across rental companies, broadcast, design, and venues in attendance.

"We are very honoured that close to 180 who's who of the lighting and entertainment industry travelled from afar and freed up time in their busy schedules to be a part of our launch night for our new Clay Paky fixtures," said Stephen Dallimore, Business Development Manager at Show Technology. "The support of our clients and lighting colleagues is very important to us"



## Vale Paky

"I'm honoured," said Emmanuel Ziino, managing director of Show Technology. "Once again we have an Australian exclusive with new products. Clay Paky and the OSRAM management have proven they can come up with the goods and we're looking forward to having them in inventory and in the market." With the passing of Clay Paky's founding father, Pasquale 'Paky' Quadri, still fresh to most in the industry, Emmanuel would like to mark his memory. "I think we are living up to Paky's dream and still perpetuating the technological and lighting advances he made," he observed. "I think from where he is looking down on us now, he would be very proud, and I'd like to say hello."

## Setting the Scenius

With a convivial atmosphere and drinks on hand, the crowd socialised before watching some seriously impressive demonstrations of the range of new fixtures, driven and narrated by Giulia Sabeva from behind the lighting desk. "Tonight we're focussing on the Scenius Spot and Profile," explained Alfonso Takano. "They're metal halide fixtures, but they're using a lamp totally different to what we've seen so far, producing great colour rendering and quality in the light. These are features that this product has that nobody else does." The demo bore that out, with the 1400W OSRAM lamp in both fixtures performing admirably, while the Profiles framing proved sharp and impressively flexible.

## Return of the Scanner!

Something of a blast from the past, Clay Paky have released a modern scanning fixture, the SpheriScan. "It's something we've resurrected," continued Alfonso. "It's an application-specific product, not the kind of thing where a rental company would have 200 units. It's useful in stage design; designers can see the benefits of having a scanner because you don't have to hang it, you can recess it into the stage, creating a lot of possibilities for designers. It's also IP54 so you can also use it outdoors. The rotation of the mirror is non-stop, and there are 3 RGB LEDs on top of the dome for an eye-candy effect."





Allan Brown of Centerstate Audio



Angelo Ruggeri (Show Technology) and Michael Bartolo (Salve)



Jeremy Koch (Innovative Production Services) and Hugh Taranto



Dan Monro (Resolution X) and Steve Leiter



Clay Paky's Giulia Sebeva running the show in Melbourne



Clay Paky's Giulia Sebeva running the show in Sydney



Clay Paky's Alfonso Zarate Takano and Giulia Sebeva with Show Technology's Emmanuel Ziino at the Melbourne event



Toby Sewell, Andrew Richards, Anthony Carlo, Roger Cameron (ICC)



Marcel Micola Von Furstenrecht (QPAC) and Adam White (Show Technology)



Mark Ulbricht (ICC), Andrew Vietch (Channel 9), and Dale Martin (Fox Sports)



Matthew Haynes (ICC) and Stephen Dallimore (Show Technology)



Show Technology's Emmanuel Ziino and Lightmove's Braham Ciddor



Show Technology's Emmanuel Ziino with Richard Neville (Mandylights), Dan Manro (Resolution X) and Dan Mercer (Mandylights)



## Open **SharBar!**

Last up was a new LED bar, the SharBar. “It’s not really a wash – it’s an effect bar,” clarified Alfonso. “In addition to individual movement, you have pan, which gives you independent movement of six different beams, where usually in a bar you only have tilt movement.” The name is derived from the iconic Clay Paky Sharpys, and the effect similar to having six Sharpys on hand, but powered by 30W OSRAM Ostar RGBW LEDs.



## **M** Press Multi-channel Press Box



The **mPress** combines a high-octane active drive circuit with a host of transformer-isolated floor boxes called **Exo-Pods**. This modular approach allows the system technician to distribute Exo-Pods throughout the press gallery while assuring each member of the press receives a clean, hum-free signal.

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By Julius Grafton

# Australian Monitor Rebooted

## HILLS FOCUS ON HOUSE BRAND

**A**ustralian Monitor has been around since 1986 but the story of this iconic audio brand really started in 1973. Back then, Rod Craig, Roy Morgan and Alan Clarke saw an opportunity to become the distributor for Telex products in Australia. Audio Telex Communications began with two small offices in Sydney and Melbourne and just a handful of dedicated staff.

A few years later an opportunity was recognised for an installation amplifier range and a local Sydney company called Techcraft was purchased. Audio Telex, along with the small Techcraft design team set about creating a range of contractor friendly installation mixers, mixer amplifiers and amplifiers for the Australian market under the Audio Telex brand name.

Across town Graftons Sound were trying to find a rock solid mosfet amplifier for their rental division and for the wider market. They decided to build their own and secured the services of Stuart McLean who had proven himself with designs for a company called Overeem.

Slaving away in a converted loading dock at the back of the Graftons warehouse in East Sydney, McLean came up with the prototype for the AM 1600 which blew everyone's socks off. It went into production in 1986 and quickly found an export market with the first batch selling to Radio Tuku Oy in Helsinki.

The first generation Australian Monitor amplifiers, the AM900, AM1600 and the AM1200 Quad amp were legendary. They had custom extruded chassis and a heavy toroidal transformer. Of the thousands made, many still continue today. But the company lost money on each unit shipped due to high assembly costs.



Eventually Audio Telex came knocking and bought the brand, reasoning that combining efforts would make better audio. Suddenly they had a really wide product offering, and they rebranded everything they made as Australian Monitor.

Then followed a golden age. A European warehouse and dedicated sales team were added. The tag line 'Clever Features, Contractor Friendly' was created and was synonymous with the Australian Monitor brand for the next ten years.

Distribution continued to grow and Australian Monitor was distributing to 75 countries around the globe. With the inclusion of additional distribution facilities to maintain the demand in the Middle East and the USA, Australian Monitor had become a true global success story.

In 2005 Hills purchased Audio Telex as exports of AM continued to rise, eventually passing \$4 million a year. But a management change at Hills saw a change of focus, and Australian Monitor was wound back.

After a period of turbulence, the board reasoned that a strong house brand was worth supporting, and set about rebuilding. AM had continued, albeit without research and

development, so some of the products were dated.

Long term Audio Telex – and by then Hills SVL - employee Shane Myers was given approval to turbo boost AM and the first thing he did, as General Manager of Australian Monitor, was employ several engineers to get new designs to market.

He was joined by Brad Kivela, also with long term Audio Telex and Hills SVL experience, whose task is to manage OEM product that is sourced elsewhere and branded AM. These include some playback devices, accessories, rack panels, cables, connectors, classroom speakers and ceiling speakers.

“We directly engage with manufacturers, talk about our product requirements, and procure samples based on our customers’ requirements”, he said.

“Then we get pre-production samples with modifications we’ve requested, anything that plugs into mains goes to our engineering department for safety checks, topologies, standards, and to gain global approvals.”

“People don’t realise how much work is involved, everything we do is for the global market”, Brad explains.



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Euan Brown (Engineering Manager), Shane Myers, General Manager and Brad Kivela

Critical pieces like amps and mixers are engineered and designed in-house.

“We’ve got the experience, the history, the documentation, and we know how to get there,” said Shane. “We know we’ve got to get the product range up to scratch. Everything we do is with a focus for expansion. We’re working to a higher standard – and we’ve only just begun.”

“I started 3 years ago. Everything we’ve touched has been upgraded – there’s a lot of products. We hired the first engineer Euan Brown (Engineering Manager), and then Mark Walters (Embedded Software/DSP engineer) and we’re looking for a third engineer”.

“We have a number of international factories making our products, selected for their reliability and high quality output – they work hard. Their engineers come out here to spend time with us and our engineers spend time there to see the first run of products off the line to test and do QC. This allows us to make any improvements and finalise the QC process.”

“I think we are the largest continual audio exporter from Australia. This is testimony to our market and the collective knowledge base here amongst our partners be those consultants, integrators or end users. AM has grown and added features as a direct result of their input. This is being taken globally and we are pleased to be kept busy with daily product enquiries received from all over the world.” Shane adds.

Now they have registered international websites, and spent a lot of time getting their content up to date with the latest news and product information.

They have new designs, samples are quality checked, modifications are made, and production sets are tested with key customers over the world.

“Every single product is tested with every shipment,” Shane says, “and so we can track our products easily we’ve upgraded bar coding and serial numbers.”

They make and source products for the world market. “It’s cheaper to put three IEC cables in the box than to open and repack. This is world manufacturing, it gets rid of errors.”

“We do it properly”, Shane concludes.

## EXAMPLE OF THE NEW A.M.

The HS series is Australian Monitor’s next generation of Class D mixer amplifiers, delivering high quality audio reinforcement with the power you need – 60, 120, 250 and 500 watt options, all in a one rack unit package.

These new amplifiers are fully featured, offering 7 external and 2 internal audio input channels, each channel offering individual channel volume control, equalizer and gain control. An inbuilt user-customizable tone generator, MP3 player, Bluetooth module, 3.5mm jack and USB charger are included as standard in all models.

The HS series has been designed with all of the features and power to suit a vast range of installations, from the boardroom to the classroom, school hall to bar, restaurant or function space.



HS120 FrontPanel

# MACKIE DIGITAL



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- Integrated control bridge holds your phone for a quick view of your mix

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Audio

# history

## 1991: 2016

Where were you in November 1991, 2001 or 2011? Allow us to refresh memories ...



### ➔ Channels magazine 1991

In November 1991 Channels #10 profiled AC/DC's world tour with their FOH engineer Robbie McGrath who used a front-loaded Clair Bros. S4 system, though apparently he went a bit far one day by suggesting part of Chris Slade's drum kit might be sampled: "The whole place went quiet!

DON'T use that word."

We also spoke with John Scandrett of System Sound about Phantom

of the Opera's awesome audio specification.

The Alesis ADAT 8-track recorder (from \$9000) and JBL's MR Series speakers were new products, and technical advisories about VCA faders and mosfet amps were offered. Other advice included when to bring in an audio consultant and, as Michael Tanner discovered as a youth in 1970, the perils of buying second-hand

equipment.

In Great Mistakes 'Kevin' manfully admitted his while at the infamous Sydney Cove Tavern and using an early Theatrelight desk.

