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**Theatre**  
Lighting Sondheim

**Entech**  
**Connect 2014**  
Melbourne

**BIG MF LIGHT**  
Robe reveal

**Roadskills**  
Keith Urban  
Tex Perkins  
& more!

**GEARBOX REVIEWS:**

- Soundcraft Vi3000
- Clay Paky A.Leda B-Eye K10 & K20
- DPA Podium Microphones
- Robe BMFL • Dynacord AXM-12A

**CX NEWS:**

- Helpmann Awards • Robe launch
- Open HD • Bosch • Riedel expand
- Telstra trial 4G • ENTECH Melbourne

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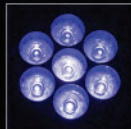
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# CX INSIDE ISSUE CX96

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## EDITORIAL

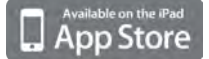
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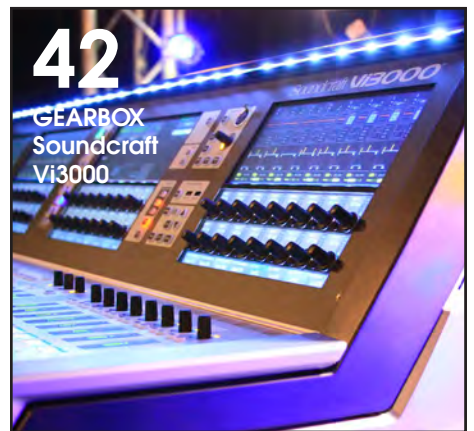
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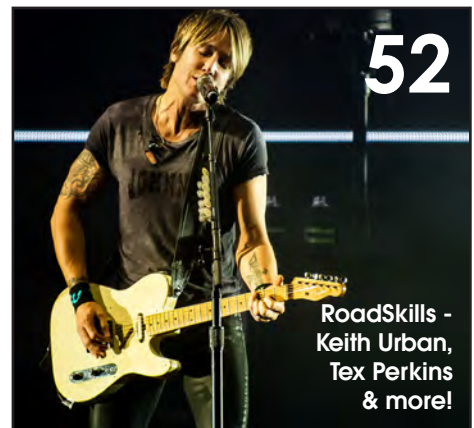


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RoadSkills -  
Keith Urban,  
Tex Perkins  
& more!

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**CX96 2014. ISSUE 96. ONLINE EDITION**

EDITORIAL BY JULIUS GRAFTON

**TABLES TURNING**

Two years ago at the ENTECH that was not freezing cold, I chaired a meeting convened by Live Performance Australia to discuss whether to redo the Safety Guidelines they co-authored in 2001, or to try to build a Code.

The meeting was full of people. Fast forward a whole two years, same tradeshow but held in the frozen tundra of the Royal Exhibition Building, we had a half house in a much smaller room. At least LPA got the first sections of the Guidelines out, and the meeting was constructive if lacklustre.

So what happened to Safety as an issue? Roderick van Gelder sums up the current apathy on CXMAGBLOG: "I had to announce at the Entech 'Safety Seminar' that the Event Safety Alliance Australia was no more."

Yet the very next day, in a much larger meeting room at ENTECH, the meeting I again chaired was full. This one was on Knock Off Gear.

**KNOCK OFFS**

You can import, sell, rent and use anything that has a compliance mark with genuine compliance. If it has a fake brand on it, you're at risk of action by the manufacturer.

So the growing 'grey' market in look alike gear forges ahead, while the counterfeit mob are finally being hunted down by the offshore manufacturers who have mainly hired several local trade mark investigators. We reported the JBL case last issue, and know of several more which can't yet be revealed.

But industry sentiment is firmly against flimsy, potentially fraudulent products that may carry faked compliance. The meeting in Melbourne clearly endorsed that.

So by all means exercise your democratic rights, Grey People, but know you are operating on the very edge of tolerance and as a small technical community we all know someone who knows someone.

Aside from price issues, the big problem is SAFETY. Recent examples of completely fake JBL boxes amplify this - no pun intended. A line array is reliant on internal, hidden, rigging. One point fails, the whole array falls. What other industry slings a tonne or more over the heads of the public?

Our seminar heard of a lot of 'less' or 'not' compliant Global truss copies, especially in Melbourne. Again, one weak link equals a potential disaster in the making.

**ENTECH**

I made my feelings very clear before, during and after ENTECH to ETF that their lack of provisioning of additional heating in that frozen hall was unfair and unacceptable.

Not because I'm a wuss, just because it was not conducive to business. Which is what a trade show is for.

There were any number of rental options for large space heating, with and without venue power requirements. I hope the exhibitors, who pay for ENTECH, insert an extra condition on any future participation anywhere. 'Room temperature shall be between 18 and 24 degrees C only'.

**- Julius****PUBLISHERS PANEL**

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# NEWS

## CX INDUSTRY NEWS



### Helpmann Awards Best so far at Capitol Theatre

The 2014 Helpmann Awards for the performing arts was a brilliant execution of a highly complex live show at Stephen Found's Capitol Theatre in Sydney, on the set for *The Lion King*.

Disney Theatrical Productions Australia moved two Sunday shows in the final weeks of the Sydney run of *Lion King* down to Tuesdays, to allow the Awards to be staged in the Capitol Theatre on Monday 18th August.

Lighting Designer Gavin Swift told CX that two Sunday shows were foregone so the Helpmanns could load-in. He re-purposed *The Lion King* lighting design (Lights by PRG).

"I only refocused two LK lights but we added flown globes, LED par audience backlight, a couple of Mac 3's to do the rain effect for the Chooky Dancers, and a dozen LED floods to light the theatre ceiling."

"We also had a few custom gobos (for *Les Mis* and *King & I*) made for LK's VL3500 to project onto the cyc. I believe most of the reset was done in a few hours (after the Helpmanns) with rig check happening the day after. Thankfully we have an excellent crew on LK and the whole process was incredibly smooth. PRG provided the extra

equipment and Chameleon supplied the flown globes."

The sound crew made it all happen on the regular LK rig of 44 JBL Vertec (plus subs and outfills). JPJ Audio and Michael Waters (with Andrew Foster) delivered excellent audio.

Technical Director Mark Henstridge had his hands full, with full cast numbers such as from *The Lion King* – the stunning Circle of Life opener, complete with stamped hoards of African everything. *Le Miz*, *Strictly Ballroom* and *The Kind and I* all featured – imagine these complex musicals, transplanted onto the *Lion King* set. That was something most people say cannot be done – a blank design starting on an empty stage would be hard enough.

CX salutes the technical winners: Michael Waters for Best Sound Design (*The King and I*) and Nick Schlieper who won Best Lighting Design for *Rosencrantz and Guildenstern Are Dead* (Sydney Theatre Company).

Live Performance Australia revived and renewed the Helpmanns after last year's awards were dogged by long commercial breaks. This year's show was broadcast on a slight delay on Arena and avoided the problems. It ended on time, at 10.15pm - as opposed to a bum numbing post 11pm.

CX acknowledges the other nominees for technical awards: Geoff Cobam, Nigel Levings and Matt Scott (Lighting); and Tony David Cray, Jessica James-Moody and Jethro Woodward (Sound).



GAVIN SWIFT



MICHAEL WATERS



NICK SCHLIEPER



### Robe Launch Big MF Light

Launched world wide as this issue is released, the BMFL probably stands for Big Multi Function Light. That it certainly is, and with a traditional 1,700 watt discharge lamp, it is right up there with the Big Boys.

First seen at an invite only ENTECH session, all attending signed a non-disclosure agreement to protect the excitement of the release.

**Our review appears on page 48**





## Open HD arrives

Former CMI reps invest big

It isn't often three work colleagues all quit and throw their lot into an internet startup, unless they are dot-com minded guys. So the mid year departure of Simon Tait, Andy McIntyre and Gary Dunn from audio wholesaler CMI was unusual. Their combined skillset is pro audio and guitar related, as best we know.



SIMON TAIT, ANDY MCINTYRE & GARY DUNN

Then came the news they were launching Open HD, 'a company intending to solve the challenge of a musician's desire to have their artworks delivered intact and satisfy the music-buying public's desire for a higher quality product'. High Definition Audio (HDA) refers to digital audio that is CD-quality and higher, or greater than 44.1kHz 16bit.

The Open HD news release invited media participation, so CX messaged and emailed the PR contact, and some of the guys only to get nothing.

Following up, the media guy Damon Alcock was unable to connect CX with the team.

They were obviously very busy, and online pictures of a new fly-away HDA recording rig confirmed this. So it seems Open HD is at least partly devoted to recording gigs in HDA, which is not too hard.

With an October launch date for the public side of Open HD it remains to be known what the service will provide. Audiophiles everywhere will doubtless be delighted, but the lack of clarity is frustrating.



## Strategic the word

Bosch, Rane sign with ABA

Less than a year ago Audio Brands Australia didn't exist, but it does now. Initially offering Italian PA line FBT, Don McConnell quickly lined up a deal with Eurocom, the installed/commercial brand owned by Music Group (Behringer).

Now ABA have signed with Rane, to distribute one side of their offering. Rane are a well regarded manufacturer of audio for installation, and also DJ audio. They have had but two Australian distributors in perpetuity. The DJ audio line remains at Hills.

Rane's contracting range includes the HAL DSP platform, along with a wide range of commercial audio processors, zone mixers and accessories.

Now ABA have inked a deal with Bosch Communications Systems as a distribution partner.

"Audio Brands will focus on the PLENA commercial

range of public address systems and speakers from Bosch, including the Australian designed PLENA matrix, as well as promoting the entry level conferencing systems, namely CCS900, which is extremely popular with local councils", says Bosch.



CHRIS DELLENTY WITH DON MCCONNELL

Don McConnell - Director - Audio Brands Australia Pty Ltd said "We are delighted to be representing the Bosch Commercial Audio range. Bosch offers a complete catalogue of feature packed, competitively priced products from basic mixer amplifiers, paging mics, wireless mics and ceiling speakers, through to the highly flexible PLENA Matrix system. Bosch enjoy a reputation for quality and we look forward to introducing the range to our customers."

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## Riedel Expanding

Riedel Communications, provider of pioneering real-time video, audio, data, and communications networks, announces that Erik Miehs has joined the company as service engineer for Australia. In his new role, Miehs will boost Riedel's ability to support existing customers and equipment rentals while contributing to the company's continued overall growth in sales and rentals across the region.



ERIK MIEHS

"As an end user in his previous position, Erik brings a wealth of operational Riedel knowledge to our team. With his appointment, we've instantly expanded our ability to deliver excellent service to our growing client base," said Cameron O'Neill, general manager, Riedel Australia. "We've had an explosion of new installations in the past two years, and keeping those systems in peak condition is one of our core values."

Miehs has more than ten years of experience working in audio and pro sound. Most recently, he was a communications and broadcast engineer at the Sydney Opera House, where he was responsible for all Riedel Medionet, Artist, Performer, and Acrobat systems deployed in the Opera House venues and its new recording and broadcast facility. Previously, he served as an A/V technician for corporate functions and events at Revolver Audio, and was an audio technician and FOH engineer for Glass Chain Audio Services.



## Telstra trial of new 4G mobile phone technology

As part of developing services for their customers, Telstra is planning to conduct trials of new 4G mobile phone technology on the 700 MHz radio frequency band in various locations around Australia. Initial trial sites include Perth, Fremantle, Esperance, Mildura, Mt Isa and Griffith. The Telstra website will be updated as trials commence in new locations.

The trials will have no negative impact on existing telecommunications services in the area. There is potential for some interference with wireless audio devices, such as wireless microphones, that operate in the 700 MHz frequency range. The trial has been designed to minimise the risk of any such interference.

In the unlikely event that you experience interference with your wireless audio device, please email [wireless.trials@team.telstra.com](mailto:wireless.trials@team.telstra.com) or call 1800 553 459.

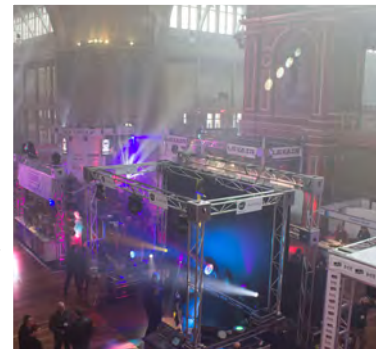
For more information please visit [www.telstra.com.au/consumer-advice](http://www.telstra.com.au/consumer-advice)



## Cold ENTECH heralds Melbourne Integrate

As the industry picks and chooses where to go next winter, Integrate have made a sensible decision to run their 2015 show in Melbourne. This will keep Integrate apart from ENTECH and SMPTE, whose shows will be held in the potentially cold Hall of Industries at Moore Park.

Whatever happens, the fragmentation of shows continues apace, with SMPTE focussed on Broadcast, Integrate on audio-visual install, and ENTECH more lighting and staging based.



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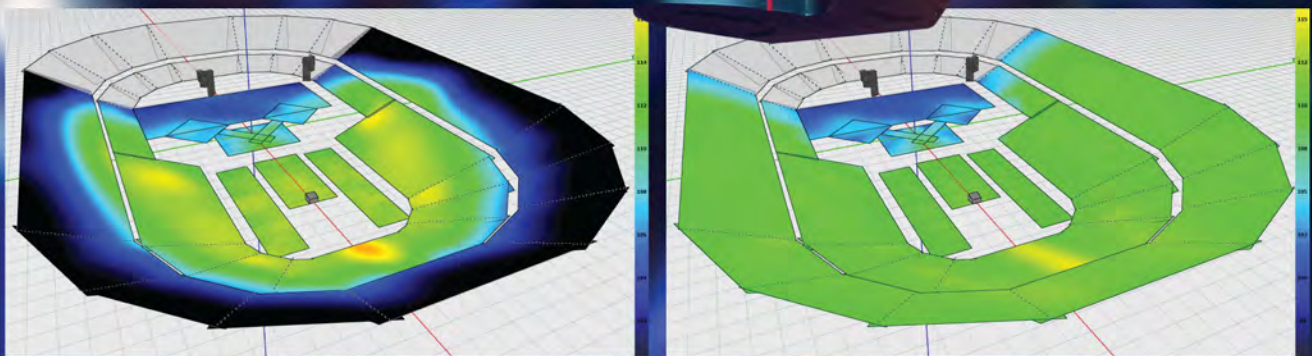


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Ron Reaves  
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EDITED BY JASON ALLEN

### Robe Robin 1000 LEDBeam

The Robe Robin 1000 LEDBeam is a punchy, tight 4° beam that cuts through atmosphere and opens up to a smooth, wide 60° output. Based on an array of powerful 15W RGBW LED multichips with optics especially developed for a high output under all circumstances, the moving head is fitted with a fast-spin motor that has the software driving technique from the Pointe or Robin 100 LEDBeam. All the features of Robe's LED series have been incorporated, including CMY/RGBW colour mixing, improved smooth dimming, tungsten lamp emulation, variable CTO and powerful strobe.



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### Mackie SRM and Thump

Mackie has refreshed its SRM range of active loudspeakers with two Version 3 models – the 350v3 and 450v3. The 10" 350v3 and 12" 450v3 both feature a 1000W power amp, patented acoustic correction developed by EAW, quick one-button Speaker Mode selection for application-specific voicing (PA, DJ, Monitor and Soloist) and are flyable for permanent install.

The new Thump range of active loudspeakers consists of the 12a 12" mid-high, 15a 15" mid-high and 18s sub. Both mid-highs boast a 1000W power amp, built-in 3 band EQ with sweepable mid, Mic/line input, flexible mounting options including tripod and pole-mounting and angled design for use as a stage monitor. The 18s sub is an 18" sub powered by a 1200W amplifier, dual XLR inputs for mono or stereo applications, stereo high-pass and full-range outputs, user-adjustable level and polarity controls and pole cup for mounting mid-high loudspeakers.