Snap-shot second-hand gear prices: Tapco 10ch self-powered mixer (fair condition) \$1000; Yamaha REV7 \$900; Coda 4 cyc lights (w/case) \$2,200; section alloy tri-truss \$250 each; Vox AC30, '60s serviced: \$1000.

### ➔ Connections Magazine 2001

In Connections #93, 2001 we took on the skills shortage by offering LIVE AUDIO and LIGHTING training packages structured around industry requirements. In Industry News we reported on Jands selling their production lighting business to Bytecraft for more than \$7 million, and of the public stoush between Phil Tripp and Michael Chugg over competing music industry conferences.

There were new production PA

systems for Bruce Johnston – a NEXO system used for a Powderfinger tour – and David Rees detailed a new EAW KF760 Line Array system. With 16 boxes in total, David suggested, he could do 90% of the Rod Laver Arena: "The PA takes up 8'x 8', and amp racks another 3', and that's it. It's a dream".

We detailed the refurbishment of The Sidney Myer Music Bowl with industry legend Denis Irving and

published TWO Market Reports on Lighting Control Desks, and Digital Automated Audio Mixing Consoles. All with real prices – really useful.

Rigger extraordinaire Tiny Good outlined general guidance for structures used in entertainment, Graham Walne wrote about theatre audio and noise, and Duncan Fry's account of re-purposing found roadside cassette tape is one of the more eclectic audio stories you will ever read.



### ➔ CX Magazine 2011

November 2011 and the market was overloaded with productions, CX 65 suggested. A profile of LSC confirmed why this innovative Australian company has done so well. From the 1980s Focal 1 (a two-preset lighting desk), LSC now sells dimmers and desks to 40 countries worldwide. We also profiled industry legend Colin Baldwin.

Some unpleasant industry trends were noted such as varied supervision and lockout fees for AV in venues, and Michael Orland's dealings with Workcover following an injury was sobering. On this subject, CX-TV's Stage Safety report hit 62,000 views in one month, so

we added 'Outdoor Events: The Safety Seminar' as part of CX Roadshow.

Industry news included the first Midas XL8 for hire by Melbourne company Mighty Rock; Hillsong Church's new Yamaha system; and a short item on OB vans.

Live production profiles were of Suzi Quatro and Meat Loaf: "I'm using a digital console," said Meat Loaf's longstanding audio engineer George Wehrlin, "but most of the plug-ins are made to make its sound more analogue." Lighting designer Bill Sheldon who has worked with Meat Loaf for 20 years travels with his own Avolites Diamond 4 Vision console.

Gear reviews included EV's Live X ELX Powered Speakers (from \$1349); the ETC Source Four Fresnel (from \$540), and the ProShop Airbase. All reviews are on CX-TV too.

Technical advice included producing a webcast from a live gig (also available on CX-TV), Paul Matthews on the finer art of installing in 'The Call Out', and Editor Julius Grafton detailed the joy of The Overnighter, including an early morning coffee at Kangy Angy: "Dark and murky, and almost certainly created from Pablo instant powder. But it woke you up better than anything else."





# AES 141st Convention Los Angeles 2016

By Simon  
**Byrne**

**T**he **Audio Engineering Society** is the professional society devoted exclusively to audio technology with over **13,000 members**. Founded in the United States in 1948, the AES has grown to become an international organisation that brings together audio professionals, creative artists, scientists and students worldwide from all disciplines including studio, broadcast, game audio, product design, audio research and live sound.



Every year, AES stage their Convention alternating between west and east US coast locations which attracts an international audience. Last month the AES 141st Convention was at the Los Angeles Convention Centre.

Over 4 days, the event includes a full technical program of tutorials, workshops, seminars, technical tours and a trade exhibition.

What is striking for an Australian visitor is the

budget and scale that comes with the American population. Just shy of 320 million, the US has the capacity to support a big production industry. A rep from a large manufacturer told me that Australia represents just 3% of their worldwide business. They have single outlet retailers in the US that are literally bigger accounts than all of Australia put together.

This scale shines through in the support of AES from the manufacturers. The trade exhibition had about 270 exhibitors of just audio related manufacturers. No lighting, no musical instruments, no DJ gear, no vision and no rigging. Just professional sound.

## Harman professional brought their broadcast demo truck.



It is a semi trailer that travels the country packed with Soundcraft, Studer, JBL and AKG gear. It is a great way to see their equipment setup in a close to working environment.

> Harman Broadcast Demo Truck parked outside AES.

## Many manufacturers setup demonstration rooms



L'Acoustics Kiva II - Like Kiva I but 6dB Louder <

L'acoustics demonstrated the latest version of their Kiva II as well as several other new products. Focusrite had their range of networked audio products setup. Avid's Robert Scovill took users through their new flagship system, the Avid S6L and Neumann, JBL Professional, Genelec and Sennheiser all had their own demonstration rooms.

## On the show floor - a tour of new newness

On the show floor, Neutrik showed their new version of the Xirium Pro Wireless link. This model transmits 250 milliwatt in the 5Ghz region with a claimed 6 kilometre range, AES/EBU, analog and Dante versions, complete with Lithium Ion batteries for 10-14 hours life (still yet to be approved for use in Australia).

They are also showing their new 8+2 pin XLR. This combo XLR connector meets Cat 5e in terms of data throughput as well as 2 pins dedicated for up to 16 amps DC. Neutrik see this as a robust alternative to Ethercon as well as any other application where low voltage and multipin connectivity is required.



> Neutrik 8+2 XLR Connector. Cat 5e performance plus up to 16 volts DC in a rugged connector.

Neutrik Xirium Pro <





Cedar released a 2 channel version of their proprietary dialogue noise reduction technology. The ability to reduce the background noise and a noisy show floor is nothing short of impressive.

Radial released a swag of new products including their 2 channel Dante in and out boxes (Di Net), a media split system with transformer isolation on all outputs (M press), 4 channels of audio over Cat 5 extenders including transformer isolation (Catapult) and finally 2 and 3 output line level splitters with Jensen transformer isolation (LX 2 and 3).

Proplex showed their range of data switches which are ruggedised versions of the Cisco SG-300 switches. They have Cisco motherboards but feature Ethercon connectors, better cooling and airflow, rugged cases and on some models, the ability to change Vlans on the front panel.

AES has streams of seminars, the Live Sound Expo, Project Studio Sound, Game Audio, Sound for Film and so on. It is impossible to get to them all as there ended up being around 160+ sessions over the 4 days.

You have to choose carefully! That is hard because the quality of topics and the presenters is impressive.

A standout presenter was Australian audio royalty Howard Page. He was senior at Jands in the 70's and 80's before joining Showco in the US (which was later acquired by Clair).

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## Colossal knowledge

Nowadays Howard (pictured below right) is the director of Engineering at Clair which involves popping in on tours that are having "challenges" as well FOH for Sting and his Symphonicity shows.

Howard's audio knowledge is colossal. After all, he designed and built some of the best desks and electronics around in the early years and he is still heavily involved in most of Clair's innovations. That combined with his touring experience (Van Halen, Sade, Bee Gees amongst others) possibly makes him the leading live sound authority in the world. And he is an Aussie! Howard spoke on Too Much Low End, Choosing the Right Vocal Mike and Tales from the Road.

Howard shared the Live Expo stage with Mark Frink (Tony Bennett, Zac Brown, KD Lang), Pete Kepler (Bonnie Raitt, Katy Perry), Ken Newman (Barry Manilow, Englebert Humperdinck, Shirley MacLaine) and Robert Scovill (Tom Petty & the Heartbreakers, Matchbox 20, Rush, Def Leppard) .



Another great presentation was by Michael Santucci from Sensaphonics in Ear Monitoring Solutions. Michael is a Doctor of Audiology and is passionate about preserving artist's hearing. Consequently, he has researched and developed technologies to accurately measure exposure and designed IEM products with that in mind. He has

concerns about hearing health in our industry because he has done the research that actually measures levels in the ear canal of professional users of IEM's. His research shows that artists are running them at the same level as when they used to run wedges so no nett exposure savings are being made.

His major concern? Artists that only use 1 IEM in 1 ear, combined with wedges. This is because the binaural link is broken which in the mind of the user, makes it sound 6dB softer so artists are turning their gear up to make up that 6dB. This in turn halves the safe exposure time.

Other topics for live sound operators included networking, acoustics, numerical loudspeaker array optimisation, entertainment RF, virtual soundcheck techniques, miking the symphony, and digital system drive.

If there is a single take away from AES 141st, it would be that networking, and AVB in particular is key. It is clear that AVB is becoming mainstream. I noticed that many of the manufacturers such as Meyer Sound (including their new Galaxy processors), Avid and L'Acoustics are now producing products that support AVB. 4 years ago, I noticed that Dante was gaining adoption at AES 139th and I noticed the same this year with AVB.

Young entertainment technicians would be well served by getting their networking expertise to a very high level. If you aren't good at networking, you won't be employable in the near future.

Concurrently with AES 141st, there was a separate conference on Audio for Virtual and Augmented Reality. It is sound for virtual reality headsets and the accurate delivery of sound to your ears in relation to how you move your head whilst wearing a headset, ie: positioning sound in the virtual space and making sure it matches your perspective. The demonstrations were impressive and the dynamically positioned sound added greatly to the immersive nature of this new technology.

This was my 3rd AES Convention, no doubt I'll make the pilgrimage again.



**Robert Scovill** training users on the Avid S6L live consoles

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# ROBE SPIKIE

## Versatile LED

By Jimmy **Den-Ouden**

**J**ust when you start thinking every kind of moving light has been made, Robe comes along yet again with something new and different. This time around, it's Spikie.

Spikie is cool, and not just because it has a cool name. In some ways Spikie has a striking resemblance to that mainstay of disco lighting, the humble pinspot. In other ways though it looks considerably more serious.

It's got a compact base with PowerCon True1 input and loop connectors, 5 pin XLRs for DMX (wireless optional), and rather than the usual RNS2 we've become accustomed to seeing, Spikie employs a simple text based backlit LCD menu system.

The head of the fixture is like a small but still visually substantial barrel with a big lens at one end. The fixture looks cool even before it's turned on, which is testament to Robe's attention to detail beginning with the design process. You can buy the unit singly in cardboard, or a choice of 6, 8 or 12 unit roadcase.