**Australian Distributor: CMI Music and Audio**  
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SRM FAMILY



THUMP FAMILY



**Philips Selecon  
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**Roland**  
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Australian Distributor: Roland Corporation Australia  
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The new Roland VX Series Multi-Format Matrix Switchers are designed for fixed installations requiring high-quality integrated video and audio conversion and switching. The series supports eight HDMI, RGB/Component/S-video/Composite inputs and up to four HDMI or HDBaseT outputs with scalers to support picture-in-picture, resizing, rotating, and flipping. Audio can be embedded into outputs via eight stereo audio inputs (2 microphone) and/or HDMI audio as well as de-embedded on output. Additional features include iPad control, EDID emulation and HDCP management.

The XS Series is available in three configurations: 8-in x 4-out (XS-84H), 8-in x 3-out (XS-83H), and 8-in x 2-out (XS-82H) and is ideal for many applications that include conference rooms, education, 4K switching to 1080p, performing art centres, churches, convention centres and teleconferencing.



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The new LUCAS NANO 600 may be deployed either as a space-saving mono column or as a stereo system; two LUCAS NANO 600s can be paired to create a more powerful PA, covering audiences of up to 200 people. The LUCAS NANO 600 is an easily portable alternative to conventional full-range cabinets and column speaker systems. Its MultiCell Transformer helps maximise SPL, improve directivity and minimize high-frequency distortion. Simulation technology enables the lightweight subwoofer housing to mimic the bass response of a heavy wood enclosure.

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MUSICAL MAESTRO STEPHEN SONDHEIM'S 1986 MASTERWORK INTO THE WOODS STARTS INNOCENTLY ENOUGH WITH THE MEETING OF SEVERAL GRIMM'S FAIRYTALE CHARACTERS INCLUDING CINDERELLA, JACK (AS IN BEANSTALK), RAPUNZEL AND HER WITCH. BY ACT TWO THOUGH, YOU'RE IN A DARK, ADULT, FREUDIAN WORLD WHERE WE DISCOVER THAT HAPPILY EVER AFTER ISN'T ALWAYS, AND YOU SHOULD BE VERY, VERY CAREFUL WHAT YOU WISH FOR. DISNEY ARE RELEASING A FILM VERSION THIS CHRISTMAS STARRING NO LESS THAN MERYL STREEP AND JOHNNY DEPP. BUT BEFORE DISNEY SMOOTHES OFF THE ROUGH EDGES FOREVER, JASON ALLEN CHECKED OUT THE REAL DEAL ...

# LIGHTING VICTORIAN OPERA G

Victorian Opera, on the back of staging Sondheim's Sunday In The Park With George last year and ahead of its Sweeney Todd next year, put on just eight shows of the dark fairytale mash-up at Melbourne's Arts Centre's Playhouse in July. The show is characterised by rapid-fire delivery, constant entrances and exits, intertwined stories, asymmetrical music and constant changes of place in the narrative, traditionally staged with very little in the way of sets or props. As such, lighting is used to establish scenes and relationships, mark time passing and provide effects when the inevitable fairytale magic is employed. It's a big job on a small stage with a large cast and a lot happening.

IT'S THE GIANT!

BY JASON ALLEN



# SONDHEIM GOES INTO THE WOODS

MICHELLE BAUER  
PRODUCTION MANAGER

## WHAT YOU SEE

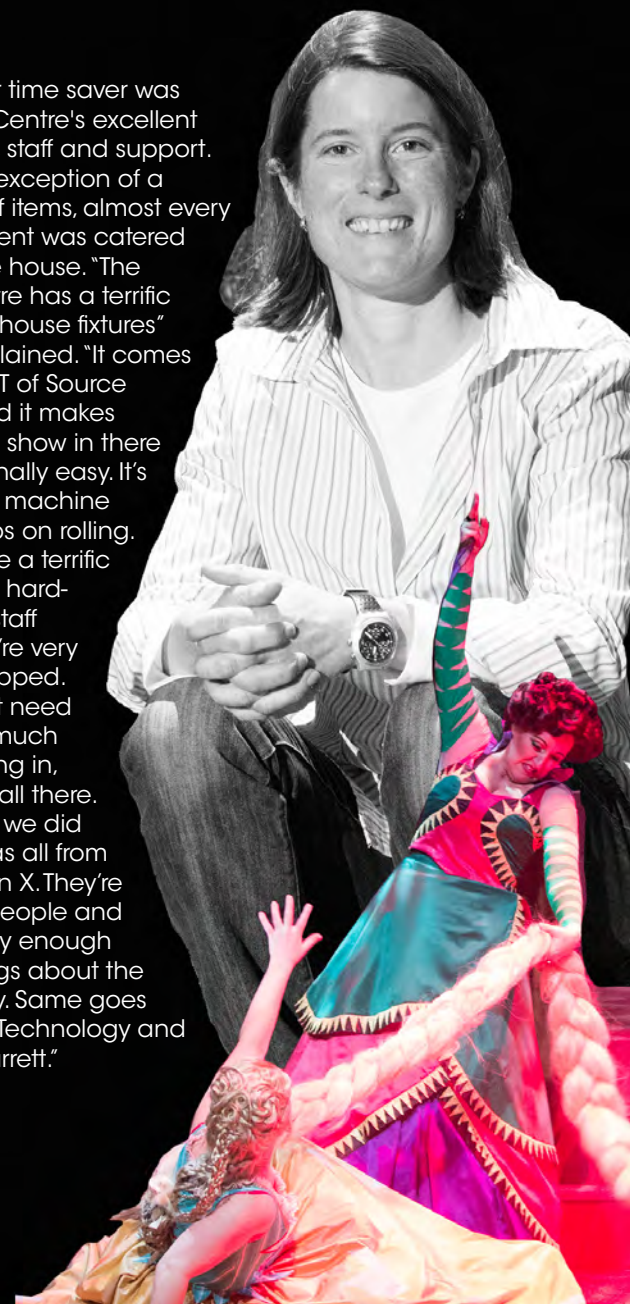
Lighting Designer Philip Lethlean and Vic Opera's Technical and Operations Co-Ordinator Peter Darby were responsible for lighting the darkness in the show. Peter is a Vic Opera full-timer, and is responsible for all technical aspects and building of their productions. Once in the venue, he tends to take on the role of Head LX and usually programmes the cues. On *Into The Woods*, Peter acted as Phil's assistant during plot and called and operated domes during the show, while house tech Derek Hartwick programmed and operated on the night on the house PRG V676.

"I've worked with Phil Lethlean a lot" Peter related, "and we have a great working relationship. Relationships with designers is exceptionally important. Taking Phil's design and making it a reality was my task. Some of the challenges we had from a design point of view was grid real estate. There was a lot of stuff up there. From the onset, it was a challenge. It was very tight, very precise, and it came down to how tight shutters were on lamps to make sure things didn't collect each other."

## WHAT YOU GET

Because of the show's short run and tight timelines, Phil and Peter turned to WYSIWYG to make sure they could make the most of their tech time; "We plotted everything at 50% in WYSIWYG, so most of the plot was boosting and dimming" said Phil. "I don't think we could have got it done otherwise because the show is so long. It's nearly three hours, and by the time you've done a call and a run, there's no crew time left to do what you need to do. And you know Lighting - we'll take up as much time as we can and any bonus time is a win!" "Being able to look at all the different set movements was really beneficial" added Peter. "At Vic Opera, we tend to pre-vis everything where we know time is going to be tight."

Another time saver was The Arts Centre's excellent inventory, staff and support. With the exception of a couple of items, almost every requirement was catered for by the house. "The Arts Centre has a terrific range of house fixtures" Peter explained. "It comes with a LOT of Source Fours, and it makes putting a show in there exceptionally easy. It's like a big machine that keeps on rolling. They have a terrific bunch of hard-working staff and they're very well equipped. You don't need to bring much of anything in, really. It's all there. The gear we did hire in was all from Resolution X. They're brilliant people and I can't say enough nice things about the company. Same goes for Show Technology and Simon Barrett."



# INTO THE WOODS



MATTHEW MCFARLANE AS CINDERELLA'S PRINCE AND DAVID RODGERS-SMITH AS THE STEWARD



QUEENIE VAN DE ZANDT AS THE WITCH AND DAVID HARRIS AS THE BAKER



PETER DARBY TECHNICAL AND OPERATIONS CO-ORDINATOR

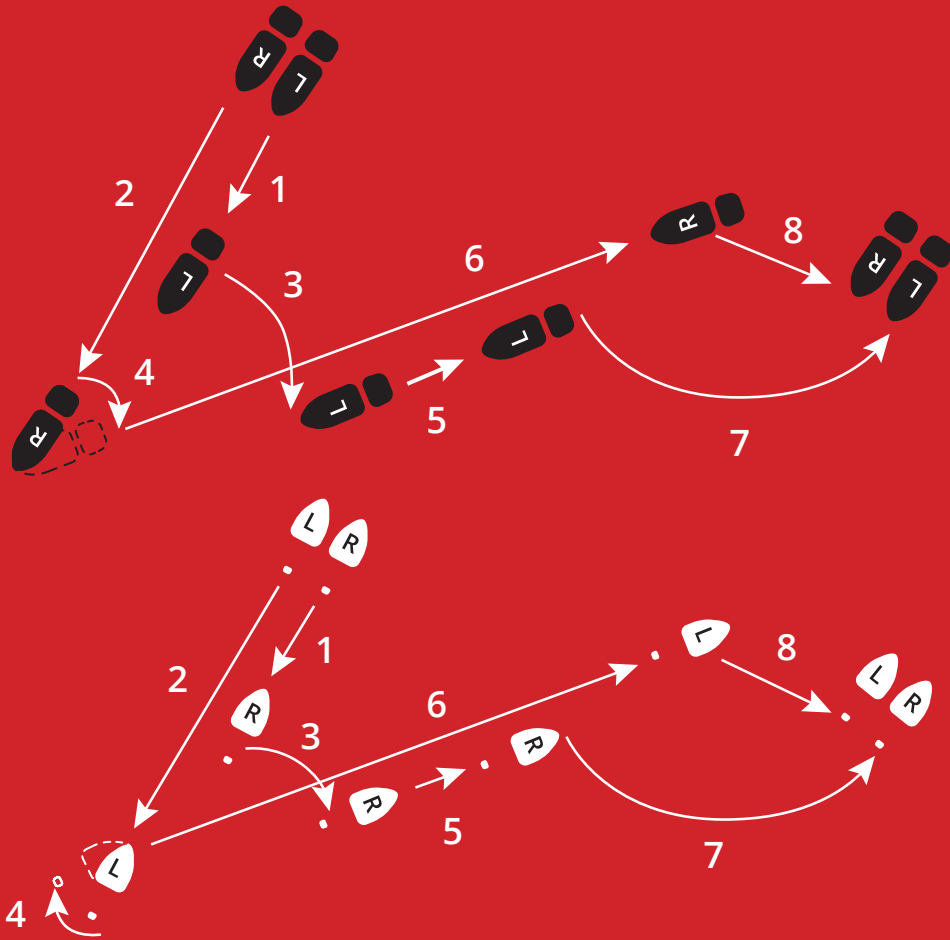
## SEEING THE WOODS FOR THE TREES

Set Designer Adam Gardnir's vision for the show revolved around the skeletal structures of eight 'trees' in pairs down, mid, up and rear of stage. Six of these moved along curtain runners. To set different scenes and locations, they'd all move into different positions, which changed constantly along with the rapid exposition on the show. Complicating matters, the trees had blacks cut to their silhouettes draped onto them in Act One, before being removed for a much more open, outdoors look in Act Two.

"Phil's brief in Act One was to keep the light off the blacks while still lighting the cast" said Peter. "That was tricky, but one of the ways he achieved it was by using a lot of 201 in the rig, which wasn't as obvious if it hit the blacks. The majority of the rig was 201. The main colour was from the Clay Paky 700's overhead and on the cyc. There was a row of backlight as well and in Act Two when the blacks were removed, he was able to get all these great shots through the trees, which gave it this great skeletal look." "I had a lot of lights dedicated to hitting the trees" added Phil. "There was a lot of difficulty there. In the last run before we opened, I spent the whole time just pulling back lights. I was constantly trimming."



CHRISTINA O NEILL AS THE BAKER'S WIFE, DAVID HARRIS AS THE BAKER AND QUEENIE VAN DE ZANDT AS THE WITCH



## RIEDEL'S NEXT STEP

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THE MAGIC BAG

We used 15 lighting bars, which is quite a lot for The Playhouse” Peter continued, “most of them to light the trees.” The rig was fairly traditional, and all tungsten. “It was all Source Four profiles, with a few Selecon fresnel backlights” Phil outlined. “I ended up backlighting the trees with gobo washes. The rest of it was good old Clay Paky 700 profiles with shutters, Martin 301s and my trump card out the front was the Clay Paky 1500 profile, which did a bit of custom gobo work to keep it interesting. As it turned out, the standard Clay Paky ‘Broken Sticks’ gobo fitted the whole thing rather well. We also had a rear projection of blood upstage for the Giant’s death, augmented by the 1500 out the front.”

Most of the gobo work and special effects were handled by fixtures rigged on the front on the Circle. “We had a Clay Paky 700 OP and PS and a Clay Paky 1500 centre on the circle bar” clarified Peter. “All had custom gobos. The 1500 was used for the Cinderella bird effects, a couple of trick moments and some texture on the cyc. We used the shutters and shaping features extensively.”

SAME BUT DIFFERENT

With a frenetic story to tell, Phil and Peter had to change looks constantly to fit the narrative. “Every scene was different, just because of the tree layout” agreed Peter. “It wasn’t like we could go back and just copy Cue 2 to Cue 15 because it was the same look – every scene was different.” Phil characterised it as a challenge to be constantly different, yet consistent; “Once we got through the first 15 minutes of each act, which were set downstage, then came the biggest challenge. The thing that helped was the moving of the trees, and staying consistent in the look.”

While the Playhouse is a beautifully appointed venue, there’s always one or two quirks to work around. “There wasn’t much wing space” Phil conceded. “We had a couple of classic boom shots, classic dance cross-lighting, which I relied on quite a bit because I was trying to keep light off the floor. But anytime there was an actor waiting for an entrance that wasn’t on the ball, they could shade the shot. But boom shots came to the rescue on a myriad of occasions. The other limitation was the size of the dome room. I wanted to keep the show dark and atmospheric and pick out characters with domes. The two domes did a great job, but having three would have made life easier.”

SMOKE AND MIRRORS

Peter not only called the domes, but operated one for each show along with David Craven. “The dome plot was designed to be very subtle and just lift out main characters in scenes and songs” he illustrated. “It would have been good to have three as it was a tricky plot with a lot of fast pick-ups. There’s not a dull moment in the show. A lot of the cues weren’t called and we were working off the plot. The domes had to know the plot from the get-go. I was up there from the stage orchestral rehearsals onwards.”

With all of the magic and hocus-pocus of the story, smoke played a big part in the look and feel of the show. “There were a lot of atmospheric effects” Peter elaborated. “We had two Unique 2 hazers that worked very hard plus three other Viper smoke machines for specific moments; one ducted up through the stage, one for the witch’s entrances and one for a scene where we resurrected a dead cow.” “We needed all that extra haze” added Phil “It’s incredible; you go all the way through rehearsals and then you bring the audience in and the stage acts like a chimney. Smoke’s been the bane of my life!”

QUEENIE VAN DE ZANDT AS THE WITCH AND JOHN DIEDRICH AS THE MYSTERIOUS MAN



PHILIP LETHLEAN  
LIGHTING DESIGNER

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# THE MILL REPORT

## LOUDNESS WARS:

### AN UPDATE FROM THE FRONT LINE

I've had several long conversations in the last week about a topic that never seems to go away - mastering levels.

Now I know this topic's arguably more tedious than federal politics, but whether any of us likes it or not, mastering levels are a topic that affects everyone in the recording industry.