Inside the head there's a 60W RGBW LED source, good for some 20,000 hours. The beam can be electronically zoomed between 4 and 28 degrees, with the edges sharp at the narrow end and softer at the wide end. The unit is sold as a combination beam and wash light, and I think that's quite an accurate description. Naturally full colour mixing and strobe functions are included.

Additionally two further beam effects are available in the form of a three facet prism and a "flower" effect, which kind of makes the projected beam appear as though you're looking into the light engine. It's hard to describe, so just look at the picture. Combining the flower effect with a colour roll yields interesting results too, with the beam appearing to be almost animated.

The fixture supports RDM and DMX control, and it will occupy 27 or 21 channels within your universe. Pan and tilt are 16 bit functions by default, and yet additional channels are provided



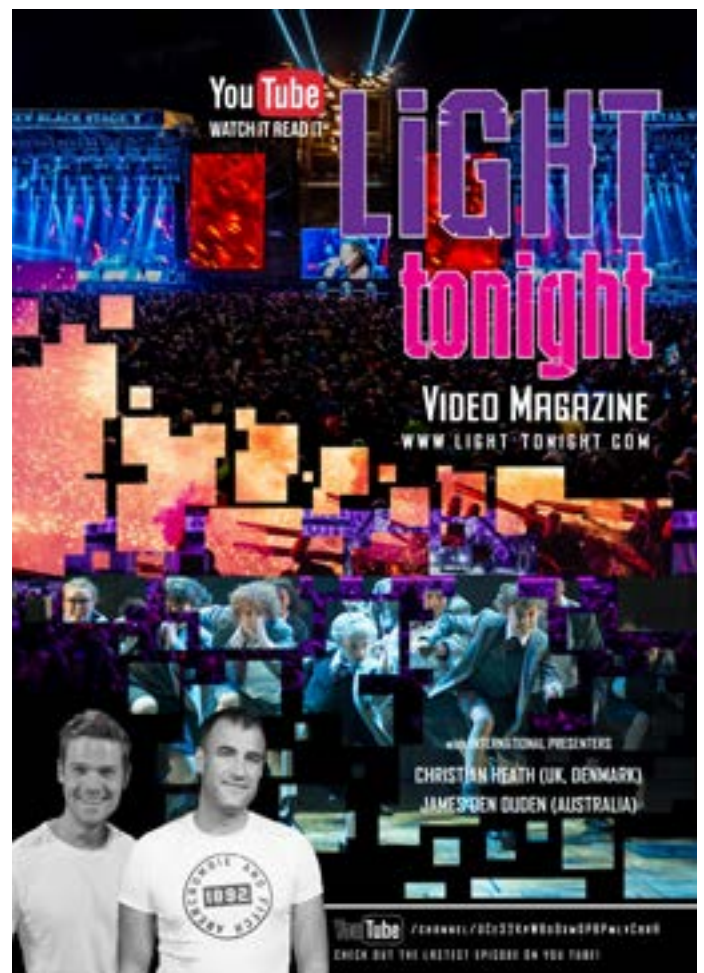
**Brand:** Robe  
**Model:** Spikie  
**RRP:** \$4,904 inc GST  
**Product Info:** [www.robe.cz](http://www.robe.cz)  
**Distributor:** [www.ulagroup.com](http://www.ulagroup.com)

for these operations. This is to enable Spikie's continuous pan and continuous tilt features. These parameters can be indexed as normal too, so plotting fixed positions is no problem. Pan and tilt are both seriously fast, when running together in continuous mode. When only one axis is moving Spikie is capable of even faster movement - in other words if you're doing a continuous pan move then add tilt, Spikie will slow the pan a little (presumably to maintain stability). Lock to lock zoom is nice and responsive, and naturally so are the colour mixing functions. Robe has included their signature virtual colour wheel parameter, and on this occasion this enables recall of 66 Lee swatches, 12 Robin BMFL equivalent colours and 10 user presets. Spikie also offers 2700 and 3200K tungsten lamp emulation. These two features might not seem like a big deal, but the fact Robe has been including them on so many fixtures for so long means Spikie joins a long list of luminaires which are all very easy to integrate with each other. I think that's definitely worthy of a mention.



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# SENNHEISER SPEECHLINE DIGITAL WIRELESS

**Intuitive,  
Automatic,  
Hassle-Free  
Digital Wireless**



By **Jason Allen**

# I

have been seriously impressed by the products that Sennheiser have been releasing for the corporate and educational install environment lately. Their portable audio conferencing solution Teamconnect Wireless recently surprised me with its impeccable industrial design, intuitive user interface, and premium product experience. Sennheiser are forging ahead in this market, with other offerings including their Teamconnect Ceiling beam-forming microphone array, and the whole Teamconnect conferencing environment.

Which brings us to SpeechLine Digital Wireless. Sennheiser are justly famed for the microphones, both wired and wireless, so how does SpeechLine Digital Wireless distinguish itself from their established, more performance and music based, wireless systems? In a word, simplicity – SpeechLine is targeted fairly and squarely at end-users and even technicians with slim to no experience setting up and using wireless microphones. This is particularly telling in a market where the AV component of a corporate install can fall completely under the realm of the IT



**Brand:** Sennheiser

**Model:** Speechline Digital Wireless

**RRP:** Mic and Receiver sets range from \$1529 to \$1949, depending on config

**Product Info:** [en-au.sennheiser.com](http://en-au.sennheiser.com)

**Distributor:** [en-au.sennheiser.com](http://en-au.sennheiser.com)

staff. So how do they go about making it so simple?

In short, by automating as many things as they possibly can. When you open up an SL Rack Receiver and accompanying bodypack or handheld transmitter, and turn them both on, they pair automatically. The receiver scans the RF environment for any interference, assigns a frequency, and will even change it seamlessly if any interference breaks in later. This task is made even easier by the fact SpeechLine operates in the 1.9GHz globally license free DECT range. If there are no other wireless Sennheiser devices (like Teamconnect) operating nearby, you can have up to 20 channels running.

Even audio levels are managed, with Automatic Audio Level Management adjusting gain levels and sensitivity on-the-fly, which I thought would produce an audio result I would heartily disapprove of, but turns out to be completely reasonable, and to my ear, almost undetectable. Audio quality on the headset, lavalier and handheld microphones is more than good enough for speech in any application.

The OLED front panel user interface on the half-rack-width SL Rack Receiver is a delight. The menu options are easy to navigate, and I was particularly impressed by

the built-in 'Walk Test' page – simply select and pace the coverage area to make sure you've got the reception you need. Selecting the 'Help' menu will give you QR codes for the product information page and user manual. I've never seen this done before and I think it's brilliant.

Complete control and monitoring over Ethernet is available via Sennheiser Control Cockpit. It's browser-based, so it works on any device. Within it, renaming devices, checking battery life, link status and even changing network settings is a breeze. It's another well-designed interface, and a joy to use.

Speechline Digital Wireless optional accessories include the SL DI 4 XLR four preamp to Dante adapter for integration into bigger audio systems, and the CHG 2, a charging station for two SpeechLine (or D1 series) batteries. There really isn't anything they've left out or skimped on, and I think the SpeechLine would be more than welcome in just about any speech-based install application.



# JBL EON 208P

## Portable PA

By Julius **Grafton**

Over the aeons the portable PA has taken several forms. There is the one box thing that schools use to address kids. Then there is the musician variant which is scaled from small to station wagon size. JBL's Eon 209P is on the small side, designed for use by one or two people seeking vocal projection and not much more.

It comes as one assembly that pulls apart to provide 2 x speakers, 1 x mixer amp, and inside of this are an AKG mic, cable, and two rudimentary speaker leads. The speaker leads are basically figure eight cable with a mono 6.5mm jack on each end. This was the normal for almost all PA systems when CX was a lad in the 1970's! It is now standard on the entry level, cost effective competition for this guy.

The package weight is under 18kg. It sounds better than it should, because of the march of DSP with tweaks overcoming the issues of lightweight componentry like the 8" woofer and the 1" tweeter. The dual amplifier is 150w x 2, and it accepted my shout test with reasonable decorum.

On the mixer there aren't many controls to confuse the muso. Treble, Bass and Effect pots sit atop the volume control; with group phantom for the first two of four channels. These four channels accept balanced mic and channel 3 can be switched to accept an unbalanced instrument input.

There are a pair of stereo input channels, which takes the channel count to eight, along with a Bluetooth pair button.

The 'effect' is a one size fits all reverb that can be dialed in or out. There is a monitor out, a headphone out, and a subwoofer out.

**Brand:** JBL  
**Model:** EON 208P  
**RRP:** \$1,299 inc GST  
**Product Info:** [www.jblpro.com](http://www.jblpro.com)  
**Distributor:** [www.jands.com.au](http://www.jands.com.au)

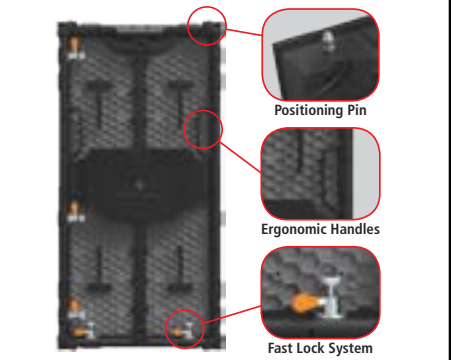


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# RUSH BY MARTIN MH 8 MINI PROFILE

## Back to basics

By Jimmy **Den-Ouden**

**T**he Sydney launch of the original RUSH by Martin series was a pretty cool affair, and true to the heritage of the line it was held in an upmarket nightclub. Since then the line has expanded well beyond the original handful of fixtures to include a wide range of profile, wash, spot, beam, strobe and even pixel type fixtures. Several of these are even available in different sizes, each with different output capability. Originally touted as a line of “affordable” nightclub fixtures the range has now expanded well and truly beyond both this pricepoint and application.



The MH 8 Mini Profile kind of gets back to the grass roots ethos of RUSH; it's a small fixture, it's very affordable and it's perfectly suited to the nightclub market. In fact, it lays claim to being the smallest moving head fixture Martin has ever made. Being LED based it doesn't have any ongoing lamp replacement costs, and so instantly the prospect of considerably reduced maintenance will likely find wide appeal.

When it comes to beam features, the MH 8 is relatively straightforward. The native beam angle is 14 degrees, and the 18W white LED source is claimed to deliver over 800 Lumens. Not exactly arena material, but certainly acceptable when you keep its intended application in mind. The LED source can strobe at rates from 3 to 20Hz.

Colour is achieved via an eight position plus open wheel, which provides a nice selection of colours as well as the option to produce split colour beams. The colour selection is quite sensible, the choices being saturated enough to deliver effect while making the most of the relatively low power source.

An eight position plus open fixed gobo wheel provides for basic beam patterns, and while they

look okay as aerial effects I think they're more suited to projection onto surfaces. The unit has a manual focus adjustment on the front, and albeit limited it's enough to achieve reasonably sharp projection. Pan and tilt ranges are quite typical, and with a relatively simple optical path the head is free to move quite fast.

At 4.5kg the MH 8 is rigging friendly, which is certainly a consideration when supporting structures might not be rated for heavy loads. Power consumption borders on negligible at around 50W, so you can power a stack of units without needing to re-wire anything. In other words, it's retro-fit friendly.

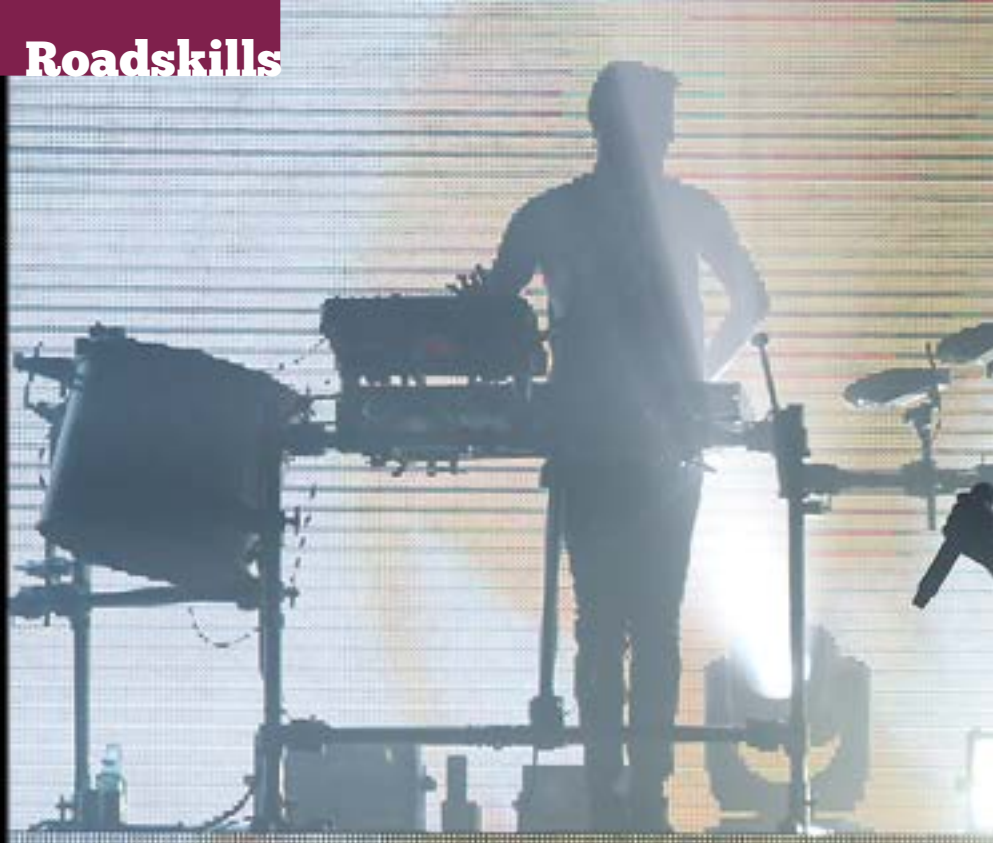
The fixture includes several pre-programmed show modes so if you want to leave it to its own devices then that's just fine. There's also a sound trigger option. For detailed control, you'll need a meagre 10 DMX channels.

That's about all there is to say. I think that while in many applications it just wouldn't be enough of a fixture, it's important to keep context in mind. The MH 8 isn't trying to be everything to everyone, it's just trying to be an affordable little light for nightclubs. I think it fits the bill nicely .



**Brand:** RUSH by Martin  
**Model:** MH 8 Mini Profile  
**RRP:** \$1,190 ex GST  
**Product Info:** [www.martin.com](http://www.martin.com)  
**Distributor:** [www.showtech.com.au](http://www.showtech.com.au)

# BRING ME THE HORIZON





British electro metal band **BRING ME THE HORIZON** toured their lively show around Australia although unfortunately their sold-out Adelaide show and two Melbourne shows were postponed due to lead singer Oli Sykes' acute laryngitis and medical advice to rest.

**B**en Inskip designed one of the year's most stunning light shows at Sydney's Horden Pavilion. The lighting intertwined with the large video presence filling up the letterbox shape of the venue's stage in a spectacular fashion. The lighting was often big blocks of colour that packed a punch next to the video element.



“When we have the space the screen grows accordingly,” said Ben. “The band are very passionate about their video content and Oli is very creative. We also had two stage width steps with video screen facades.”

The design in Australia was the same as that used for the band’s last headline tour of the UK where the brief was to really push the video aspect of the show and get maximum impact from it. Lighting would then add shape and animation to the stage and work with the video to create a smart and tight looking show. With time required to build the set and video, the lighting would also have to be quick to set up.

“The original plan was that it all went on pre-rig, was fast to rig, didn’t take up too much room and would have maximum impact,” explained Ben. “We spec’d Robe Robin Pointes, Robin LEDWash 600 and Philips Showline Nitro 510’s but in Sydney we had Clay Paky Sharpys and Mythos, GLP impression X4’s and Stormys plus Colour Blaze under the perspex decking. They do the job and are bright enough to cut through the video. I find a lot of Sharpy beams, when positioned correctly, can make a room look much larger

than it is.”

Ben’s lighting rig is fairly simple yet effective; three straight trusses and a reasonable amount of gear on the floor.

“I can find the Stormys a little bit tricky to work with but that may be because I have been used to using Nitros for so long,” commented Ben. “The process of fixture swapping them can be a bit difficult in terms of how the dimmer curve and colour behave but overall they’re very good and bright.”

Sometimes Ben’s lighting compliments and mirrors the video content, at other times it blatantly contradicts it.

“It’s quite a fast paced set with a few ups and downs,”

he said. “They have a large catalogue of songs so there’s quite a lot of programming in the console. They’re a fun band to work with and are very trusting which gives me freedom to experiment a lot. The band don’t like too much front lighting and for a long time, they didn’t like being lit at all. The shows used to be really dark and silhouetted with lots of backlight but their latest album has songs that need them to be lit more. There’s a little bit of front light but the front

“ FOR CONTROL  
BEN WAS  
RUNNING A  
JANDS VISTA L5 ”



truss is actually set on stage quite a bit and used more as overhead truss than front truss. We added a fair amount of side light to compensate for little front light and no followspots."

To do this Ben used GLP impression X4 Bar 20's and impression X4's.

"The X4 Bars are brilliant and lots of people seem to be using them at the moment," added Ben. "I've used them as sidelight since we started the tour and have upped them to having a few more on the floor for a little bit extra. If you want to zoom them right down you can create some really cool shadow effects if you tilt them behind the band." They also work perfectly alongside the rest of the X4 range.

For control Ben was running a Jands Vista L5, a platform he has been using for the past four years, although their flying kit is usually a Vista S1 and M1 with a laptop and Wacom tablet.

"Initially the show started off being just a cue-stacked show, cue to cue, but it's now a timecoded show and timecoding with a Vista is really, really easy," Ben remarked. "It's quite fun to do instead of it being a chore."

FOH engineer Oliver 'Hutch' Hutchinson also looks after video although he admits running the content isn't too difficult. The video and the lighting cues run off the same timecode, and Hutch spends a lot of time programming with Ben.

"The video content is all done in advance," Hutch explained. "Every time the band make a change in the set; backline tech Jamie McKivitt, who looks after the playback, will bounce me a guide track with timecode on one side and audio on the other. I then piece it together with the video and so when it comes to the live show, I don't really have to do anything other than the occasional bit of fading."

However Hutch does have to ensure everything fits the screens as they do play with a lot of different aspect ratio screens on tour. Fortunately the letterbox shaped stage at the Hordern was ideal for the design of an 1152 x 288 main screen with an 1152 x 48 on each of the steps/riser sections. All video was supplied by Big Picture.

Hutch used the in house L-Acoustic V-Dosc PA although he describes himself as a d&b audiotechnik man, saying the low end is a lot better for music such as that played by BMTH.

"The d&b is generally more musical in the sub-frequencies," he explained. "I don't really like L-Acoustics for the heavier sound but it's not terrible."

For control Hutch ran a DiGiCo SD5 complete with Waves Grid Server having only recently switched from using an Avid Profile chosen mainly for convenience and the knowledge they can be picked up anywhere.

"We did a show at the Royal Albert Hall with a full orchestra and choir earlier this year and the house



## LIGHTING DESIGNER BEN INSKIP

less and less. Really they're just a hangover from my Profiles days when the plugins were essential. The internal effects on the DiGiCo seem much nicer so I'm slowly taking all the Waves out, there's just a couple of CLA-76 compressors which do sound nice.

"It's not an effects-heavy kind of sound and I only have one delay part. The rest of it is just drum reverbs, backing vocal reverbs and a little bit of thickening on Oli's voice."

The band have an endorsement with Shure so obviously use their microphones wherever possible although there are a couple of Sennheiser mics used.

"We tend to go for standard models such as the Shure 57 so that if we are abroad and break one, we can easily get a replacement," added Hutch.

Australian monitor engineer Jared Daly ran monitors on an Allen & Heath D-Live s7000 console. The band all use Shure PSM 1000 Personal Monitor Systems with JH Audio molds although Oli does have a tendency to rip his out so d&b J8 and J-Sub sidefills were added. A Shure Axient system ensured solid RF performance.

Chameleon supplied the lighting and JPJ Audio the audio.