I, for one, go nuts on a regular basis over the levels crammed mercilessly onto a CD master these days, but worse still, my opinion on the matter tends to sway back and forth like a koala in a treetop. One minute I'm adamant that singles and albums should always be mixed and mastered to comparable levels with other commercial releases, the next minute I'm throwing my hands in the air, saying: "What's the point of trying to make this song *that* loud? It's just ruining what was a perfectly good mix!"

Funnily enough, I was only talking about this yesterday with a friend of mine who's had massive commercial success in recent years. He's certainly in the thick of it when it comes to competing in the level wars, but he made a comment yesterday that I thought was telling, particularly given his position in the music biz:

"Bugger it!" he said. "Next time I'm just gonna make my CD 6dB quieter and everyone will just have to turn it up!"

Whether he will ever follow through with this idea is unknowable at this stage, but the point he was trying to make is simple enough. He's jack of how destructive stonkingly loud final mastering levels are to the sound of his albums.

I agreed... on this day at least.

#### IT SOUNDS AMAZING, BUT QUIET

You see, I've been working hard on a mix all week that is both complex and elaborate, and in isolation the song is sounding superb. But making it 'competitively loud' alongside commercial releases that are far simpler in their arrangements is proving difficult. Essentially, the music is 'soft' overall, and the combination of a complex arrangement, extraordinary detail and subtlety at every turn - not to mention a pretty low vocal level - is making the song seem relatively quiet, no matter how hard you push the mastering.

But there's one specific reason why the song is proving stubbornly hard to get across the line; one I want to explore here in more detail if I may - the song involves a massive arrangement, and massive arrangements tend to get quieter as they get bigger.

Now I realise this logic sounds kind of topsy-turvy, but it's true. As a song gets overly indulgent in the overdubbing department, and the soundstage gets more and more crowded with musical characters, everyone tends to get pushed back; each individual element diminishing in stature. The result can be a relatively quiet sounding master, unless of course the mastering engineer flogs the song half to death!

Ironically, it's these types of songs that people *assume* will sound louder - they're bigger sounding, after all, so surely they should also sound louder too, right? Wrong.

The song that seems the loudest is nearly always the simplest: a vocalist with an acoustic guitar around his neck is consistently producing the loudest songs in the marketplace. That's why mastering engineers so often make the mistake of making the simplest songs on a record the loudest - it's just too easy to make that off-the-cuff guitar/vocal ditty sound like the loudest thing on an album. Meanwhile, the big hit on Track 3, which has had the kitchen sink thrown at it, struggles to compete in volume. Sometimes all that can be done to make two songs like this co-exist on the same disc is to turn the ditty down, or barely limit it at all.

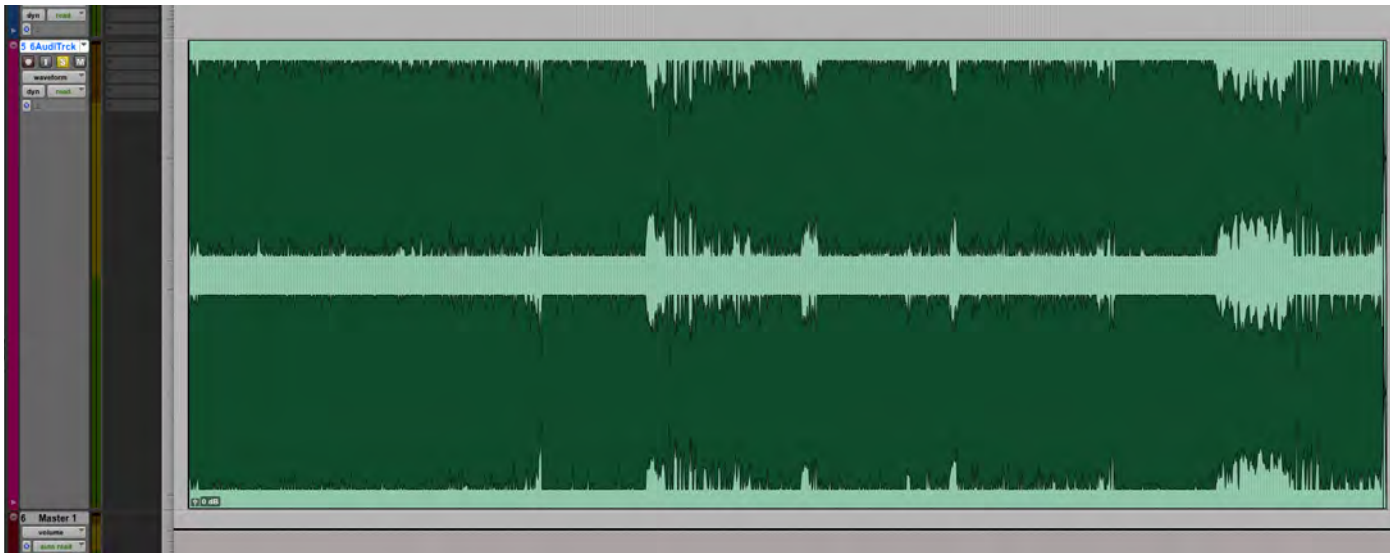
If there's one thing I've learnt over the years about loudness it's this: simple band arrangements sound louder than massively complex ones, even when they appear to share the same peak and average levels. But somehow this fact continues to allude musicians and producers.

The notion that more is more, and that loud songs are always made from big arrangements is a seductive one that seems intuitively true, which inevitably means most people never question it. Combine this with the musical inflation that seems to have taken hold lately, where 100-channel recordings are the new 24-track, and you've got a potential mixing nightmare on your hands.

#### SIMPLICITY = LOUDNESS!

This leads me slightly away from the topic of loudness wars, but not too far...

BY ANDY STEWART



If you want your next record to sound big, clear and powerful as well as 'competitively loud' by the time it's mastered, keep the arrangement simple.

By all means try different things: add overdubs and go nuts exploring the scope of the production for as long as you like, but once you're done exploring, it's time to get the razor out.

Just because those extra 100 musical motifs you performed late at night over the last three months worked on a certain level as you performed them, it doesn't necessarily follow that they can all co-exist in the song.

It's a tough thing to do, edit your work, but if you want the final outcome to succeed – be clear, dramatic, loud as all get out and full of radio hooks – you've got to make choices. If you try and just put all 150 channels in there, some of them impossibly low in the mix, others too wide or too reverberant, they will only serve to undermine your product, rather than contribute to its aural spectacle. Meanwhile, cutting some of them out of the final mix can work wonders, adding drama and contrast where before there was only mess, confusion and noise.



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**BUT THE OVERDUBS WERE GOLD!**

During overdubbing, with each new sound towering over the mix in your headphones, most of your individual performances probably sounded amazing – no-one’s contesting that. But in the mix at -60dB, what’s the point of retaining them all? When too many ideas are crammed into one arrangement, the musical focus can fly out the window faster than superman on a house call, and before you know it your mix has turned to pea and ham soup.

Do yourself a favour: spend as much time on the editing of your next song as you have recording it and you’ll end up with a far more concise musical outcome.

**ONE LAST THING. . .**

If you’re not going to take this advice, and you’re determined to mix 150+ channels into a song, make sure you keep an eye on its fundamentals. When a mix get this elaborate it’s hard to retain a clear perspective on the volumes of the key ingredients sometimes. Make sure you mute things like the main vocal, drums and bass once in a while. Pull down the vocal fader regularly rather than simply cutting it, and after 10 minutes without it, return it to the mix by fading it back up. Don’t be afraid to push it 5dB past where it was before either, to see how that affects the mix. Pushing the main ingredients around like this to test their volume boundaries is a great technique that can quickly expose a misplaced level.

*Til next time.*

One of my favourite plug-in developers in recent years has, without doubt, been the two guys from the Netherlands who call themselves FabFilter. I’ve got their entire suite of plug-ins and use them every day. Across the board, these plug-ins are great sounding and fantastically intuitive to use.

The newest of them is the Pro-MB multi-band compressor/expander; a brilliantly ergonomic yet comprehensive plug-in that allows you to compress or expand bands of frequencies either independently of one another – i.e., without them being linked via standard crossovers – or conventionally as per a standard multi-band layout.

The plug-in is fantastically phase coherent – in fact, the Pro-MB even lets you choose a ‘linear phase’ mode if you want to be sure to minimise the effects the filters are having on the coherence of your sounds. The result is a superb sounding set of controls that give you the confidence to work them hard, without fearing your sound will start to get edgy and harsh the moment you customise the filters.

Unlike so many multi-bands on the market, the Pro-MB is a doddle to use, easy to read and completely intuitive. When you open up the plug-in it initially just looks like a flat-lined EQ, but hover the cursor inside the window and immediately a band appears awaiting your single mouse click to drop it into place.

You can do this up to six times, with each band given its own colour scheme and floating control set. It’s a genius layout. Click on another band and the floating controls slide across to represent the setting of that band.

There’s an enormous feature set: from look-ahead control, side-chaining features, scaling of the graphic layout, a pre/post spectrum analyser, a mix control, and a comprehensive group of rotary knobs that control each band. But what’s remarkable is that, for all its features, there’s never a time where the Pro-MB gets confusing, hard to read or flummoxing under pressure.

I could go on and on about this plug-in, and get caught up in explaining how valuable a good multi-band is to mixing. But I’m out of room! Suffice it to say this plug-in is amazing and a must-have if you take your digital mixing seriously.

I couldn’t live without FabFilter plug-ins any more. They’re that good.

**Price: \$229.00**  
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**TOOLBOX review** FabFilter Pro-MB Multi-Band Compressor/Expander Plug-in



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# 2014

**ENTECH'S ALTERNATE YEAR MELBOURNE OFFSHOOT, ENTECH CONNECT, RAN FOR THE SECOND TIME THIS JULY. MOVING FROM THE CHARACTERLESS PRACTICALITY OF THE MELBOURNE PARK FUNCTION CENTRE TO THE GRANDEUR OF THE WORLD HERITAGE LISTED ROYAL EXHIBITION BUILDING IN CARLTON, THE SHOW WAS BIGGER, COLDER AND MUCH BETTER ATTENDED THAN 2012. CX'S RESIDENT MELBOURNIAN JASON ALLEN GOT RUGGED UP TO CHECK OUT ALL THE HOT GEAR...**



**MEYER SOUND AUSTRALIA'S STEVE DEVINE**



**DOUG WATKINS OF DESIGN QUINTESSENCE WITH THE AWESOME SOFA CASE**



**MEYER SOUND'S STEVE BUSH WITH THE M1A COMPACT LINE ARRAY**



**ROBE CEO JOSEF VALCHAR**

**I**'VE lived in Melbourne for 18 years now, and this winter has had the coldest mornings since the very year I moved here. In this respect, Exhibitions and Trade Fairs, the company behind ENTECH, really lucked out with the weather. The Royal Exhibition Building (site of Australia's first parliament, for the history buffs) is a glorious space, decorated with period frescos, vaulted ceilings and Victorian excess. It's also almost impossible to heat without generators and industrial heaters. Most years, you'd get away with this, but 2014 was harsh. Attending ENTECH Connect, even dressed like I usually am in Melbourne winter, was uncomfortable. Exhibitors have been assured that extra power and heating will be on hand in 2016 to ensure that this doesn't happen again.

But enough of bashing Melbourne's weather – I'll leave that to everyone else in Australia (with the exception of our Tasmanian friends). What really impressed me was the scope, depth, size and vibe of the show. It was a cracker. It was, in my opinion, a much more enjoyable, diverse, stimulating and well-attended show than the last ENTECH in Sydney. Even if the numbers were smaller, the venue is a great fit for our industry. The haze and lights from the likes of Show Technology, ULA, Lexair and ETA made the huge space look full. There was something for every part of the industry, from rigging and staging right through to comms and safety barriers, and everything in between.

BY JASON ALLEN

## NETWORKING AND NUMBERS

Something else that caught my eye was the number and quality of interstate visitors. At the 2012 ENTECH Connect, I was working on a stand as an exhibitor. I thought that show was worthwhile, but most visitors were Victorian, with a smattering from SA and TAS. This year, I noticed several high-profile NSW and QLD visitors, including Hillsong's Steve Le Roux, Norwest's Chris Kennedy and Graeme Whitehouse and Auditoria's Scott Willsallen (some in attendance as speakers) plus a host of designers, integrators, senior venue staff and other industry bods in possession of serious buying power. If I was exhibiting, I would have been very happy with the quality of the attendees.

Stephen Dallimore, Event Manager at Exhibitions & Trade Fairs, provided me with the following stats from the show that back up my observations: 20% increase in overall visitors, 15% increase in interstate visitors and a 28% increase in seminar attendance. "This is far exceeding our expectations" said Stephen. "When we launched this concept of an industry show that was focused on education, on-site training, networking and not just the trade show element, I didn't expect to see it be embraced so quickly by everyone in only its second year. The introduction of the on-site training rooms, more international speakers and opportunities for greater visitor experience has seen our clients report back to us of the high quality of attendees with several reporting brand new business opportunities already."

## GET YOURSELF AN EDUCATION

The seminar programme was very impressive. ENTECH Connect managed to snag legendary US lighting designer LeRoy Bennet (Beyonce, Prince, Nine Inch Nails, Kanye, the list goes on...) to deliver the keynote seminar 'Designing and Creating Emotions' on the first day of the show. It was packed. In the same timeslot, I attended the excellent 'Disruptive Technology' seminar presented by Michael Rutledge of Rutledge AV and Richard Morrison of Norman Disney and Young. Sadly, they couldn't compete with the allure of their international competition and the house was very small. May I suggest to ETF that they rethink scheduling any other presentations while major international stars are speaking?

Outside of the glamour of the big names was a huge educational programme led by the industry's finest. Lighting sessions from ALIA, rigging sessions with Tiny Good of Showtech, presentations explaining fine work by Norwest and The PA People and grass-roots issues from organisations like VAPAC. Even CX's publisher Julius Grafton got in on the act, facilitating for the full-house 'Knock Off Equipment' seminar, in which Frank Andrewartha (Quest), Steve Devine (Meyer Australia), Paul Mulholland (Jands), Andrew MacColl (Staging Connections) and Chris Pine (Martin Audio) took on the issues of sub-standard, dangerous and illegal counterfeit equipment entering the Australian market. The message of the session was clear; if unsafe knock-off gear causes injuries or fatalities in our industry, we can expect repressive and destructive government regulation. We have been warned.

## LIGHTING ILLUMINATES

And now, the gear. A host of new product made it to Melbourne for the show. ULA brought out Robe's CEO Josef Valchar to introduce some new fixtures, including the Robin 1000 LEDBeam. ULA also hosted a special worldwide exclusive preview of a major new Robe product the night before the show opened (see separate pictorial). The product is only being announced to the world as this article goes to print, but we can now reveal it to be the very big, very impressive Robe BMFL.

Over at the Entertainment Technology Australia stand, an SGM G-Spot showed off its IP-65 rating by rotating away through the entire show under a jet of water. Next door at Clay Paky, Simon Barrett gave regular demos of the flexible A.leda B-EYE family of fixtures, playing up to the bee-themed 'buzz' promotion. Also in the hard-to-describe 'multifaceted moving head LED fixtures with a lot of individual movement and control' category was the High End System's Shapeshifter. Lexair's Alex Mair demonstrated the incredible range of effects available from this fixture with multiple units mounted on the stand and proved its durability by punching one of its moving panels repeatedly with a convincing and intimidating amount of force.

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# ULA SNEAK PREVIEW @ ENTECH Connect



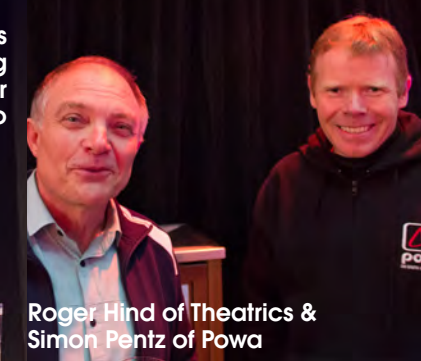
The Robe BMFL

More revealed in Gearbox, pg.48

On the night before ENTECH Connect opened, Robe's distributor ULA hosted a secretive sneak preview of a major new product from the Czech lighting manufacturer, introduced by none other than the CEO himself, Josef Valchar. Lighting identities and free-loading members of the press were in attendance under NDA to see what the new beast can do. And a beast it is. As we go to press, we can now reveal it was the Robe BMFL, reviewed in this very mag....