- By Cat Strom

console was a DiGiCo SD Series," Hutch said. "It had the channel count for the 150 channels we needed and so I used it, and liked it very much. I prefer the layout, the feel and most importantly, the sound. They are easy to use and so far have been very reliable. It also has the ability to feed video down the multicore which is handy for me!"

Hutch describes mixing for BMTH as loud, challenging and fun saying that the band nowadays play quite a diverse set.

"The songs from their early albums are very heavy whilst the newer songs are more of a pop genre which poses quite a challenge," he remarked. "I have no outboard gear but do have a Waves Grid Server which I run a couple of plug-ins on although I'm using them

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# Big Scary



**M**elbourne-based Indie musical duo Big Scary are touring Australia in support of their new album Animal. Lighting design is by Mike MacDonald of Twenty Twenty Creative Productions, a newly formed creative design team working in live performance and concert touring.

Mike has recently picked up a handful of emerging local artists including Big Scary, Emma Louise, and Olympia. He has a talent for producing a light show that is unusual, atmospheric and easy to tour – all with a minimal budget!

“For this tour I have designed a show that represents their music visually, using the colour palette from the bands artwork to create a direct connection between the bands social media to their show,” commented Mike. “The key element for this tour was to offer consistency across all shows, if you see

a photograph from the show in Brisbane or the show in Perth, it’s the exact same product being delivered at every show. In Australia, it’s rare to offer this type of consistency at this level of touring.”

The band have given Twenty Twenty Creative full creative direction of the show from the colour palette to the dynamic builds and mid song blackouts, saying that they fully trust Mike will represent their music.

The design is 100% lit from the floor thus saving load in/out times and the need to hang equipment with ladders.

“It’s really important not to slow down audio and backline,” said Mike. “The second we arrive, we can begin setting up risers and backline. We designed the lighting rig around the band including the band keylight.”



It takes 1.5 hours to load the show in with a one man crew and some assistance from the band members to place the Martin MAC Vipers.

"It's amazing to be able to teach the band about the purpose of each light," added Mike. "They recognize what each fixture does, and call it by its name. 'Shall we get the Vipers and dreamPIX in place before the risers go in?' ..... jaw drops in disbelief that musicians actually understand!"

As everyone on stage is very stationary, Mike used RGBW LED PAR as front/side key lighting saying that he initially wanted Martin RUSH PAR 2 fixtures but he couldn't get any as they're all out doing musicals!

"They're such a great fixture but I've just been picking

**The band  
have given  
Twenty Twenty  
Creative full  
creative direction  
of the show.**



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**Mike MacDonald**

concerned by the two-sided element of the dreamPIX wondering if he'd get what he wanted out of them. "I played around with them adding mirror gel to the back of the tube, but that didn't really work so I left them as they are and just rolled with it," he said. "You get plenty of sparkle out of them and there's a moment in the set where there's a roll of the keys and the strips chase from stage left to stage right which looks great."

Mike owns MA Lighting grandMA2 onPC command wing and fader wings but they are currently on a long term project filming on the Gold Coast, so he had to hire one from Chameleon.

up RGBW LED PARs and that seems to be doing the trick," he said. "It's the six Martin MAC Viper Profiles on the floor that provide the big money look especially with the smaller venues that we are doing. You can get really big looks out of them just by adding a rotating gobo, focusing them into the audience"

Martin Sceptrons were on the original plot but again Mike couldn't get any as they were all out on hire and so he looked at the ShowPro DreamPIX Tubes. Whilst they are not as bright as Sceptrons they do add an enticing sparkle to the stage

"It's a good fixture and very well made," said Mike, who is touring the dreamPIX along with the ShowPro Node. "I knew this product would be in every photograph or IMAG shot at festivals - they add consistency between the shows, which is the drive of the design."

Maximum fixture count per node is 16 x dreamPIX Tubes so Mike is touring exactly sixteen which is four universes of individual RGB cells. Initially he was

"I've always been an MA user," began Mike. "It's a very powerful platform, from the onPC system to using a full-size console. It's the same button pushes, syntax, muscle memory, workflow. Workflow is really important in how we deliver our shows, from loading a user profile, creating global palettes and presets. It doesn't matter if you have 6 fixtures or 600 fixtures, everything is manageable. The product and software support from MA lighting has always been superior to other manufactures."

Big Scary go back into the studio in December to continue writing and recording on their newly found love for indie electronic grooves, high energy ballads and stadium sounding saxophone parts.

Closing out the year Big Scary are playing Fairgrounds, Lost Paradise, and Falls Festival.

- By Cat Strom



# JOIN EMERGING ARTIST VERA BLUE FOR SOUNDCHECK

When FOH engineer Chris Braun received an email from Aussie singer-songwriter Vera Blue's management expressing interest in him mixing for her, he had no idea who she was.



“I did my usual background check: iTunes, Spotify and YouTube,” he said. “The record was stunning and her voice is obviously next level however, I had heard amazing vocals on record before that don't translate live. I then found the Triple J 'Like A Version' where artists don't get very many takes and there isn't any heavy editing going on, it's nice and raw and can really show up any weaknesses in things like vocals.”



  
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"I checked out the cover of Breathe Life by Jack Garratt and it was a killer, I then listened to her performance of her own song Hold which gave me the comparison between the recordings and live and, well ..... her voice is even BETTER live! It took me all of 10 seconds to make my decision and I replied to management with a simple 'I'm in'."

Before this tour, Vera Blue (real name Celia Pavey) did a small support run with Broods which was a three

// I gave the festival monitor engineer a pack so he could listen in which also meant he heard what the band hear. If something goes wrong, they are there and have heard it and we can be in instant communication with each other. *Chris Braun* //

piece set up without live drums. After that, there was a makeup show for a Matt Corby gig in Sydney at the Enmore, then it was tour time.

The tour visited all of the major cities plus Darwin and Tasmania with a string of sold out performances. "It's been super fun," commented Chris. "When you're working with a voice like Celia's, backed by a band under the watchful eye of someone of the caliber of MD/drummer Dave Jenkins Jnr, your life really becomes pretty easy. We've just finished a couple nights in Sydney at the Oxford Arts Factory and the shows were just stunning. I see this show several times a week and even I was like 'what the douche?' I've seen tears in eyes, I've seen smiles, I've seen people just looking at the stage not knowing what to do ..... it's a real pleasure for everyone involved whether you're on stage, behind a console or in the audience."

After the initial chat with management and Celia about the previous tour, it was obvious that consistency and monitoring were the main concerns moving forward. With this in mind, Chris put together a FOH control package from his own company Bloc Audio.



The control package included a MIDAS Pro1 with a DL251 48 x 16 rack with monitoring taken care of by Sennheiser G3 IEM units. A full microphone and DI package plus stage drop patch system and multitrack solution were also toured. With this package, Chris can have the console in, core run, io and monitoring up and running inside of half an hour from arrival.

“The show had a total of 34 inputs from stage, four stereo sends of IEM’s as well as drum sub and sidefill sends to give the guys a bit of vibe on stage,” added Chris. “We toured this package for the entire run and took it into a couple of festival appearances. In these situations, I still run all the IEM’s and stage mixes from FOH. Everything was so dialed in and the respective production managers were that helpful, it allowed me to confidently run things from out front with enough time on the bump in to ensure everything was air tight.

“I gave the festival monitor engineer a pack so he could listen in which also meant he heard what the band hear. If something goes wrong, they are there and have heard it and we can be in instant communication with each other.”

According to Chris, touring this package allowed the band to simply play and feel 100% confident on stage. The difference for the band was that they were no longer thinking about anything other than playing, Chris is there 100% of the way with them and they knew that support was only a glance away.

“Touring all our own mics, DI’s, console and IEM’s meant our level of consistency was the best possible,” he remarked. “Soundchecks were super quick and easy on a daily basis. Out front, I obviously tuned PA to sound the same as possible each night. I used tools available within the MIDAS Pro1 to achieve this, which meant there were very little - if any - changes to be made on the inputs and that rolled down stream to the band resulting in the same IEM mixes each night.”

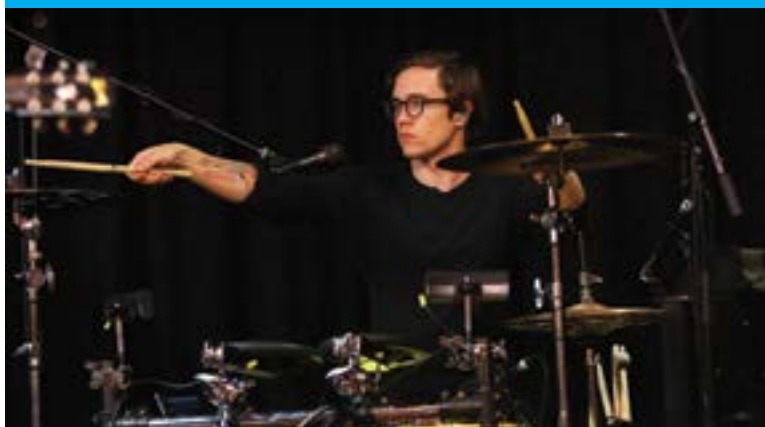
Chris also toured a multitrack solution which allowed him to fully record each show for any potential use later. This also allowed him to do virtual sound checks where necessary like early mornings at festivals before the gates opened. “It’s also allowed me to refine things,” he said. “On day one of rehearsals I let the band figure the show out, what they were playing, arrangements etc. with some rough IEM mixes in an attempt to stay out of their way while still allowing them to do their thing.

“Towards the end of the day, I hit record and we ran through the set. I sent the band home and hung around into the night and dialed in sounds, effects and most importantly, their IEM mixes so we had a solid foundation to start on for day two.

## Hybrid drum rig

Dave Jenkins Jnr has one of the most interesting and versatile set-ups in drum world that Chris has ever worked with. Given the nature of the Vera Blue material and the range from acoustic to electronic music, he’s built a kit that allows him to take full advantage of both styles.

The drum kit setup is a hybrid rig comprised of Yamaha oak custom shells, an acrylic snare (made by local Sydney company Blackbird Drums), a Gibraltar rack with Roland PD8 & BT1 triggers, KT-10 kick pedal trigger, and an RT-30k kick trigger on the acoustic kick. This all runs into a ROLAND TMC-6 trigger to midi converter before hitting the Ableton rig where all the samples are triggered from drum racks in the master session.