ULA's Managing Director Cuono Biviano



Roger Hind of Theatrics & Simon Pentz of Powa



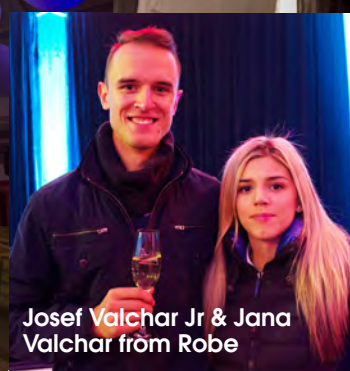
Michael Walker of the Melbourne Convention and Exhibition Centre & Aimee Newton-Greene from PRG



Robe's CEO Josef Valchar sees the light



Trevor Lloyd of CLS & lighting designer Phil Lethlean



Josef Valchar Jr & Jana Valchar from Robe



Chris Searle of the Adelaide Festival Centre and Liz Beedle from Res X



Marin Bowman from Clearlight Shows, Adrian Sterritt of the Arts Centre Melbourne & Michael Taylor of the Marriner Group



Elite Sound & Lighting's Darren Russel

Robe BMFL

## STAGING AND RIGGING LOCK IT OFF

Those looking to pack, protect, transport and rig had a lot to look at. Our favourite was the Sofa Case by Design Quintessence – a roadcase that opens into a two-seater sofa with the lid as the coffee table, with the ingenious inclusions of storage for wine bottles and glasses in the armrests and chargers for phones and tablets. No tour should be without one. Another eye-catcher was Stage Fast's FOH truck. As Stage Fast's John Grimshaw explained to us, he figured he was already bringing the truck to the gig anyway, so why not make it useful after the gear's unloaded? To this end, his modified truck opens out into a control position with roof, walls, stairs, power, lighting and even a fridge. He's also adding a UPS, and incorporated heating for the show, which made it the best seat in the house. The inimitable Colin West of Framelock Barriers showed off the Framelock V2 – fast and safe to set up and pack down, adaptable on uneven ground and developed and tested in the NT.

## AUDIO MAKES SOME NOISE

A welcome addition to the audio presence was the Audio Zone, an outdoor stage set up facing south towards the city, where dB Technologies, Bose, Void Acoustics and Yamaha had all included product for loud evaluations. With both dB Technologies and Bose firing up line arrays with subs, surrounding offices, hospitals and the notoriously humourless residents of Carlton complained on the first day. As great as the demos were, I don't think they'll be allowed to happen again. Keep in mind that the Carlton Residents Association have been trying to close down a flower show that happens on the same site for years. That's right, a flower

show. Imagine how much tolerance they have for the likes of us.

For the audio nerds, Meyer Sound Australia were showing off their new Mina compact line array and had flown out Meyer Sound's Steve Bush to present a seminar on their MAPP Online Pro predictive software. National Audio Systems had an impressive two-story stand with the top floor dedicated to MIDAS digital consoles. From their lofty perch, Dave Jacques and Brain Vayler demonstrated their new Pro X and the more modest M-32. Over in the Jands demo space, Andrew Crawford, replete with essential Shure beanie for warmth, guided visitors around the Soundcraft Vi3000, a desk that combines the best of the Studer user interface with the live heritage of Soundcraft. Yamaha Commercial Audio's Mark Condon and Mick Hughes were both on hand, running training sessions on the new QL series of digital mixers and demo starting their integration with the existing CL Series and the Nuage control system.

Video highlights of the show can be seen at [cx-tv.com](http://cx-tv.com) in the late July and early August editions of our weekly news show, **The Hump**.



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# LISTEN HERE

## SO YOU WANT A LOUD RECORD...

All too often, the decision to make a competitively loud audio master is made far too late in a single or album's production. Everyone seems happy with their 'dynamic' mixes until the day they A/B their songs against their favourite commercial releases. On that day a crisis of confidence often ensues, and no-one like that!

So how do you make your mix sound loud enough during production that you won't have to shear 10dB off its peaks with mastering limiters in a desperate last minute bid to compete? Now is the time to decide: do you want a loud, clear CD release or a pulverised, distorted one?

**M**aking high quality mixes that are clear, engaging and loud is an artform that takes years to master, but the important first step is understanding why the process of controlling dynamics is important in the first place.

In a nutshell, a song's perceived volume is all about its dynamic range. Given that everyone's final masters peak up at around 0dBFS (above which you're into digital clipping), it's what goes on dynamically below this level that determines how loud (or quiet) your music will appear to sound relative to others.

There are numerous techniques that contribute to creating loud sounding mixes. If that's what you're aiming for during a production, the sooner you can start working towards this outcome the better the result will be. And even if you don't think this competitive aspect of music production applies to your release right now, or in the future, I would urge you to analyse what informs your opinion, because in my experience, there's every chance later that you'll have a change of heart. I've rarely met anyone who didn't want their songs to be comparable in level to the music being released around them.

BY ANDY STEWART

## GET COMPRESSING, NOW!

The trick to producing loud final mixes ideally starts right back at the beginning, during a production's recording phase. But for the purposes of this mixing article, let's just assume that track laying has already taken place, and that minimal compression was applied during this stage of the production. Most people are too scared to apply even a modicum of compression during tracking these days it seems – I guess compression continues to allude and terrify people in equal measure.

Consider this: final digital masters are generally louder today than they've ever been, and most digital multitrack files are typically more dynamic than they've ever been. In other words, the mixing stage has to shoulder a larger burden of dynamic range control than ever before... a fact I share freely with fellow producers, engineers and artists on a daily basis. Grasping how much compression and limiting is required during mixdown is the vital first step in achieving a well-mixed song.

## REINING IN THE INDIVIDUALS

The job of controlling a song's dynamic range typically starts with the management of individual tracks. Whether these be vocals, drums, guitars or cannon fire, the important first step towards creating a clear, engaging and competitively loud mix is controlling the dynamic range of certain individual tracks.

There are several ways to go about this. Applying channel compression via an insert across the relevant individual tracks is the obvious first step. This invariably nowadays mainly involves the use of a plug-in, of which there are literally thousands to choose from. Then there's track automation, which, though more involved, can yield a great level of control to a channel's dynamic range without theoretically applying any compression. This type of fader automation, however, is often still best combined with a channel compressor to maintain stability in the channel.

Limiters can also be applied to individual tracks where necessary, provided you're careful – these are blunt instruments that can quickly damage a sound if pushed too hard. Limiters often get overlooked as a control measure on individual tracks – perhaps for this reason alone – but can work wonders when lightly applied to a sound at the front of an insert chain.

Particularly in the case of key ingredients like main vocals and drums etc, all of these methods are typically applied together on individual tracks in a mix – sometimes controlling the output up to 10dB or more.

It's also important at this early stage of the mix to determine which of your individual tracks are likely to dominate proceedings, as this influences how much you're likely to compress them. Although the amount

of compression that's applied to any given sound is an entirely subjective decision in the end, one thing's for sure, the louder a sound is in the mix, the more critical this decision becomes.

For instance, if you're mixing a pop song and the vocal is its loudest component, how you choose to control the dynamics of this element will ultimately have a huge bearing on the final loudness of the master. A loose-as-a-goose dynamic will tend to force mastering compressors and limiters to work harder, causing the musical accompaniment to come and go in waves under the vocal, and harmonic distortion to increase. A solid and almost dynamically flat vocal, however, will tend to promote a far more stable, less distorted soundstage.

### COMPRESSING GROUPS

Group compression can be applied at any stage of a mix, but as a general rule is best left turned off until individual tracks have been mostly controlled to your satisfaction first. If you apply group compression too early, especially if you're a mixing novice, things can get very confusing very quickly, often resulting in the group compressors working way harder than they should, and the individual track compressors not working hard enough.

But again, although the amount of compression and the influence it has on your sounds is entirely subjective, generally speaking group compressors and limiters act as a 'second tier' control on your mixing console – kind of like the second filter in a pool cleaning system. What the first set of filters (our channel compressors) let through, the second filters catch. (When I'm mixing, my group compressors typically only reduce the dynamic range by 2 – 4dB... sometimes more.)

### SIDE-CHAINING

Another form of 'second tier' compression, which is often seen as a more complex technique, even though it's actually pretty straightforward, is 'side-chaining', or parallel compression (as it's more accurately called). This simply involves sending any combination of sound elements in a mix – say the vocal, the snare and guitars – via a bus (often an aux send) to a compressor or limiter

at any mix combination you choose. This signal is then compressed (often mercilessly – say 10 or even 15dB!) before being routed either back into new channel faders, to a group, or the stereo mix bus at any level you choose. This compression technique has the effect of pushing the average signal level up without simply flattening the peak information. It allows for a more aggressive sound to permeate the mix without the peak information being directly affected. Where a limiter works from the top down, side-chaining effectively works from the bottom up.

### MASTER BUS COMPRESSION & LIMITING

Finally there's mix bus compression. At this last stage of the signal flow through your console, any compression you apply is acting on the entire song, which needless to say can have either a great positive, or negative, influence on the sound of your mix. Mix bus compression is like the third filter in the pool cleaner: its job is generally – though not always – to clean up the last few dynamic strays, if indeed you use it at all. For the sake of fidelity and transparency the mix bus compressor is often set at very low ratios (say 1.5:1 or 2:1) and high thresholds, so that its duties are relatively light and transparent. The more work it's made to do, the more dramatic its sonic influence becomes. (On my mixes – if indeed I'm using a mix bus compressor at all – I'll generally only reduce the dynamic range by about 2 or 3dB.)

### FOUR BRAKES ARE BETTER THAN ONE

Loud and clear high fidelity masters are always best achieved through the precise use of multi-layered compression techniques, never by simply slamming one compressor hard across the mix bus. Using several layers of compression at once, like the four types described briefly above, will help you achieve a full sound by spreading the workload amongst them. When the combination of channel, group, side-chain and mix bus compression are working in harmony as a collective, and every compressor in the chain is working no harder than it needs to, that's when mixes can be both loud and low in distortion, offering more average level and a more stable soundstage.



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# KNOCK-OFF EQUIPMENT



**A SEMINAR ON KNOCK OFF GEAR AT ENTECH IN MELBOURNE, CHAIRED BY THE WRITER, WAS FULL. IT WAS QUICKLY ESTABLISHED THAT KNOCK OFF, OR 'VERY SIMILAR TO A MAJOR BRAND' EQUIPMENT IS ON OFFER WIDELY AND THAT COUNTERFEIT GEAR CARRYING FAKED BRAND MARKS IS ON OFFER ON GUMTREE OR ALIBABA WEBSITES AND SOMETIMES ALSO ON EBAY.**

# PROBLEM HAS MANY FACES

BY JULIUS GRAFTON

**THE AUDIENCE HEARD THAT WHILE THE PROBLEM IS NOT ISOLATED TO EQUIPMENT FROM CHINA, MOST CASES CURRENTLY START THERE.**

"They are smart", Jands CEO Paul Mulholland told the audience about people selling fakes. "They will say 'this (otherwise branded Knock Off) is not a copy, it is part of a production run of a major brand', so to make you think it is a quality product. But it isn't", he said. The proposition is that after making a thousand items, the factory runs off a hundred more without telling the brand owner, and ships them with a different name on the front. Paul says this is a common tactic to justify quality.

Identical yet otherwise branded copy equipment is everywhere. Making buyers believe it has the same quality as the brand product is part of the scam. While selling 'look alike' equipment is not illegal, selling fakes as the real thing is.

Last month **CX** reported on the case of Kosta Sivov and his network. Sivov is under police investigation after several documented cases where he sold fake JBL to unsuspecting buyers for considerable sums. More fake JBL was used by his failed company, Proline Productions and was listed on a commercial lease. It is not known whether the lease company realised they funded counterfeit products.



IT IS ABOUT HONESTY, PAUL MULHOLLAND SUGGESTED. ANYWHERE IN ASIA YOU CAN PURCHASE KNOCK OFF HANDBAGS HOWEVER THE VENDORS ARE NOW SUFFICIENTLY HONEST TO REFER TO THE PRODUCT AS A COPY "BRAND NAME" HANDBAG AND ALSO SELL IT AT 20% OF THE PRICE OF THE GENUINE ARTICLE. NOT SO AUSTRALIAN RESELLERS WHO CLAIM THEY ARE THE REAL THING AND SELL THEM AT 90% OF THE GENUINE PRODUCT PRICE ENSURING HONEST AUSTRALIANS BELIEVE AT THAT PRICE IT MUST BE THE REAL THING.

## GENERIC NAMES?

Also at ENTECH a Melbourne based production firm owner angrily demanded the removal of a post in the Knock Off Equipment Facebook group, also moderated by the writer. In the post, someone had a screen grab of his claims that he had added Sharpys to a venue, where he openly admitted the beam lights in question were copies, that carry a different brand.

Using copies is not illegal. Claiming they are something else is misleading – he claimed 'Sharpys' is a generic term, like 'blinder'. Yet Sharpys is a trademark of Clay Paky who are very sensitive to misuse of their intellectual property.

The contested post remains online, since arbitrary removal of posts would render the group useless, and members would not post there. The company owner said because he has spent thousands with CX, and CX had profiled his firm, we should remove it. It remains on the page.

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Imagine a venue has a sign that says 'Coke', yet they serve you Pepsi as a substitute without telling you. You can imagine how fast the Coca-Cola company would spring into action.

 **QUALITY FADE**

At the seminar, some confusion became apparent as to where the problems started and ended. Panel members were Steve Devine (Meyer), Frank Andrewartha (Group Technologies), Peter McKenzie (Philips/Selecon), Paul Mulholland (Jands) and Andrew McColl from Staging Connections.

All agreed that counterfeit goods are a growing problem, and specific instances including the Kosta case were aired. Look alike, or Knock Off's are the biggest problem, usually carrying fake compliance marks and copied engineering signoffs.

Quality Fade at Chinese factories is a well-known problem. The book 'Poorly Made in China', by Paul Midler (ISBN 978-0-470-92807-3), recounts his decades of dealings with Chinese manufacturers who 'display extraordinary skill at manipulating foreign perceptions'.

'Chinese factory owners played games. They delivered customers a quality product at the start of a project and over time withdrew key components (or substituted inferior ones). Changes were never announced and alterations were imperceptible to buyers. The incremental degradation was subtle and continuous and importers had no idea until the products started to fail. I call it 'quality fade', wrote Midler.

The seminar heard of how Jands supervise production at the factory in China that makes some of their products – like the successful Stage CL console. Earlier I spoke to Terry Cooney, who is the head of manufacturing at Jands. He said that Jands now supply electronic components, to be assured of quality. The actual fabrication, assembly and metalwork from the Chinese factory is good, he said, but Jands had learned over the years to supply actual components.

 **LED CAUSING RF PROBLEMS**

Panel member Peter McKenzie said non-compliant LED lighting is everywhere, and importers were ignoring regulatory compliance or providing faked documents. Richard Cadena wrote at **CXMAGBLOG** about the issue (May, 2012). That article first appeared in Light & Sound International Magazine.

In the article, he recounts how a Nashville concert video supplier learned of the issue after working on a show for which he supplied an LED video display. After the show, he was chatting with the line producer when she received a frantic call over the radio from the audio crew, who were having a problem.

"Can I help?" he asked

"There's nothing you can do," she replied.

"The sound guys are dying, trying to find open frequencies in the spectrum to tune their wireless microphones."

So he went to see what was going on, and what he saw appalled him. Looking at their spectrum analyser, he could see what he called 'trash' everywhere. But it was the source of the radio frequency interference (RFI) that surprised him. It was coming from his LED videowall.

"They were getting hits on this frequency and that frequency. The LED screen was spitting out all kinds of frequencies that everybody was trying to use." After the Blog was posted, Sydney installer Paul Matthews chimed in.

"Australia, and in particular Sydney is having lots of problems with this lately. Only a few weeks ago, we had a routine visit from the ACMA (Australian Communications and Media Authority) technical guys at one of the transmitter sites we manage. Now this is incidental, but at the same time we got talking about the other work they were doing recently tracking down interference problems across the city and closing down illegal transmitters."

"It seems half their time recently is spent investigating interference complaints caused by... LED display screens. These monsters are turning up everywhere – not just entertainment venues but just about anywhere a large advertising hoarding is required. The market is littered with poorly shielded units which act pretty much like a radio frequency jamming unit with an effectiveness that would make them attractive to the enemy in a field of war."

"It's easy to understand. Not too far from here, a local car dealership recently underwent a new retail fit out which included a new, bright LED screen in a prominent position outside the lot. The display has all but wiped out FM radio reception within a 200m radius of the car lot, affecting just about any FM broadcast in the immediate area. Ironically the display is often broken but still jams everything around it."

Peter McKenzie's concerns about untested LED lighting falls into this category. Most culprits are Knock Off's that do not carry legitimate RCM (RCM is the single compliance mark for Australia) where the product is registered on the ACMA database.

ACMA are known to be keen to nail importers for falsely showing the RCM on goods. Many in the industry are keen to assist.

 **WEAKEST LINK**

Unresolved and unresolvable is the inevitable accident that is waiting to happen when knock off gear fails. Steve Devine told the seminar of a rash of fake Global truss that has less wall thickness, and thus implied less strength than the real Global.

The story has it that there is a quantity of the knock off Global in circulation in Melbourne, and it has contaminated the genuine stocks by being inadvertently swapped.

The best way to find the 'fake' Global is to weigh every stick, or weigh every trolley load to find the fake stuff.

But the big fear that production managers keep voicing is that a 'no name' or knock off line array or ground support will fail, or a truss will break and the resulting fatalities will cause populist governments to ban overhead entertainment rigging 'pending an enquiry'.

As we heard at ENTECH in the Safety Guidelines seminar, if you walk under a flown load on a building site you get fired. Entertainment is the only industry where flown loads are above the heads of women, men, and children every day of every week.

**We owe it to ourselves to take as much care as possible.**

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## EVERYBODY'S NEW BEST FRIEND

BY JIMMY DEN-OUDEM

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THE SOUNDCRAFT Vi3000 IS SOMETHING OF A HYBRID – IT TAKES ITS FORM FACTOR FROM THE Vi4, ITS LOCAL I/O FROM THE Vi1, AND ITS USER INTERFACE FROM THE Vi2. THE MORE TIMES YOU DO SOMETHING IN LIFE, THE BETTER YOU GET AT IT. THIS SEEMS TO HOLD TRUE IN THE CONTEXT OF SOUNDCRAFT BUILDING DIGITAL CONSOLES, BECAUSE THE Vi3000 IS EXCELLENT. SOMEHOW AMIDST THIS, THEY'VE MADE IT RADICALLY CHEAPER THAN WE EXPECTED.

### Quick Specs

Vi3000 has 24 mix busses each of which can be mono or stereo groups, auxiliaries or (up to 16) matrices. Plus Left Right and Centre with LR or LCR mixing per channel. Plus A/B monitor busses and of course a headphone socket. Four internal slots accommodate IO cards – options include 16 channel mic/line input and 16 channel line output cards. There's on-board AES and optical MADI connectivity for connection to the Soundcraft Realtime Rack or a recording setup. Two digital card slots can hold optical, BNC or RJ45 MADI cards which include head-amp control for connection to stage racks. You can connect any of the Soundcraft stage racks to the Vi3000 – it doesn't matter if it's a compact rack normally used with a compact console or a Vi6 rack. They all work.

There's also a DVI port which I neglected to investigate, some MIDI ports, HiQnet port and most notably, dual Dante ports. The long and short of it is that you can connect the Vi3000 to almost anything. Our test console came loaded with enough cards to



provide 48 analogue inputs and 16 outputs, but after listening to a mic on an input I opted to feed some multi-tracks in via Dante from my laptop. It worked first go. The beautiful thing about Dante devices is they're all built to be friends with each other, and this one is no exception. If you own someone else's stage rack with Dante, you can pick up the channels from that on the Vi3000 (though without head-amp control).

### Get set & go

From the get-go the Vi3000 is kind of just built to work. I recalled the default FOH show and all my inputs were logically patched 1:1 from the on-board analog IO. Changing these to the Dante feeds was pretty easy, and you don't need to open and close dialog boxes for every channel – just select the channel then choose the input you want. There's no patch matrix or cascade function, but I think once you build a couple of show templates this doesn't really matter. Every input channel has a second patchable input, and you can switch between them by pressing the "F" key at the top of the strip. Great for backup mics.

Pushing faders up is easy, channel metering is good, and the Vistonics interface means you basically have every channel parameter for every fader one touch away. The surface has four "bays" of eight faders each, with the first, second and fourth bay playing home to inputs. The console supports up to 96 mix channels across four layers, and four user layers allow you to setup the strips in basically any way you want. Each bay has a touch screen above, with two rows of encoders each with adjacent buttons.

The third bay is the master section and gives access to VCAs and mix bus masters. Three dedicated faders give

you LR+ C control and metering, plus another fader looks after monitor output level.

The home screen above the master bay shows you metering for literally every path in the console. Touching a bank of meters pushes the corresponding paths (channels, auxes, groups or matrices) onto the fourth fader bay. This potentially allows two people operating the desk simultaneously, though switching input layers returns the fourth bay to input fader duties. You could always just setup the user layers to always show your important channels on one bay if this was a problem.

Pressing the "solo/select" keys on any mix bus allows you to solo the busses through the monitor section. You can configure specific sends to appear at the monitor A or B output, so if you're mixing wedges and IEMs you can listen across sends on an appropriate device. Pressing the "follow" button adjacent to the faders allows you to mix to sends using the faders. Alternatively, you can press the "follow" button adjacent the Vistonics encoders, and the selected send appears on the rotaries above each channel strip.

When you tap a parameter (input, PEQ, dynamics or sends) above a channel, the relevant parameters all spill out along the encoders on the screen. So for instance, to jump from the gate settings on channel 1 to the aux sends on channel 7 requires only one action. Labeling and phantom power is done from within the gain section of the strip, and you can turn on one channel then select another to turn on. Again, no closing dialog boxes is required so it's fast.

The Vi3000 runs at a sample rate of 48kHz, which will no doubt offend anyone who requires 96kHz or above. Argue the point all you want, but on many PA systems



## WELCOME TO VISTONICS



you'd struggle to hear any difference between the two. The processing is 40-bit floating point SpiderCore DSP, whatever that means. If you're so inclined you can externally clock to Wordclock or Dante – I don't see the point. I played around with smashing the mic pre-amps REALLY hard, and with enough abuse they do eventually gravel up. A bit. Eventually. Unless you act like an utter lunatic with the gain pot it's fine – gently clip a strip from time to time and you probably won't notice.

The channel EQs are responsive and feel very tactile. The dynamics processing works well and there is delay available on every input channel and every output. Add to this full GEQs and dynamics on every output, plus parametrics, plus inserts. You can even insert external processing via the on-board IO.

If that's not enough routing capability, 24 virtual tie-lines let you pick up any signal from any input, and route it to any output. There are also direct outs on every channel, and you can send those to as many outputs as you want. A huge amount of routing is available, but the way it's set out and accessed make it seem very simple. Channels can be stereo paired with their adjacent partner, or the same channel location on the next fader layer down. You can also gang multiple faders together to move them all at once.

Like most console operations, changing a bus from an aux into a group or matrix takes all of about 3 seconds – there's no re-booting or restarting anything. Talking of booting, the console takes about 40 seconds to pass audio from the time you first turn it on. Dual power supplies auto range across a ridiculously wide voltage range, so it's pretty safe to say it's solid kit.



## OUTPUT FADER PAGES ARE TOTALLY CONFIGURABLE



## DIGITAL IO FOR DAYS

The Vi3000 includes four Lexicon effect processors which seems a little light on considering the input count, but it's certainly enough to cover the basics. If you need more than that, check out the Soundcraft Realtime Rack which adds a choice of 74 UAD plugin choices (and effectively uses no console resources). Or just plug some outboard in...

Because the console has Dante, you get a Dante Virtual Soundcard license for free when you buy it. Add to this a decent laptop, hard drive and some software like Reaper and you've got instant multi-track recording. The only limitation I can find is that you can't route in and out of both the Dante AND on-board MADi ports simultaneously (choose which in the setup menu) – but if you want both just add a MADi card.

### The wrap up

I found it took a good three hours to wrap my head entirely around how the Vi3000 works, but figuring it out was lots of fun, rather than the profanity filled debacle for which I'm more commonly known around the office. I had the basics sussed inside an hour. Once you figure out how the console works it's seriously fast to get around on, but it does require a bit of a change of thinking. I think the interface is something people will either love or hate – I find myself in the former category.

*The Vi3000 workflow suits me phenomenally well, and it sounds great. It even looks cool. In the sub \$100k category this is absolutely my new favourite console, and it's going to take something pretty wild to change that.*

BRAND: SOUNDRAFT

MODEL: VI3000

RRP: SOUNDRAFT VI3000

INCLUDING 32 IN 32 OUT

LOCAL I/O \$39,190 INC GST.

PRODUCT INFO: [WWW.SOUNDRAFT.COM](http://WWW.SOUNDRAFT.COM)

DISTRIBUTOR: [WWW.JANDS.COM.AU](http://WWW.JANDS.COM.AU)

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# CLAYPAKY



## A. LEDA B-EYE K10 & K20 WHAT'S THE BUZZ?

BY JIMMY DEN-OUDEM

WHEN CLAYPAKY RELEASED THE SHARPY IT TOOK THE MARKET BY STORM, AND NOW B-EYE LOOKS SET TO DO THE SAME. TO MAKE SENSE OF THE RANGE, LET'S START WITH THE MOST BASIC MODEL – THE B-EYE K10 CC.

B-Eye K10 units all feature 19x 15W RGBW LED engines. On the "K10 CC", these are addressed as a group with no scope for individual control. The "K10 Easy" model adds individual "pixel" control over the engines. The B-Eye K10 adds to this a rotating lens assembly, and the K20 adds more engines bringing the total to nearly double at 37 of the Osram Ostar RGBW chips. Which is a lot. We didn't look at the entry level models, instead reviewing the K10 and K20 models side by side.

K20 weighs in at 21kg, and K10 is 6kg lighter. Both include PowerCon connector for power as well as 5 pin XLR in and loop for DMX, plus Ethernet. K20 has a bigger base and, presumably for no other reason than they could fit it in, it also gets a pair of 3 pin



XLRs. Operationally the menu system is identical between the pair – a backlit LCD with navigation and okay keys. It's straightforward to operate and the only disappointment is the lack of any interesting form of "standalone" mode. Granted there is a test sequence that

is very logical if a bit boring. If you just want to address the fixture you can do this without applying power – an internal battery allows menu operation even with no mains connected.

If you had to categorise the B-Eye you'd probably call it an LED wash fixture, and you certainly wouldn't be wrong. Both K10 and K20 can zoom between 4 and 60 degrees, and at the wide end you can soften the beam edges by rotating the front lens a little. So you see, it's also quite a good beam light as well. The LED modules are punchy to start with, and looking at the output of a single module it seems like Clay Paky has really done a very good job with getting the optics right too. There's a 1-25 flash / sec strobe

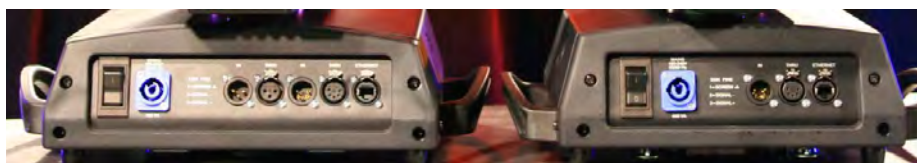


function, tungsten emulation, and CR emulation between 2500 and 8000K.

Fundamentally the main difference between K10 and K20 is more LED chips, and inherently a few additional control parameters associated with colour control. Well okay, many more control parameters. K20 uses 169 channels in extended RGBW mode, but if this isn't practical (or, like me, you think it's too much work to write a fixture profile), there's a 21 channel "standard" mode, or my preferred option the 35 channel "shape" mode.

Standard mode gives you colour control over all the engines as a single block, but does allow you to use the zoom and zoom rotation functions. "Shape" mode adds a selection of preset shapes with speed, colour, fade, transition and intensity control. You can also change the background intensity separately – it takes its colour from the main RGBW channels. "Full mode" (146 channels) gives you pixel-by-pixel RGB as well as all the shape effects.

Here's where it gets really clever. Once you zoom in fully, you can engage the front lens rotation. This has the effect of splaying the individual beams outward at different angles. You can zoom a little bit within this rotated area to change focus on the beams – Clay Paky calls this the kaleidoscope mode and it's a pretty apt name. Once you combine this with the shape effects and some different colours, you can achieve a surprising number of different looks. I even managed to come up with something reminiscent of the Astroraggi Power



(another Clay Paky offering from more than a decade ago).

I expected to rather like the B-Eye, and actually getting my hands on some units really drove this point home. I love it, and from a guy who doesn't really get excited about lights that's high praise. It's a really versatile fixture with loads of cool features, none of which have come at the expense of being able to do the simple things well too.

BRAND: CLAY PAKY  
 MODEL: A.LEDA B-EYE K10  
 AND K20  
 RRP: B-EYE K10-\$9799 INC  
 GST. B-EYE  
 K20-\$13500 INC GST.  
 PRODUCT INFO:  
 WWW.CLAYPAKY.IT  
 DISTRIBUTOR:  
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# DPA PODIUM MICROPHONES

## TALK OF THE TOWN

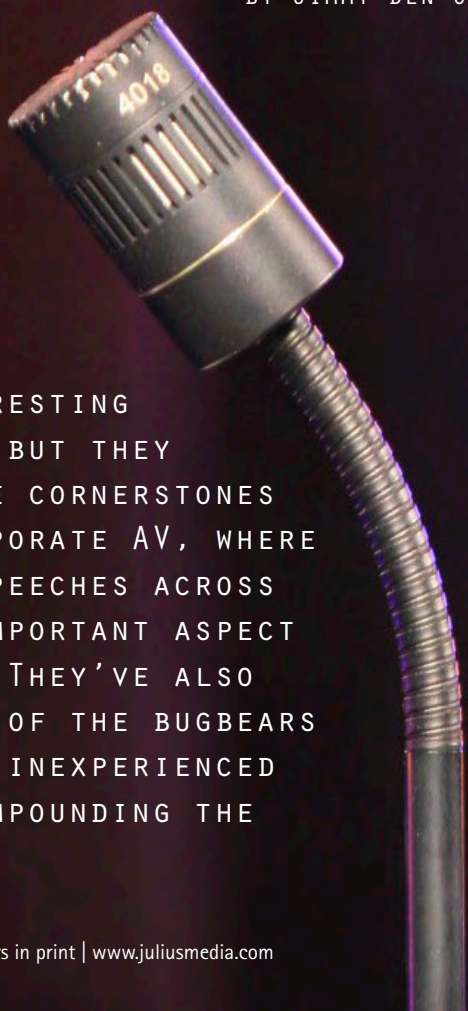
BY JIMMY DEN-OUDEM

PODIUM OR LECTERN MICS MIGHT NOT BE THE MOST INTERESTING TOPIC AROUND, BUT THEY ARE ONE OF THE CORNERSTONES OF MODERN CORPORATE AV, WHERE GETTING THE SPEECHES ACROSS IS THE MOST IMPORTANT ASPECT OF THE SHOW. THEY'VE ALSO LONG BEEN ONE OF THE BUGBEARS OF SAME, WITH INEXPERIENCED PRESENTERS COMPOUNDING THE PROBLEM.