“In the past I have used an SPD-SX pad as the base of my operations, but this time around I wanted to build something from the ground up and not be inhibited by the restrictions I had run into in the past, said Dave. “Running the drum triggers out of Ableton has really streamlined the whole set building process for me. Changing sounds or layering sub samples is as easy as dragging and dropping and can be done during soundcheck and even during songs if necessary.”

As well as the drum triggers, certain backing track elements are also run out of Ableton. While the majority of parts are played by the band, there are a few elements that have been left on track to retain the impact of the original recordings. Things like harp lines, percussion loops and FX are all being sent from the Ableton rig, as well as a click for drums and a click for the rest of the band. (The two clicks are necessary to cueing different members at different times).

Front of the stage, is an Akai MPX16 which has become quite a feature in the Vera Blue set, and something that Celia has really taken to. This small touch pad is armed with 16 velocity pads which are midi synced back to an Ableton drum rack loaded up with vocal samples and synth sounds that have been taken from the original recordings.

Over in keyboard land there are also some midi elements hiding away alongside Beau’s already impressive setup; Moog Little Phatty, Dave Smith Mopho x4 and Korg Minilogue. Beau’s Mopho x4 has been setup with a midi out signal being sent back to the Ableton rig. This means he can trigger soft synths and access sounds that are not specific to that keyboard (like a piano sound). He can also blend it with the Mopho’s onboard sounds to create thick analogue stacks underneath the Ableton sounds.

The playback rig consists of a MOTU ultralite mk3 (running 10 audio outs), MOTU microlite midi interface, Radial PRO8 rack DI, and a souped up MacBook Pro.





The team came in the next morning and within about 10 minutes of playing, we'd made all the tweaks required of the IEM mixes and haven't really made many changes through the tour at all."

Bloc Audio has recently started a new relationship with JH Audio IEM's and have put Celia on a set of custom JH16 Pro's (with blue sparkle!) and drummer Dave is also on a set of JH13 v2 Pro's (with silver sparkle) which is a significant improvement from the generic, albeit top quality, IEM's they were using prior.

"We started the tour on the Shure 535's with great results but Celia's ear canals are simply too small for any of the ear pieces available and while she was very happy with how it was all sounding, she was finding it a little uncomfortable from time to time," explained Chris. "Working with Sue at JH Audio, who is extremely accommodating, we were able to get Celia fitted and her IEM's turned around super quickly which meant it wasn't long before we made the switch."

Chris commented that making the change during soundcheck when the moulds arrived was a cool experience.

"We started the check on the Shure 535's and switched over to the JH16 Pro's so Celia could get a direct comparison. Her face lit up with the difference, the added depth and stereo image made her experience that much better and I hadn't even changed anything! Add to that the comfort factor and I had one pretty happy boss on my hands.

"As we worked through the soundcheck, we made small adjustments to her mix to accommodate the new monitors. The biggest thing Celia noticed when wearing the moulded ears was the amount of extra mechanical volume she could hear from herself. Her inner ear was revealing things she hadn't really heard before, the sound of her own voice traveling up her jaw bone and into her inner ear became extremely obvious when coupled with the added monitoring of her vocal through the IEM's.

"This was a little bit of a challenge because it's something only Celia can hear, I can't cue up her mix and hear the effect of her mechanical sound and how it interacts with her inner ear. Given it was a new sound for her; Celia had a bit of trouble expressing exactly what it was that she was hearing. A slight EQ filter sorted the issue and the smile was back again but as an audio nerd, it was pretty cool to put that theory into practice."

Celia's vocal is one that you can simply turn up and go although Chris used the MIDAS dynamic EQ to control certain ranges of her vocal, given the dynamic nature of the show. When she really goes for it, 5k can jump out a little so the dynamic EQ engages at that point. Chris also controlled some low mid energy - a couple of dB at most every now and then. From there, he might add a small filter here or there depending on how the room goes when it's full post soundcheck but otherwise, the EQ is flat.

"There was some light compression going on as well, just a 2:1 ratio across her FOH vocal channel," Chris said. "Celia's vocal control is among the best I have worked with so I don't need to be 'controlling' her, she does that herself. If Celia's vocal jumps up, it's because she wants it to, the compression is pretty much there to just keep a handle on things so there are no major surprises.

"There were plenty of effects cues, some obvious and others not so much, but it all goes together with what the band are doing to create what I can only describe as a sheer wall of sound in several moments of the set."

Chris was not using any third party plug-ins on this run although he had thought about it and even had it set up ready for rehearsals. However, it became apparent pretty quickly that he just didn't need to "fix" things or control them. He had one or two things going on in the MIDAS effects rack for verb and the dynamic EQ but other than that, it was a pretty pure signal path from stage to listener.



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One thing that Chris created and managed at FOH was the sub content. Beau played all the bass information via a Moog while playing all the other synth's as well - but the real ankle rattling, big 'warm hug' stuff came from Chris' end.

"Beau and I worked pretty closely to achieve this and the results were BIG!" declared Chris. "On the drums there is just a short verb and some parallel compression, pretty standard stuff. I'm not a big fan of long reverb tails in the live world unless it's an actual effect like snare bomb or something. I find long verbs linger around too long and muddy the image but what I do like is the space, so there is a big, yet short verb on Celia's vocal. I also have a very short slap delay that I use in different parts of the show, sometimes barely noticeable; sometimes it's right out there. I find the space it gives, along with the short verb, produces a really interesting space while still remaining clean and not getting in the way of the vocal itself."

Chris started Bloc Audio with his good mate David Cuthbertson (who owns his own production company and is a seriously switched on acoustician) and they specialize in custom control, monitoring, recording and communication packages for fly date tours. Everything they do is based around the 23kg and 32kg limit for flying which means the entire audio control, monitoring, patch, recording, mic and DI package that they're touring with Vera Blue all fits on a plane with no issues.

"Everything we do is milspec, from connectors to cable infrastructure, everything is packaged properly with no corners cut," Chris added. "The foam, casing, weight, reliability and service have all been considered. The idea is that everyone should have access to the best gear and be able to achieve the kind of results we have on the Vera Blue tour without breaking the bank. Each of our packages are designed and modified around the needs of any given tour. This can mean different packaging, wiring, MIDAS or DiGiCo consoles, Sennheiser or Shure IEM's, Motorola radios for crew .... whatever a tour needs."

- By Cat Strom

Here's a plug for Chris' website:  
[www.blocaudio.com.au](http://www.blocaudio.com.au)



# LISTEN HERE

## SILENCING THE THINGS THAT RING

By Andy  
**Stewart**



When you're mixing audio for commercial release it's important to keep an ear out for insidious resonant frequencies that hide like weeds inside individual instruments. If you don't control or remove these dominant overtones you may end up with a peaky, unbalanced mix that doesn't translate well into the outside world.

It happens a lot. Certain recorded (or for that matter, live) instruments will often exhibit a resonant 'ringing' at one, or commonly several, harmonic frequencies, often to the detriment of a sound's clarity, tonal balance, and ability to remain stable across different audio systems.

When you're starting out in this mixing caper, resonant 'ringing' within a recorded sound can often be hard to perceive. These unruly frequencies are often embedded in a sound to the extent that – to the untrained ear at least – they simply appear as part of that sound's inherent 'character'. Consequently, there's often no real thought given by inexperienced engineers to finding and treating these resonances since they're not perceived to exist in the first place. Left unchecked however, these insidious overtones can regularly undermine a mix, resulting in poor tonal balance that ultimately makes a mix sound cheap, harsh and comb-filtered.

It almost goes without saying then that learning to spot these energy build-ups is an important skill to master if you're to become proficient in the art of mixing. Once your ears become accustomed to the telltale signs of ringing resonances, you'll start to realise how common these problematic frequencies are, and how regularly they work

against a sound's inherent tonal strength and balance. There are several interrelated characteristics of ringing resonances that make them unwanted in most cases. The most common among these are: atonality, inherent dynamic imbalance, tonal instability and masking.

### ATONE-NOT-MENT

Atonality is where a resonance manifests at a frequency or frequencies unrelated to the music.

This type of sonic anomaly is sometimes overt, making it hard to overlook. These are the easier problems to manage (cured typically with an EQ that cuts out the offending frequency band with a very narrow 'Q' setting... but more on cures a little later).

But some resonances are subtle, possessing the uncanny ability to impart malicious dissonance into an audio signal, adversely affecting a listener's impression of that sound on a semi-conscious level. These are the worst types of ringing resonances because they often go untreated by the mix engineer, and subconsciously put a listener on edge without he or she ever really knowing why.

Atonal resonances are particularly common amongst percussive elements, like drums. A snare, for instance, might exhibit a dominant resonance that gives it an obvious note that's unsuited both to the sound of the instrument itself and the key of the song. Even when it is sympathetic to the key, it will still likely cause problems since the note will voice relentlessly throughout the track every time the drum is hit. If a similar note were played on a guitar with such monotonous regularity, would it be called into question by the arrangement? Maybe.

If so, why not then the drum?

But of course, my standard disclaimer must apply here: in this subjective world of mixing, nothing can be judged

good or bad, except in context. It's important to judge for yourself to what extent or other a resonance of this type is suited to your mix. Who knows, it may be a good thing. In the case of our recorded snare, removing its 'note' might leave the drum sounding utterly mundane – it's never wise to prejudge or apply blanket solutions to any sound.

## VOLCANIC DYNAMIC

Ringling overtones can also exhibit manifestly different dynamic response characteristics to the rest of an instrument's sound.

If, for instance, there's an increase in an instrument's volume by, say, three or four decibels overall, its ugly resonant frequency might rise by six or eight, thus markedly changing its apparent tone over that time period. To make matters worse, these peaks and spikes are often erratic, sometimes occurring randomly at unrelated intervals to the tempo or time signature. They can also corrupt a sound signal for different lengths of time; sometimes over seconds or even minutes, at other times fleetingly over mere microseconds. This has a bearing on the way a problem is treated.

## REMOVE THE MASK

But arguably the most common problem of ringing resonances, irrespective of what causes them, is that they tend to 'mask' the true character of an instrument. It's only when these problem frequencies are reduced or removed that an instrument can truly shine in a mix.

Some argue that masking really only takes place when or if the resonance peaks occur in the low-end of the frequency spectrum. But I disagree. For mine, masking can occur at any frequency. Often a harsh upper midrange peak, for example, is every bit as capable of masking a sound's true nature as a low-end problem.

In the same way that clouds can mask the sun, so too the sun can mask the stars. In the end the principle is the same: whether bright or dark, both have the ability to restrict your capacity to hear something else that's hidden behind it.

## TO THE SOLUTIONS

Enough about what forms these resonant build-ups take; how do we fix them?

The good news is that, in the main, resonances are relatively easy to reduce or substantially remove. The hardest part is spotting them in the first place, but we've done that already.

But before we dive for our latest and greatest resonance-squashing tool, we do need to acknowledge one thing: that resonant build-ups have several root causes that, as we've just discussed, exhibit different behaviours within a sound. This makes choosing remedies a little trickier than you might think.

## THE EQ SOLUTION

Where a resonance is fairly relentless, a good first option is a digital EQ plug-in. In the modern world of plug-ins

where visually enhanced EQs, multi-band compressors, and noise reduction facilities are commonplace, spotting an overbearing resonance is quite straightforward.

In some cases it's a simple matter of inserting your favourite EQ (which includes a real-time analyser) across your problematic sound, and looking to see where its peaks manifest. This may seem like cheating, but it's quite effective, especially where a problem is stark.

For example, an instrument might have been played in a room with poor acoustics (surely not!), causing it to ring outrageously in a narrow band of frequencies. This will be obvious on most real-time analysers, appearing as a hump in the graphic display. Cutting it by the right amount is then just a matter of good judgement.

What's important to understand about this sort of issue is that, by substantially reducing or removing the build-up with a narrow-Q equaliser filter, you're not so much removing certain frequencies from the instrument as rebalancing them so they're proportionate to the rest of the signal.

## MULTI-BAND COMPRESSION

If a resonance comes and goes, as it might do in the case of an occasionally miss-hit snare or within a bass or lead guitar melody, you might choose instead to apply a multi-band compressor/limiter. In this situation we don't necessarily want to reduce or remove certain frequencies

altogether. If the problem is occasional we only want to control it when it manifests. Multi-band compressors do this well because they allow you to target a certain frequency band but only when the sound exceeds a certain threshold. Their shortcoming is that they generally can't focus in as narrowly as EQ.

## NOT SO RINGY

But what about the more subtle resonant build-ups? How do we spot those? Sometimes an engineer only investigates these on a hunch, when a sound is deemed too boomy, harsh or glassy. In some of these cases there will be a resonant ring, but it will be hard to hear and won't necessarily show up on an analyser. What then? Guess?

In some ways, yes. The old technique of sweeping across the frequency spectrum with a strongly boosted narrow-Q'd filter can sometimes reveal the problem. But it can also lead you up the garden path in a major way. The problem with the sweep-and-hope technique is that, when the Q is narrow enough and the boost significant enough, every frequency can sound like it has problems! The trick here is to do two things: try and focus on the problem frequency before you do anything, and if necessary sing the note to yourself that the sound appears to make. Literally sing it while the track is playing. Now sweep until you hear that note ring out. If it jumps in volume and appears more strident and uglier than the others, you've probably found the problem. Now cut to taste.

**Good luck!**

Andy Stewart owns and operates The Mill in the hills of Bass Coast Shire in Victoria. He's happy to respond to any pleas for recording or mixing help... contact him at: [andy@themillstudio.com.au](mailto:andy@themillstudio.com.au)

# Two Stewing Stinkers

**ATO and Adelaide set to suffer**

Biz Talk  
November 2016



By Julius Grafton

**T**he magnificent new Adelaide Hospital has formed before our very eyes as we come and go through the lovely Adelaide Convention Centre. We were there last month with ICTECH, our third visit this year. From the loading dock at the center you look straight over to the building site.

We're talking a building project that has taken years and years and it is still

not ready. The builder is trying to wrangle an extra HALF a billion dollars from the Government for delays and variations.

They say it has become the third most expensive building in the world. Problems include no provision for patient files as it was supposed to be paper free – yet the software to do that is not ready. Spotless have been on the job for months, charging weekly fees for catering and cleaning services that are not required because the building is not ready.

No one takes responsibility when taxpayer funded works go wrong.

Over at the Australian Tax Office, they see a looming crisis thanks to the 'sharing economy', which is bovine excrement. I should know – my lovely bride and I wholesomely embrace AirBnb and Uber. I drive, and we rent our spare room at our palatial inner city terrace to hordes of happy Belgian and Brisvegas visitors.

The crisis is because MOST people are NOT equipped to deal with tax. Uber, Airtasker and AirBnb do not recognize borders. They just sign us up, and we deliver a thing, and they pay us (minus their fee)!

We are paying our tax as we go, easy for us because I just channel the money from the sharing economy into one of our companies as external income. Completely legitimately. It offsets my outrageous drawings, and the GST is automatically calculated.

No one takes responsibility when taxpayer funded works go wrong.

As I ride Uber, sometimes I talk shop with the driver. They are universally confused about their tax obligations. For its part, Uber keeps them posted with a tax statement that shows them their gross earnings, less its fee. Uber charge a hefty 25% fee to newer drivers, I pay 20% whenever I drive since I went online with them a long time ago when it was technically illegal in NSW.

Every year the tax office gets a feed from Uber and writes to each driver reminding them of their earnings. What happens then I have no idea. But I do see a lot of maybe 'transient' workers, possibly on student or other temporary visas, driving Uber. They are free to depart Australia without settling ANY tax debts.

Uber are fighting a ruling that says all drivers must pay GST on all earnings – even earnings underneath the common GST threshold of \$75,000. But while they fight the ruling, they don't encourage the drivers to pay the GST. This means many drivers will have potentially large GST liability if Uber lose the court challenge.

Meanwhile I still see stacks of adverts for cleaners and drivers with an ABN, evidence that sham contracting is still rife. As many freelance crew and production suppliers know, casual workers must be paid inside the PAYG tax framework, be covered by workers compensation insurance, and have superannuation paid once they earn more than \$450 or so.

Sham contracting is where an employer seeks to avoid their obligations by requiring a worker to submit an invoice for services, which is then paid to them exclusive of PAYG tax. It throws the responsibility for tax onto the employee.

Generally a sham contract is one where the employee is paid by the hour. A real contract is seen to be where a service is supplied that is complete, and not tolled by the hour, and where genuine tools are also supplied.

Fair Work Australia has a set of tables and tools for determining who is an independent contractor, and who is an employee.

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**T**he Australian entertainment technology manufacturing sector is analogous to the greater national manufacturing landscape for the future. The idea that Australia cannot compete internationally as a manufacturer is a false generalisation. Currently we can count on one hand the number of local entertainment technology creators who have sustained success in export. Aside from the necessary imperatives, what they do possess is effective leadership, and their achievements signal what is possible, if we are up for the challenge.

ACETA asserts, the creative/manufacturing sector of the Australian entertainment technology industry has the opportunity now, to position itself as a prominent source of supply to the international marketplace. If we understand our potential and embrace the unified ACETA vision, we can increase export income by hundreds of millions of dollars and create thousands of new employment opportunities.

### THE CURRENT LANDSCAPE

In global terms, the entertainment technology industry is navigating a challenging course. Worldwide the industry has shed personnel and moderated expenditure, in particular research and development. As technology merges, consumption is transforming to a more broadly based market environment, a natural correction is taking place, all indicators say the immediate future will be turbulent for many participants, who will need to understand the challenges before they can successfully address them. It is a buyer's market and the emphasis on logistics, namely getting as much product out the door as possible to appease investors, will be difficult to sustain. What does this all mean in moving forward?

Sustainability will most likely require a more equal balance between marketing and engineering. It will almost certainly mean a more appropriate balance between features and performance. Future success will require collaborative client focussed partnership. One suspects we will see more defined product/system delineation between consumer and industrial/professional, a situation that has become blurred in the last few decades. It seems apparent that innovation and the aspiration to high performances standards is being led by the niche and private sector, who often see success in a long term vision, rather than the typical short term view of many large corporations, driven by the quarterly report to the stock exchange.

### MOVING FORWARD – THE ACETA VISION

If we view the preceding section as a reasonable portrayal of the current industry landscape, Australia's creative and manufacturing sector is well positioned to substantially elevate its international influence and become a significant source of supply of entertainment technology in all its forms. Our sector is conveniently compact organisationally, and usually niche by nature, creating well defined 'points of difference'. Participants are resilient, proven in the development of high performance technology, and with very little if any baggage, a highly desirable international supply partner. But most, importantly, it is now empowered with its own 'peak body' that will unify, create and share resources, develop pro-active promotional programs and deliver clout where needed. ACETA has identified at least 80 local organisations engaged in the development and production of entertainment technology. They are typically small to medium sized, privately owned, and engaged in a broad range of technology sectors, both

traditional and contemporary, some have attempted, or aspire to export. Those who export indicate they could significantly increase activity with the support of industry driven resourcing initiatives. This would not only deliver elevated commercial activity but also increased employment across a broad spectrum of trades and professions. In summary, today it is evident that in most sectors our creators/manufacturers can challenge their international counterparts in export markets and balance the trade ledger. All participants in the Australian industry benefit from a prosperous producing sector. ACETA is determined to enhance our industry and nation by increasing output and employment, by way of focussed export programmes and resourcing, the likes of which have never been attempted before. The flow on affect will impact positively across all trades and professions associated directly or indirectly with the entertainment technology industry.

ACETA has established an array of resources to benefit our manufacturing members encompassing; industry guidelines,

accreditation, self-regulation of product compliance, compliance testing, promotional, advertising and exposure, safety and well-being, OH&S, resource material,

skills shortage, employment and leadership mentoring to name a few. ACETA will soon engage with the federal government proposing preferential development and export assistance for the manufacturing sector of the ACETA membership. Please note; financial benefit will only be available to established members, the board of management is currently deliberating on a membership qualifying period before eligibility for any financial benefit should we be successful in our assistance aspirations.

The bigger picture here is the need to 'value add' to our industry and nation; if we don't create, make, employ, trade, the nature of our society will change and not for the better.