DPA introduced a range of podium mics about a year back and admittedly it's taken me a while to get around to checking them out. Now I have, and the results pleased me enough to talk about here.

I looked at two different series of podium mics – the d:screet and d:dicate. There are some differences between the two, and it's important to understand these. The d:screet SC4098 is a fixed format comprising a connector (or free-standing base) with a 15, 30 or 45cm boom, finished with a 4098 capsule. It's the entry-level podium mic from DPA.

The d:dicate 4018F is a modular system that adds a number of boom lengths (15cm through to 120cm), a floor stand option, and a number of different capsule choices. We used an MMP-F30 boom coupled with 4018 supercardioid capsule (similar to the 4018V found in the d:facto II handheld mic), but many of the other d:dicate series capsules also fit. You can also order the boom with a gooseneck at the top, bottom or both ends.



BRAND: DPA  
MODEL: SC4098-BX45 & 4018F  
RRP: SC4098 (15-45CM BOOM) \$899.00 INC GST.  
4018F (15-45CM BOOM) \$2599.00 INC GST.  
4018F (75-120CM BOOM) \$2629.00 INC GST.  
CUSTOM LENGTHS ALSO AVAILABLE.  
PRODUCT INFO: WWW.DPAMICROPHONES.COM  
DISTRIBUTOR: WWW.AMBERTECH.COM.AU



Importantly, the 4018F comes from the dedicated family – the same as DPA's line of recording mics. That should tell you a lot about the sound and price.

I began my testing with the SC4098 mic. Even with a 45cm boom, the mic is compact and visually inconspicuous. Its spec shows an accentuation in the 10-15kHz region, and listening to it this is quite apparent. The spec is measured at 20cm "typical distance" and in all fairness I think this is probably a little close. Many presenters will push the mics away from them when they take the stage. Even so, it holds together well at greater distances.

Off-axis frequency response falls off in an almost totally uniform manner through to 30 degrees. LF rolls off a little more aggressively around the 60 degree mark, but importantly at 180 degrees off-axis the response is 10dB down at 400Hz and continues to roll off rapidly. In other words it's going to yield good gain before feedback. To me the SC4098 sounds like I'd expect a lectern mic to sound, but minus all the feedback.

The 4018F takes it to a completely different level. I really like how it sounds at distance – uniform and full. The frequency response off-axis doesn't have the same low-end roll-off as the 4098 so in this regard I'd consider it more forgiving to dodgy presenters. What DPA has effectively done here is take a recording mic and

make it suitable for use on a lectern. Visually it's more imposing than the SC4098 but I think the performance gains make it worth the fairly minimal compromise. All this nice sensitivity does make it a bit easier to upset with plosives at extremely close range, so I'd definitely apply the included pop screen.

Obviously the 4018F is seriously premium product, and it's priced accordingly. The mistake with this would be thinking it's only for presenters, an assumption that would be wildly wrong. It's a sumptuous mic, and works just as well for singers as for talkers. The modularity factor means you could have a couple of different boom lengths in your inventory and just bounce capsules between them.



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# CHOOSE YOUR OWN ACRONYM

IT'S PROBABLY SAFE TO SAY ROBE IS TELLING THIS ONE LIKE IT IS. THE BMFL IS INDEED A BRIGHT MULTI-FUNCTION LUMINAIRE, AND IT'S VERY MUCH ALL OF THOSE THINGS.

**BMFL** uses a 1700W discharge lamp which Osram developed in conjunction with Robe over the course of two years specifically for this application. That's a whole lot of Watts – the most in fact I've ever seen in a moving head fixture. It's definitely a single-fixture-per-10A-circuit kind of deal – just feel the heat which emanates from the back of the head if you want to better understand why.

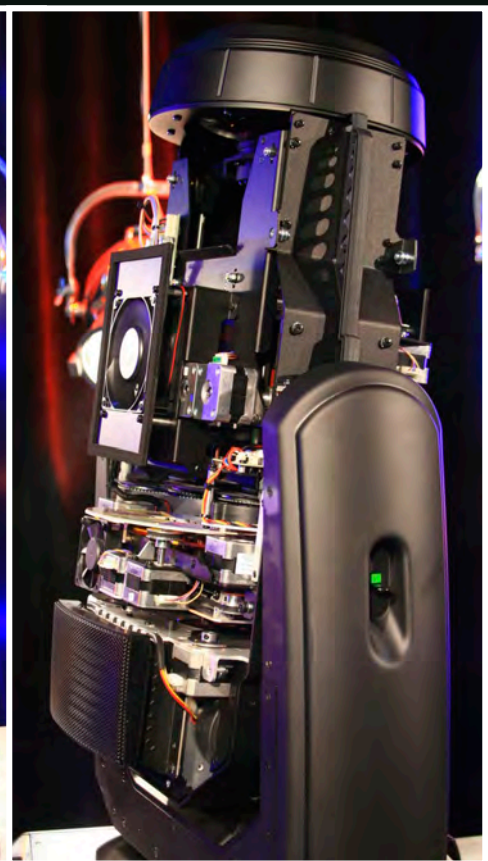
Despite a busy schedule, CX managed to secure the BMFL for long enough to sit it down and ask some questions. The first of these was "How bright are you?" The obvious answer was to get a light meter and check the 220,000 lux @ 5m spec. I carefully measured the distance and got the beam focused up, then stuck the meter into the light field. It wasn't able to tell me much other than more light was being produced than it was capable of reading. So I'll make do with my own observations. It's very bright – to the point I had some very real concerns about burning holes in my cyc at 5m.

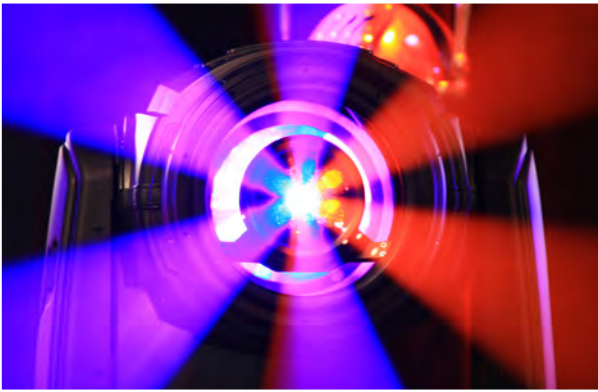
EVEN LOADED UP WITH BEAM EFFECTS, BMFL PUNCHES HARD



# ROBE BMFL

BY JIMMY DEN-ODEN





Obviously with such a bright source, lamp life will be impacted – at 1700W the lamp is rated to 500 hours. The lamp can be bumped down to 1500W or 1200W output which extends its lifespan around 50% to 750 hours. Personally I found the difference from 1700 to 1500W pretty hard to pick – it's still very bright. Changing output isn't possible via the fixture touch screen but instead done by DMX.

Colour happens in two forms on BMFL – a CMY mixing system allows for extremely smooth and gradual shifts from open white through to saturated colours. I tried a couple of 30 second colour fades and the process is so subtle it's virtually indiscernible. Dimming is equally smooth, and there are no changes to the beam during either process. In addition to the CMY system, two colour wheels allow for saturated colours and TV colours (minus-green, CTB, lavender etc). The wheels are indexed such that you can also do split-colour beams.

BMFL has an electronic motion stabilisation system which is kind of hard to see in action. The idea is that it

better deals with truss swing caused by multiple heads simultaneously moving. It's really hard to observe this in our test environment with the fixture on a bench, but what is obvious is how well its movement is controlled. Even on fast tilts the fixture comes to a nice, precise stop. If knocked it homes to the correct position with alarming accuracy – pretty important if you're using it over a throw distance of 80m or so (which is a pretty realistic application).

Zoom range is 5-53 degrees and stupidly fast. The dual gobo wheels are both rotatable and indexable – one wheel has breakup effects and the other is more geared toward projected images. The BMFL uses the same 6 facet linear and 4 facet circular prisms as found on the MMX. There are three variable frost filters too.

Natively, BMFL has a fairly high colour temperature but can happily put out anything between 2700 and 6000K.

I think the BMFL is something of a contradiction. It's a hulking giant lightsource in a compact body. The sheer brutish output means you can jam all the beam effects you want in-line and still achieve really solid output. Perhaps most surprising is how refined the control and optics are – it does everything you ask quickly and with a level of precision I simply wasn't expecting from such a BMFL.



BRAND: ROBE MODEL: BMFL  
RRP: POA  
PRODUCT INFO:  
WWW.ROBE.CZ  
DISTRIBUTOR:  
WWW.ULAGROUP.COM

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# DYNACORD AXM-12A

## SMALL SURPRISE

BY JIMMY DEN-ODEN

I'M NOT QUITE SURE WHERE TO POSITION THE AXM-12A. IT LOOKS LIKE A WEDGE AND CERTAINLY WORKS LIKE ONE, BUT IT HAS A POLE MOUNT TO ENABLE FOH USE. IT LOOK LIKE DYNACORD, BUT IS PRICED LIKE EV. IT DOESN'T WEIGH IN AT ANYTHING LIKE EITHER. I'M A BIT CONFUSED BY IT, BUT IT'S A HAPPY CONFUSION.

**T**HE AXM-12A is a co-axial self powered speaker with a 12" LF driver and 1.75" HF driver. Dual amp modules provide 260W and 75W RMS for each of these components respectively. The side panel features three inputs with individual level control. The first two of these are mic/line with a loop out on the first. The third input is dual RCA. There's a mix output on XLR, and IEC connector for power. You can apply +48V to the mic inputs individually.

The cabinet is quite lightweight and consequently easy to move around, even single-handed. The menu system is not unfamiliar in appearance – a rotary encoder/button navigates through the backlit LCD screen options. There's quite a lot of DSP inside the AXM-12A, and the first choice presented in the menu is the operating mode. There are three monitor modes available – the first is "flat", the second is designed for noisy environments, and the third compensates the effect of coupling two cabinets together. There's a "guitar cab" mode allowing you to run a guitar pedal straight into the unit, plus MAIN PA (aka full range) mode, and TOP+SUB which applies a very aggressive HPF.





ONBOARD DSP IS WELL-FEATURED AND EASY TO NAVIGATE



Moving on, the DSP also has a 3 band EQ with sweepable mid, 10dB feedback (notch) filter, low cut filter, and up to 100m of delay (measured in distance not time – so around 300ms). You can also dim the display after a user defined period of inactivity. Mix out is selectable between L+R mode and R only. Essentially they're the same, except that in R only mode, only the right channel of input 3 is routed to the mix out, and only the left channel is routed out of the speaker. In other words, you can use two units to provide stereo audio with no external mixer.

There are quite a lot of configuration options on the AXM-12A, and though it doesn't take long to zip through and adjust them all, sometimes you just want the same settings every time for specific gigs. To this end, five user presets can be stored, named and recalled from within the menu as well. Not a huge thing, but a good little timesaver.

On paper it all stacks up very nicely for the price. In practice, the frequency response spec of 50Hz-20kHz (-10dB) seems pretty believable. Nominal coverage is 90 x 90 degrees and this too seems to hold at least down to frequencies where such things are still vaguely controllable. The low and low-mid ranges spill out a bit, but it's a pretty compact box so that's not unexpected. Max SPL is claimed at 128dB (calculated), and I suppose that downhill with a tailwind it would get there but I'd be more interested to know sustained output. Shouting through a mic into the AXM-12A I did get it to breakup a bit in the HF area, but I was being pretty brutal. For the size of the thing and the price its output is very respectable. Not just in overall level either, it sounds pretty nice too. I used a common dynamic vocal mic and achieved good vocal reproduction without feedback. It's no concert wedge, but nor is it claiming to be.

Herein lies the source of my confusion. If I met it with no brand attached, I'd see the AXM-12A in the very top end of the MI market, or maybe mid-range in the pro sector but only on small gigs. Not exactly where I expect to see Dynacord kit, but it certainly cuts the mustard in either application. If I needed some compact active wedges for

small to mid-size gigs, I reckon this would be a serious contender for my dollars.

BRAND: DYNACORD  
 MODEL: AXM-12A  
 RRP: \$1499.00 INC GST  
 PRODUCT INFO:  
 WWW.DYNACORD.COM  
 DISTRIBUTOR:  
 WWW.BOSCHCOMMUNICATIONS.COM.AU

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September  
2014

# ROAD

# SKILLS



**Editorial by Cat Strom**

Keith Urban: Photography - Ashley Mar  
Tex Perkins: Photography - Andrew Poppleton

TOM ABRAHAM  
FOH MIXER



IT WAS ONE OF THOSE TOURS WHERE STRAIGHTAWAY YOU NOTICE A GOOD VIBE, THE CREW ALL GET ON AND KEITH MAKES A POINT OF THANKING THEM AFTER EVERY SHOW. HE IS PAINTED AS A TRUE GENTLEMAN. CERTAIN OTHER ACTS COULD LEARN FROM HIM.

**AT** FOH mix is Tom Abraham who has mixed Keith for nearly four years and although this is billed as a new tour, in reality Keith just keeps going and the lines



# KEITH URBAN

MULTIPLE GRAMMY AND ARIA AWARD WINNER KEITH URBAN'S LIGHT THE FUSE TOUR AUSTRALIA WAS AN ALL-NEW SHOW THAT FEATURED FIRST-TIME PERFORMANCES OF NEW MUSIC FROM URBAN'S #1 ALBUM 'FUSE', ALONGSIDE MANY OF HIS BIGGEST HITS.

between tours are quite blurred. Production wise, it's certainly a new show.

"It doesn't change too much audio wise but it certainly does visually – although all I know about lights is that they are in my way!" said Tom.

Tom's background is heavy metal and sometimes he wonders why he was hired to do Keith Urban, but a Keith show is a lot more rocking than on his recordings.

"His musical director came to an Alice In Chains show that I was mixing and he liked what he heard so I got the job," Tom said. "I think they were looking for something a bit different to a typical Nashville, safer mix because he's not like that live. I figure that if people hire me, they do so for a reason so I just keep doing what I do to make it sound as good as I can."



When it comes to PA choice, Tom comments that there aren't any bad PAs anymore just different ones. They all act differently and do different things, but after a long time using them all you know what to expect.

"What is good about one may be what is weak in another," he said. "But if you know that in advance you can tailor your mix to work the best it can with what you are given. The days of everyone flying their preferred gear around are long gone as you can pick up audio regionally everywhere now. We're a Clair Brothers account so if we are carrying PA, we carry theirs."

In Australia, Tom used a Clair Bros I5 but in the US he uses the I5D which he describes as quite different even though it is named similarly.

"The I5D is quite a sonic improvement on the regular I5," added Tom. "It sounds way more cohesive to me. However there are a lot of great systems around such as the L'Acoustics K1, and the JBL VTX. There are no bad rigs anymore, as long as they are well maintained."

In Sydney there were fourteen I5's hung per side, along with a flown B5 to add a little bit more sub in the air, and the side hangs were eight I5's. On the ground were eight B18HP high power subs and quite a lot of front fill to ensure the people in the front are not getting a compromised audio experience.

"Because of the thrust in the middle of the stage, we have to bring the hang out so there are two 20ft x 20ft areas either side of the thrust that don't have a PA in front of them," explained Tom. "So we have a lot of front fill, in this case Clair Micro boxes, which sound fantastic, and Clair P2's. So if you walk across the front it is full on and sounds great."

Tom uses a Venue Profile maxed out with five mix cards and 100 plug-ins saying he really uses the console to run other people's plug-ins.

"I am a not huge fan of the EQ, compressors and gates on the console but I generally use plug-ins for all my channel strips," he explained. "Really I use the console to run my plug-ins and most of my inputs are the Waves SSL E-Channel because it sounds a lot better. I use heaps of them and also heaps of Waves C6 multiband compressors, lots of Crane Song Phoenix, SPL Transient Designer, SPL TwinTubes ...

there are a lot of plug-ins but a lot of repetition."

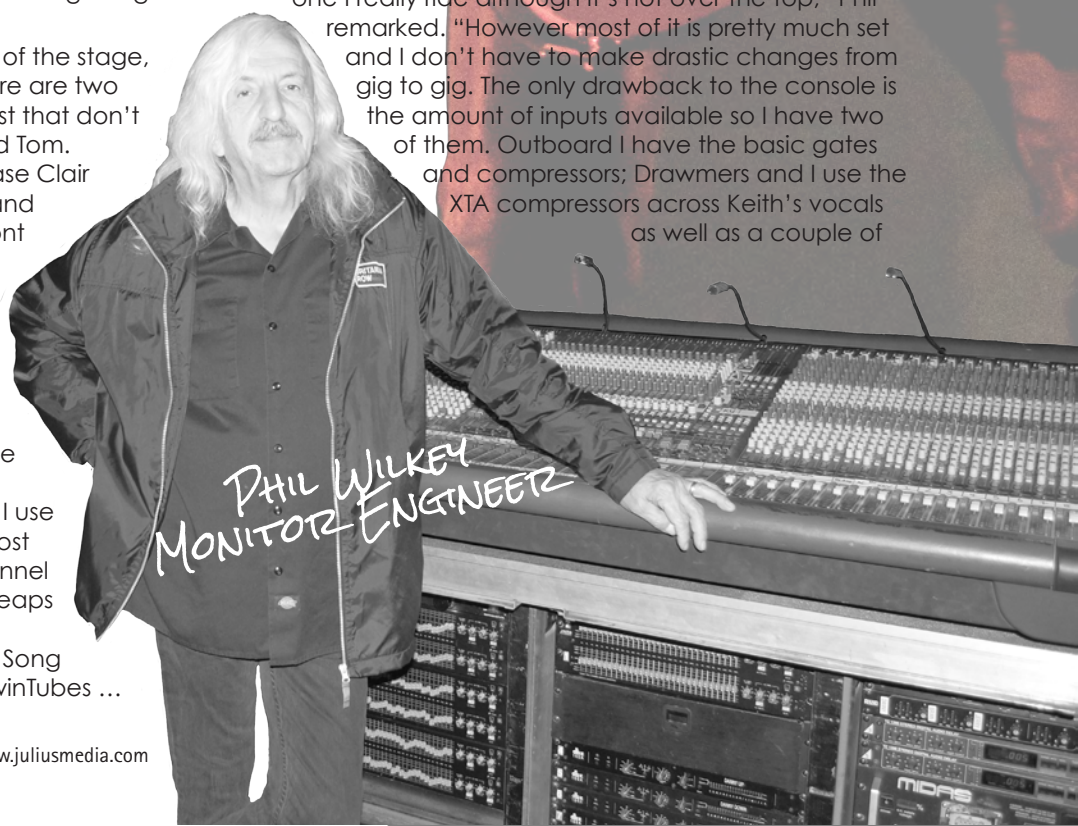
Tom does use the effects that come with the console as the band are not heavy effect wise, nothing super fancy.

The show is very vocal heavy with everyone except the drummer singing and Tom describes the show as pretty loud.

"You can't have open vocal mics so probably the biggest thing I do at FOH is keep the vocals under control," said Tom. "In fact, 80% of what I do is riding vocals. Even when the show is going with the crowd, you can't leave the high gain vocal mic open as it messes things up. You can do a lot of stuff off line to keep that under control using the Waves C6. You go through each guy to find out where his voice is spikey and set your C6 to start ducting when he gets to that point, it's a very handy tool that can keep the tonality correct."

Monitor Engineer Phil Wilkey (nickname Sidefill) has been on the road for 42 years and proclaims that Keith is the nicest person he has ever worked for and that he is really an analogue guy. Hence Phil using a Midas Heritage 3000 to great success.

"I have all of Keith's mixes on the faders as he's the only one I really ride although it's not over the top," Phil remarked. "However most of it is pretty much set and I don't have to make drastic changes from gig to gig. The only drawback to the console is the amount of inputs available so I have two of them. Outboard I have the basic gates and compressors; Drawmers and I use the XTA compressors across Keith's vocals as well as a couple of



PHIL WILKEY  
MONITOR ENGINEER

compressors across his vocals. Nothing too amazing but it's good, clean and delivers the sound that he wants."

Keith uses wedges – mainly for his guitar - tending to only have one in-ear in place, however once he comes into the audience both are popped in. As well as Keith's wedge mix, Phil also has a wedge mix for the bass player whilst the rest of the band are on Shure PSM1000 in-ear monitors.

"The band use JH Audio ears which sound really good," said Phil. "I really enjoy doing this show every night as it is very satisfying. The nicer people are to you, the harder you'll work for them."

Video engineer Johnny Hayes used Big Picture for his supply describing them as some of the best people he has ever worked with worldwide. The production carries eleven video cameras, 15mm LED, projection screens either side of stage, and 20K projectors. Johnny uses a Sony 3ME switcher with a bunch of different configurations and framing restrictions with the walls; the seamless back wall opens up to offer two vertical LED walls.

"Changes in just the framing throughout it is a little bit difficult and a challenge to work with," remarked Johnny Hayes.

The lighting design is by LeRoy Bennett supplying a more moody and dark show (as per brief) than you would expect at a Keith Urban concert. As with many of LeRoy's designs there is a roof of lights; in Australia they were 178 Marlin MAC Auras but LeRoy's original design was for 178 Ayrton MagicPanels.

"We were told we couldn't get the MagicPanels here but the MAC Auras look great and keep the show fairly close to the original look," said John Lucksinger, lighting director. "The Auras spread down the back of the stage too; 77 in the ceiling and 66 in the wall behind the video screen. The rest are either side of the stage or on the floor. We also have 24 VL3500 washes for band wash and eight MACIII's for spotlighting the band as we were planning not using follow spots. However we have added followspots for Keith for some of the bigger moments to make him stand out from the video behind him."

Integral to the lighting design are the Cuepix LED strips placed in rows between each truss and also down the wall. Two grandMA2's are networked together for control.

JOHNNY HAYES  
VIDEO ENGINEER

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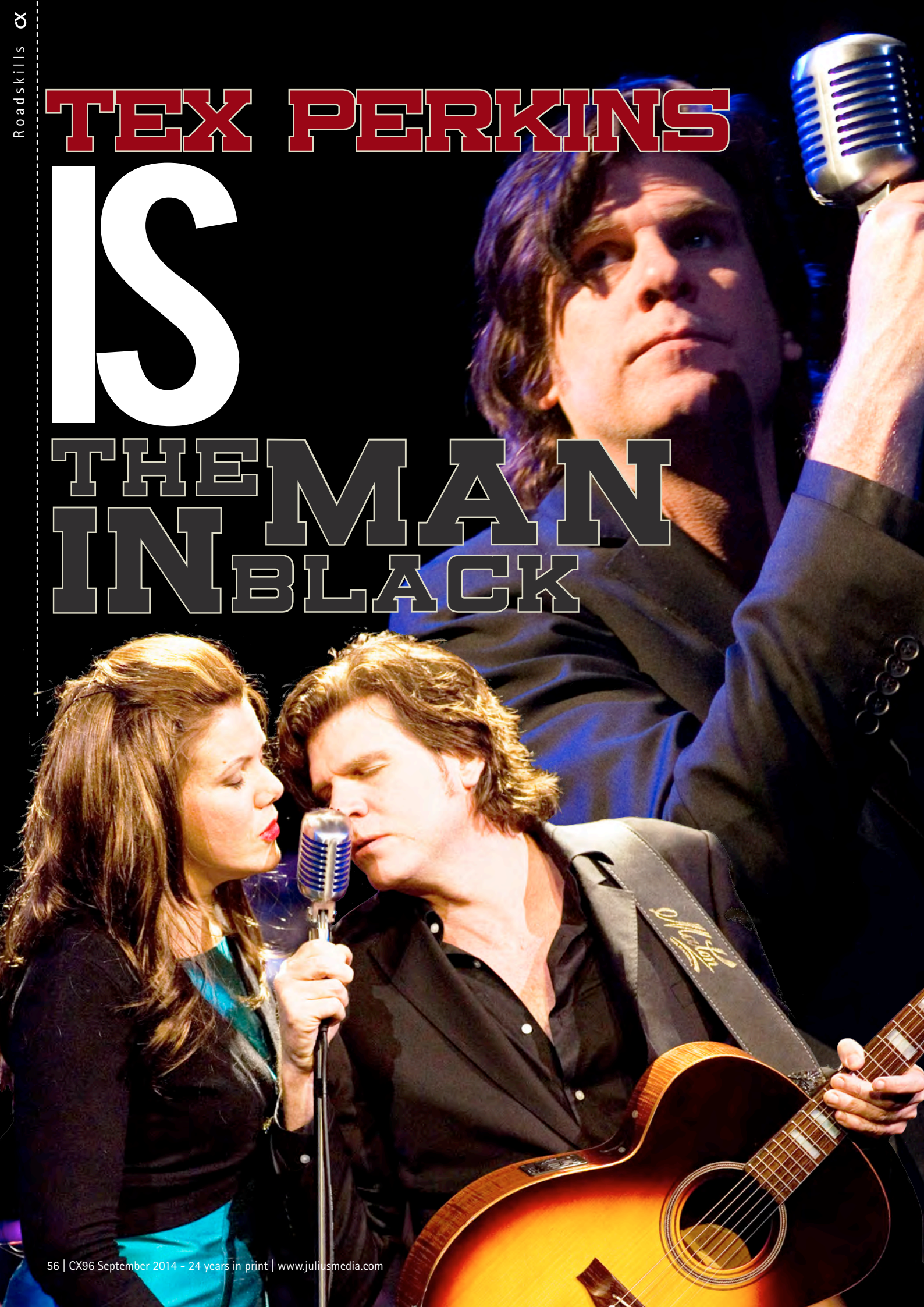
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# TEX PERKINS

# IS

# THE MAN IN BLACK



**TEX PERKINS ONCE AGAIN MORPHED INTO JOHNNY CASH FOR ENCORE PERFORMANCES OF THE MAN IN BLACK AT SYDNEY OPERA HOUSE'S DRAMA THEATRE. AS USUAL, HE WAS JOINED ON STAGE BY RACHAEL TIDD AS JUNE CARTER AND THE TENNESSEE FOUR BAND. OVER FIVE YEARS, THE SHOW HAS PLAYED 212 PERFORMANCES AROUND THE COUNTRY.**

The Helpmann Award winning show is two hours of Johnny Cash's music interwoven with the story of his rise to stardom, his fight for survival and his eventual redemption.

With his driving freight-rain chords, steel-eyed intensity and a voice as dark as the night, the legendary Johnny Cash revolutionised music. The show explores his relationships - with hardened prisoners to the beautiful June Carter and lots in between. Johnny Cash was dealt a very tough hand, early in life, but through his music and dedication, he became a legend throughout the world.

FOH engineer Andrew Poppleton has a background in theatre and is currently production engineer on three major musicals running in Australia at the moment: Grease, The King & I, and The Lion King. However he has been working with Tex, both in this context and when performing as himself, for several years.

"It's been nice to blend the aspects of theatre with rock'n'roll and vice versa," said Andrew. "For example, I worked on the recent touring production of the Rocky Horror Picture Show and could use my experience with Tex to get a real rock'n'roll feel to the show."

When Andrew first started with this production five years ago, he didn't leap straight into the project thinking it's Tex Perkins so it must be rock'n'roll. Instead he spent a long time researching the Johnny Cash sound and how he could replicate it in modern venues.

"I wanted to be true to the Johnny Cash style," he said. "Tex does that every night and I felt the show needed that respect."

When mixing for The Man in Black, Andrew tries not to over amplify the sound. With the double bass he uses a built in instrument pick up and a DPA 4061 - for the natural wood sound and one for the slap. On the drum kit the Shure Beta 98D and DPA 4099D microphones are kept quite simple to try get an authentic Johnny Cash sound and look.

"We use Shure 55 microphones for vocals to get a fifties vibe to the show," added Andrew. "We try to replicate a genuine fifties sound, in fact we started out using analogue consoles and looked at ribbon mics. The problem is that today's theatre audiences are used to a more

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sophisticated sound so it's difficult - you can't turn up with a mono sound like Johnny Cash would have had. However we do use some effects such as a tape echo to emulate his records, plus we use basic effects. We certainly haven't modernized the sound using lots of compression, and there are no gates on anything."

Andrew picks up his gear locally and over the five years he has probably used every console and PA available in Australia.

"It's been a big range but I feel most at home on a DiGiCo console," he remarked. "Here at the Drama Theatre, I've supplemented the d&b audiotechnik PA with two more subs on stage and some infills. I didn't want just a left and right PA so I've added a centre cluster which I normally do for a theatre show. It gives that Johnny Cash recording feel where he was always dead centre on the recordings, with the drums, bass and rhythm section to one side and the guitars the other."

The most difficult aspect for Andrew on the show is running monitors from FOH as they don't tour a monitor engineer. In fact the only other member of the crew looks after the stage and musical instruments so Andrew also has to call the lighting.

OK, the light show is fairly basic but it's still a big ask.

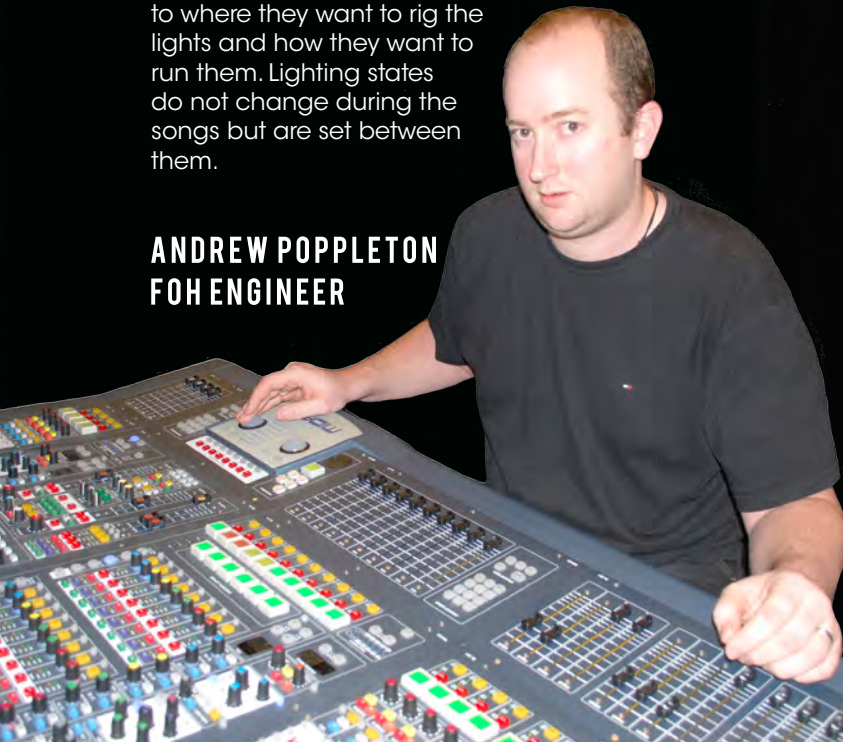
"Tex has been used to having a monitor engineer throughout his career but on this show he has to gesticulate his needs to me whilst still being in character and getting on with the show," Andrew said.

As there is quite a lot of dialogue in the show, lapel microphones are used and Andrew has to regularly seamlessly switch from a theatrical mic placement to a band situation. He admits it's the part of the show that can go horribly wrong!

Funnily enough, the Drama Theatre shows were not without drama with no mixing console available for the whole rehearsal period.

At each venue Andrew will give the lighting staff a rough idea of what is required such as a three colour wash with a few specials, and then he will give them point to point cues. He then gives them free range as to where they want to rig the lights and how they want to run them. Lighting states do not change during the songs but are set between them.

## ANDREW POPPLETON FOH ENGINEER



Andrew would love to see the show travel overseas but although there are only six performers and two crew, it is an expensive show to tour as so much of the profits goes on royalties to Johnny Cash's estate and various song writers.