**All the best**  
**Frank Hinton**  
**President ACETA**

If we don't create, make, employ and trade, the nature of our society will change

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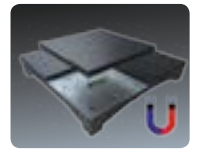


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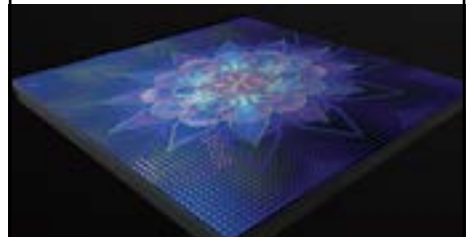
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<sup>1</sup>Passion, Pride, Pitfalls Dec 2014

DUNN CAN



Fry

## My First Space Echo



Possession may not be everything, but it's a good start

Back in the day if you wanted to add some effects to the vocals, the only effect you could get was an echo unit, usually some kind of tape delay. This was essentially a mini version of a reel-to-reel tape recorder. A loop of quarter-inch tape whizzed around and around past a record head, then past one or more playback heads, and then an erase head, and the process started again. They were pretty expensive things, so when I started out I couldn't afford to get one.



When I somehow got hold of a Watkins Copicat for a low price, which was an English one originally designed for guitarists, and OK if the bands all wanted to sound like The Shadows!

Sadly not many of them did!

However if used subtly (Hah - that's me - Mr Subtle!) it did make a bad singing voice slightly more tolerable by sweetening up the vocals.

It also had a bad habit of chewing through tapes like there was no tomorrow. Today we would call that an 'undocumented feature' but the use of such weasel words was less prevalent back then.

In essence, halfway through a song there would suddenly be a loud scrunching noise as chewed up tape passed over the heads and snapped, followed by silence, leaving the vocals standing alone in all their unsweetened flatness.

I started working regularly with a band that had the delay everybody wanted at the time - their very own Roland Space Echo, model RE201. This was the 'Rolls-Royce' of tape delays; great sound, and ultra-reliable.

To digress for a moment, the 201 also had a built-in twangy reverb, the 301 added chorus and sound-on-sound, the 501 had XLR balanced Inputs and Outputs, and if I remember correctly, the SRE-555 was rack mountable and could slide out of the rack for easy servicing. You would see one of these in every big tour that came through.

Roland had obviously researched the tape chewing problem, and solved it by not using a short loop of tape under tension. Instead, it used a much longer loop that just wriggled around loosely on a tray, passed over the heads, and spooled back into the tray waiting to go round again. It was like watching a dish of little brown snakes slithering around.

Another of the secrets of its success was using lubricated tape. Instead of regular quarter-inch reel-to-reel tape, it used lubricated tape from the endless loop cartridges (carts) used by radio stations, and later by consumer car audio players. A coating of graphite on the back of the tape meant it would keep on slithering till the cows came home!

But back to the thread of my story. (There is one, Dunk? Ed) Unlike my Watkins Copicat, the Roland was built like a tank. It was about the size of a Fender Champ guitar amplifier, weighed at least as much, and proudly sat up on top of the effects rack, just waiting for a drunk to slop a drink on it! Actually I hesitate to call it an effects rack, because it had no effects in it whatsoever, just an equalizer, a dbx163 compressor (cheap but effective), a cassette deck and a draw full of cassettes.

The band wouldn't let me look after it for them in between gigs, so at the end of each night I would carefully unplug it, hand it to them, they would solemnly check that I hadn't worn it out, and it would go into the singer's bag, to reappear at the next gig.

## SECTION II: HOW THE ECHO CHAMBER "RE-201" OPERATES

### 2-1 GENERAL

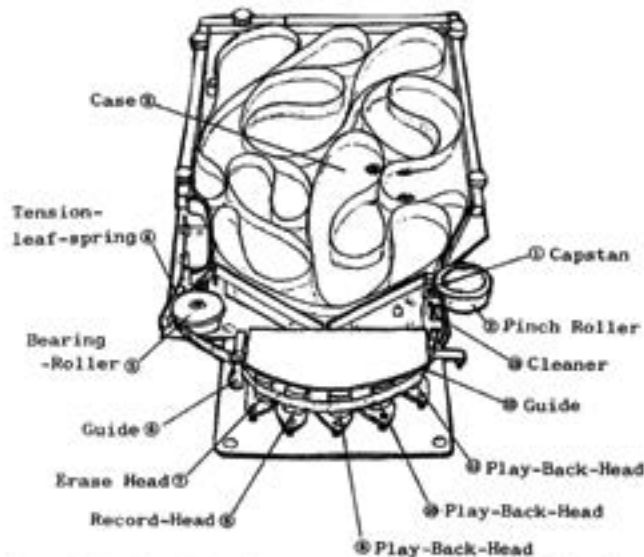
Echo chamber, Model RE-201, is consisted of 2 major separate sections:

- 1) Mechanical Section to control the drive of the magnet tape, and
- 2) Electrical Section of which the control devices are mostly concentrated at the front panel.

### 2-2 TAPE RUNNING SYSTEM

The figure below shows roughly the setting of the magnet tape.

When the power turned on, the Pinch-Roller moves toward the Capstan and the tape pinched between these two starts to run by the driving force from the capstan and pinch-roller.



After entering into the chamber, the tape accumulates its own slacks and select its way till exit where it meets the tension-leaf-spring (4) which governs the feeding tension of the tape to the heads (7) - (11) passing over the bearing roller (3). The Guide (5) next is to assure of the right pass way of the tape to the heads (7) - (11).

RE-201 features a five Heads design, of Erase Head (7), Record-Head (8) and Play-Back-Heads (9) (10) (11).

Erase-Head (7) makes the tape ready for recording by the Record-Head (8) of the new sound fed into this unit, and this recorded sound is played back either by one of the play-back heads or in any combination of the selected heads from (9) (10) (11) by the Mode-Selector on the front panel.

Being originally intended for a musician or guitarist to use (!), the 201 had a socket for a footswitch that you could stand on and stop the tape mechanism when it wasn't needed. For PA use, a footswitch wasn't necessary, since it was on whenever the band was playing. But if you made up a shorted out jack plug, you could push it into this socket and stop the tape mechanism during a break so the tape would last even longer.

One band who had haggled over the cost of renting the PA actually sent one of their girlfriends down to the mixer to check that we were using the Space Echo and that they were getting their money's worth! When she saw us push the plug in and stop it during a break she ran back to the stage and yelled out "They're not using it, they're not using it!" The band trooped down to see why not, only to walk away embarrassed when we pointed out the reason to them.

I was still using it on a short tour with a band called the Defects, when I nodded off to sleep while mixing a gig in Canberra. Unfortunately as my head sagged onto the mixing desk, my elbow pushed up the echo return fader, so that for the next three songs 'Everything-thing-thing Sounded-ed-ed Like-ike-ike This-is-is'. None of the audience noticed, nor the band; in fact they complimented me on the sound at the gig. Makes one wonder how bad things have to sound before someone will complain. Mind you, if the Kick drum is half a dB too soft there will be a succession of drummers lining up at the mixer to complain!

Then one night things suddenly went wrong in the band - lots of pouting, glaring, missed cues, arguments, bruised egos, shit-on-the liver and more. Not good.

At the end of the gig after the PA was all loaded up, I went over to the band who informed me they were breaking up and didn't have any money.

"What about tonight's gig?" I said.

"Looks like we'll just have to owe you," said the singer. "we'll fix you up when we can."

In a pig's arse, I thought to myself, but kept calm.

"OK then," I agreed, "but in the meantime I'll look after this..."

and I handed the Space Echo to my trusted assistant Lurch, who wrapped his meaty hands around it, elbowed his way past the band and spirited it away to the truck.

All hell broke loose in the band then, with lots of arguing, yelling, pushing and shoving between themselves and the singer, who was the actual owner.

We left them to it, and drove away into the night. I never saw any of them again!

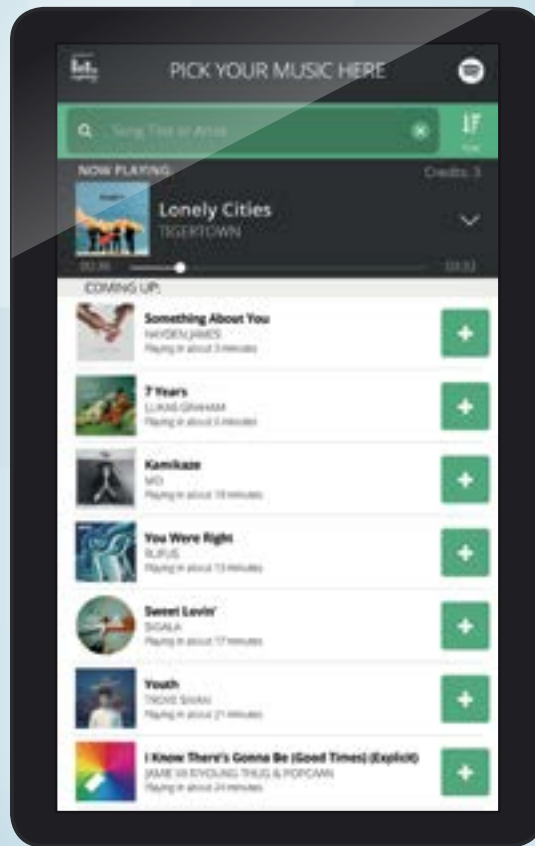
I eventually sold it about 5 years later for a couple of hundred dollars, at a time when everyone was wanting the pristine shimmer of a digital delay, not the warm analogness of tape. Now I see they are asking over a thousand dollars US for a good one, so I can add the RE 201 to the list of things that I should never have got rid of, alongside my Series 1 flat-floor E-type Jaguar convertible, numerous guitars, a very early Vox AC30 twin 15" model amplifier, original Dallas Rangemaster treble booster, original Fuzz Face pedal, house in Brighton - although that included wife v.1 as well, so I shouldn't complain!

Still, who knew that things we so casually disposed of back then would be worth so much now? We all thought that things would get better and better, and that older stuff would not instantly become valuable and collectable the minute after we grasped the buyer's money in our hot little hands!

**I guess some smart bastards must have known, but I'm not one of them!**

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