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# 20 QUESTIONS WITH CHRIS ROGERS PRODUCTION MANAGER BACKLINE TECH SHOW CALLER

Chris Rogers is a Backline Tech, Stage Manager, Production Manager who has worked with just about everyone from the Pop-Flavours of Taxiride to the brutal beauty of Hunters & Collectors, from Opera at The Arts Centre to Sports Presentation at AAMI Stadium. From Vietnamese to Turkish, Chris is proof that versatility can be a key strength in this industry. He has been playing instruments of all sorts since he was eight years old when he started learning brass with The Salvo's.

Chris has been around the industry for about 30 years, starting at the Sydney Entertainment Centre in the 80's working for promotions guru Max Markson supplying Evian water to Queen, Phil Collins, Springsteen and Spandau Ballet.

On returning to Victoria and working at Geelong Performing Arts Centre, Chris then made the move to Melbourne and after stints with the Victoria State Opera and Opera Australia, he then spent twelve years as the Technical Manager

at Crown Casino before leaving to Tour Manage for Vanessa Amorossi. He is also the Production Manager and Show Caller for several sporting clubs including Melbourne Storm, Melbourne Victory and Rabo Rebels as well as the new Melbourne City FC.

Chris' wife Trish runs a full-time Performing Arts Course & Talent Agency and she also manages the Melbourne Storm Cheerleaders & Collingwood FC Dance Crew. Between all of that they somehow manage to raise their four year old daughter Kaylee. Chris has recently finished touring as Backline Tech on the second hugely successful APIA Tour with Russell Morris, Joe Camilleri, Richard Clapton and Leo Sayer as well as an All-Star band and is about to embark on a national tour with his main act for nearly 10 years, James Reyne.



1 What are the three best things about your job?

Definitely the free travel, I have been to some amazing places that I probably wouldn't have been if not for my job. I love working with musical instruments so that is a pretty big bonus being a backline guy plus I get to watch some pretty good bands for free!!

2 And the three worst things?

Firstly and most importantly would have to be the time spent away from your family. Secondly would be hermetically-sealed hotel rooms. Anyone that has toured with me know that I hate that with a passion! What is wrong with fresh air? My third and fairly recent pet-hate is Corporate AV companies that send in "monitor operators" with little or no experience! I'm not saying they are ALL bad but the success rate is not that high either!

3 What do you never leave home without when working?

Depends on what role I am in but for backline tech duties I always tour my 8 slot Guitar Rack, Workbench/Toolcase and Laptop and IEM's.

4 What was the worst nightmare you encountered on the road?

There have been a few but the most memorable was driving back to Sydney in a Tarago after a long day and a cancelled Canberra gig with Alice Cooper, his manager Shep, Roger Daltry and his minder Dave, Peter Frampton, Billy Thorpe and Michael Dibbs when I encountered a broken down truck on the inside of a bend with suddenly very little room between us and the back of the truck! Luckily I had six sets of hands grab the wheel and assist me to steer around the truck, which was quite a feat for those sitting in the rear most seats! It was a very quiet next 30 minutes drive back to the hotel. Nearly wiped out a whole generation of rock royalty.

5 What has been the strangest request from an artist?

Definitely Alice wanting a pigs head to put in Peter Frampton's bed. Alice thought it would be fun to "freak him out a bit."

6 Who was hell to work with (probably best not to actually mention name but elude to it)?

Possibly the most technically demanding artist I have ever witnessed with little result was Julio Iglesias at the Palladium at Crown. PA hanging everywhere, some of it just generating reverb and he was shouting at his crew and his poor monitor engineer just copped it both barrels the entire sound-check. What an arse! I don't care if he reads this either!

7 What is the most stupid request you've had from a member of the public, artist or promoter?

Has to be "Hey Mate, mate, maaaaate, can you ask <insert artists name> if he can sing <insert hit song> again? I was in the dunny talking to me mate and I missed it"

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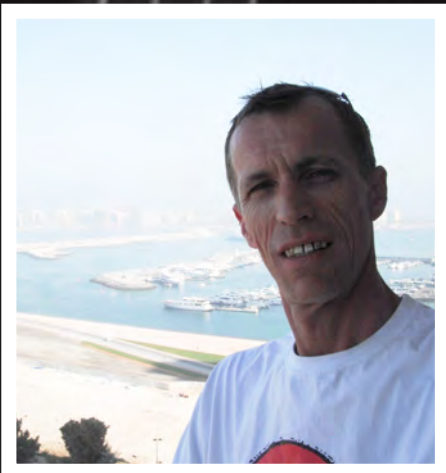
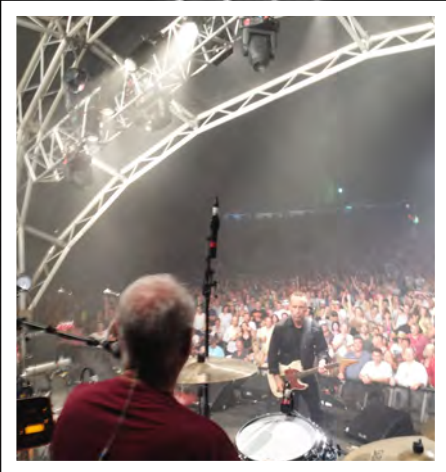
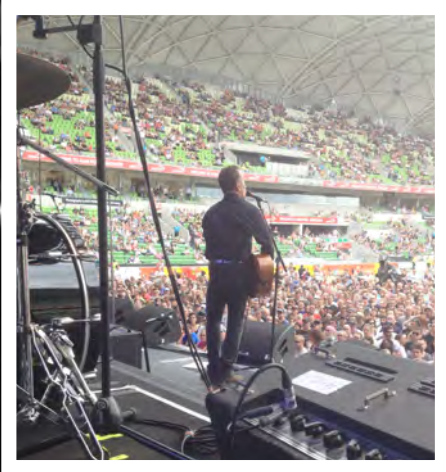
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**8** In your opinion, what's the best show you've worked on and why?

I think Long Way To The Top gave me the opportunity to work with many of the artists that paved the way for all that followed. Also got to work with some awesome crew and was able to build some strong working relationships with people that I continue to work with to this day.

**9** What is the most bizarre sight you have ever seen at a gig?

Need a separate day to write about this but the changeover from Motley Crew into Kiss at Adelaide Clipsal 500 last year was pretty awesome! Five semi's of gear vanished off stage in 15 minutes!!

**10** Who do you admire in the industry and why?

There are so many people I admire in this business the list is endless but in essence there are those that over-promise and under-deliver and then there is the other end of the spectrum, that is whom I admire. Those that understand your reputation and your integrity are what you are hired on.

**11** Which venue is your favourite and why?

I have a few faves like the Enmore, the massive stage at Star City and The Palms for sheer workability but nearly all of them have poor load ins!

**12** Which recent piece of production gear do you view as a game-changer?

Digital Audio Consoles have definitely been advantageous on many levels in festival world but please make sure before you profess to the act being "all over it" you know how to save and recall your scenes/pages/folders/files!

**13** What is the most outrageous thing you have ever done on tour?

Hard to rate them, probably the night I had two cups of tea and ate the over-priced biscuits in the hotel room.

**14** What was the worst weather event you've encountered at an outdoors gig?

The badly named "Breaking the Drought Tour" with Midnight Oil at Lakes Entrance in the early 90's. It rained so hard that by the time they were ready to line check, the stage was under a foot of water so Sneaky Pete McPhee had no option but to pull the plug, literally, and we packed it down without a note being played in anger and headed to the Myer Music Bowl for the next days gig in beautiful

sunshine. As Cam Batten once famously said while being drenched at A Day on the Green "Anybody can do it in the dry!"

**15** What invention would make your job easier?  
Wireless power. would save heaps of time running stage power looms!!

**16** Which band would you most like to work for and why?

Now here is where I don't mention names but I already have worked with just about everybody I ever thought I would never get to work with!

**17** Do you have a favourite mantra to get you through the day?

No problems, only solutions!!

**18** What do you think of the Australian live music industry at the moment?

The festival market is slowly destroying its cred I'm afraid. There just appears to be too many promoters that seem to think that if you stick a stage in a paddock people will fork out their hard earned bucks on your overpriced offerings.

**19** Tell us about Club Wingtip?

I am a bit of an Aeronerd and I always try to get the Exit Row window seat whenever I can and take photos of wingtips and other various sights. On the APIA Tour last year one of the guys happened to see my aerial pics and suggested I should start a Facebook group with photos of wingtips. I laughed, I scoffed, I started the page and now just over a year later we have nearly 700 members from all around the world who contribute daily to our photo archive of over 3500 photos of all sorts of wingtips of all sorts of different aircraft we travel in! We get photos of B-52's from the USAF official flight photographer, we get pics from Rob Zombie's Front of House guy doing aeriels in his private plane and then there are some truly beautiful in-flight pics from around the globe. There are two rules for Club

Wingtip: You have to take the picture yourself and it has to have a Wingtip in it!

I keep the page focused on only these pics and heaven help anyone that rocks the flying boat! It is a tough audience! You can check it out at <https://www.facebook.com/groups/aeronerds/>

**20** What did you really want to be when you grew up?

I'm still not sure what I want to be when I grow up, the stayers in this business all seem to have a bit of the Peter Pan syndrome. I think I'm very fortunate to have worked with some incredibly talented people that have taught me a lot of good lessons in my life that I use at every gig. I think when I can't carry my cases from the bus to the airport terminal anymore I might have to think about getting a real job but as long as the phone keeps ringing and the emails and FB messages asking about my availability keep coming in, I'll stick at this apprenticeship for a while longer.

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# WHAT-IF?

## What If we don't know what our new venue will be used for?

A LITTLE WHILE BACK WE RAN AN ARTICLE DISCUSSING WHY YOU MIGHT WANT TO GIVE SERIOUS CONSIDERATION TO HIRING A SPECIALIST THEATRE DESIGNER OR THEATRE CONSULTANT FOR YOUR NEW VENUE .

**Since we published that article we've been involved with a number of panel discussions and seminars relating to theatre/venue design that have provided some excellent subject material for these articles.**

A particularly relevant question for discussion was "what facilities do I need in my venue?"

This question was thrashed out by a cross section of engineers, consultants, designers, managers and operators with experience levels ranging from "just graduated" to "battle scarred veteran" and the answer to that question, while blindingly obvious in hindsight, was "it depends on what the venue will be used for".

One of the most fundamental and obvious requirements for a venue is that it is "Fit for Purpose".

During these discussions, war stories of architects, designers, consultants, engineers and contractors being pilloried for failing to deliver a venue that met this criterion were flying thick and fast.

We're not suggesting that there was never an example of "monumental disasters in the field of performance venue design" that couldn't be laid squarely at the feet of one of the aforementioned professions, but...

If you, the venue owner/operator, don't know what the "Purpose" of your venue is going to be, then you can't reasonably expect to escape some of the blame for the venue being "Not Fit for..." said purpose.

The last thing you want to hear from the client at handover time is "that's not really what I had in mind" and a large part of the task that is set before the theatre design consultant is to dig into the mind of the client and assist them in clearly and unambiguously defining that all important "Purpose".

If you're building your dream home then you're probably going to hire an architect. The first thing you're going to discuss with the architect is a design brief - How many bedrooms? How big? Parking? Pool? Entertainment spaces? Office? Guest wing?

These sorts of questions form the very basics of the design brief – Who is going to use the home? How are they going to use it? What are they going to do in it?

It is the same for a performance venue – What type of performance? What time of day for performances? What size of audience? Do we need to accommodate a range of performance styles? Are there any other purposes for the venue (conventions, dance parties, exhibitions)?

One of the most feared design briefs a theatre consultant can receive is the "Multi Purpose Venue", and they are usually viewed with such dread because they so often mean that the client has no specific "Purpose" for the venue. Your client asking "Can we just have a venue that is fit for any purpose??" is often the extent of the brief, and of course while the design requirements are infinite, the same can't be said of the budget...

We attended a seminar session recently where 2 very different venues were reviewed – The Linz Opera House (€150m) and the new RSC (Royal Shakespeare Company) theatre in the UK (£5m).

The Linz Opera House is fitted with a massive double revolving stage, numerous motorised stage lifts, wagons and trucks as well as a comprehensive motorised power flying system and in-house lighting and sound system. The venue puts on musical theatre during the day and opera at night, with these 2 performances changing over in a matter of minutes thanks to the machinery.

The RSC theatre has a lot of workshops for building sets and machinery, huge power, pneumatic and hydraulic supplies, a simple modular stage construction, well thought out infrastructure and structural backbones and almost no permanently installed machinery, allowing the company to modify the performance space to suit each and every production for a tiny fraction of the cost.

Different venues that work well because the purpose of each venue was known before being designed – if you want your venue to be "Fit for Purpose" you have to know what the purpose is.

This article forms general opinion only and must not be relied on without a detailed, professional risk assessment undertaken specific to your situation. Consult a professional staging company every time you consider anything that may involve risk with flown objects or people.

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# EXTRACTING PAYMENT

## BIZ TALK

with Julius Grafton

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A FASCINATING CASE CAME TO CX LAST MONTH WHERE A PRODUCTION SUPPLIER (ANON AV – NOT THEIR REAL NAME) WAS SHORT PAID \$44,000 FOR A GIG BY A SYDNEY COMPANY WE WILL CALL DUDCO. NOT THEIR NAME, BUT IT APPEARS THAT IS WHAT THEY ACTUALLY ARE!

The end client (we will call them Smiley Co) was happy and had paid DudCo. Anon AV in turn had delivered the gig perfectly, and supplied a live video to the client Smiley Co. DudCo streamed the event on their platform.

It appears DudCo were trading insolvent, in that they could not pay their bills on time. Anon AV did a lot of digging, and unearthed multiple instances of late or no payments from DudCo, who still trade today. Trading whilst insolvent is a crime, leaving the director(s) open to court action and probable penalties including being banned from running future companies.

Anon AV were getting nowhere with DudCo. They were and are adept at dodging payments. At [www.glassdoor.com.au](http://www.glassdoor.com.au) (a job rating website) we see complaints from staff that DudCo doesn't even bother to pay wages on time.

This is where the Copyright Act comes along. Anon AV fired up their lawyer, versed in Copyright. (By way of example, CX has specific lawyers for particular work. Don't put a suburban lawyer onto a gig like this!)

The legal letter to DudCo advised: 'Executed terms of trade with DudCo included the following specific provision: Anon AV and DudCo agree that ownership of the Services shall not pass until DudCo has paid Anon AV all amounts owing for the particular Services.'

The clincher is that Anon AV properly expressed their terms of trade, in all emails and on all invoices. A lawyer helped them structure their terms.

Crucially Anon AV retained all right and title in the Copyright, including the exclusive right to the public performance and communication rights in the Copyright prescribed by the Copyright Act (1968) Commonwealth. No matter that the event had been, done, dusted and was streamed live.

They advised DudCo that by using a streaming platform, they derived very substantial commercial

benefit. They were busting Copyright without a license! There are criminal provisions in the Copyright Act that deals with commercial infringements of copyright which can impose criminal fines of up to \$60,500 or prison sentences for up to five years for individuals, or criminal fines of up to \$302,500 for companies.

But DudCo found themselves in a world of pain, 'cos Anon AV also served the legal letter on Smiley Co! Yes, the original client, who had ALREADY paid DudCo in full. This resulted in some very atmospheric communications, and one can well imagine DudCo is dust as far as Smiley Co are concerned.

Anon AV received a down payment of 15 grand the next day, with solemn promises of more to come, in a legal letter from the obviously gainfully employed lawyers for DudCo. They caved in and agreed to also pay the \$1,500 legal costs of Anon AV.

We hope that DudCo's law firm were paid up front!

Hats off to Anon AV for structuring their business properly and having the gumption to go aggressively after their money. Anon AV don't want to be named here as they don't want to gain a reputation as being litigious.

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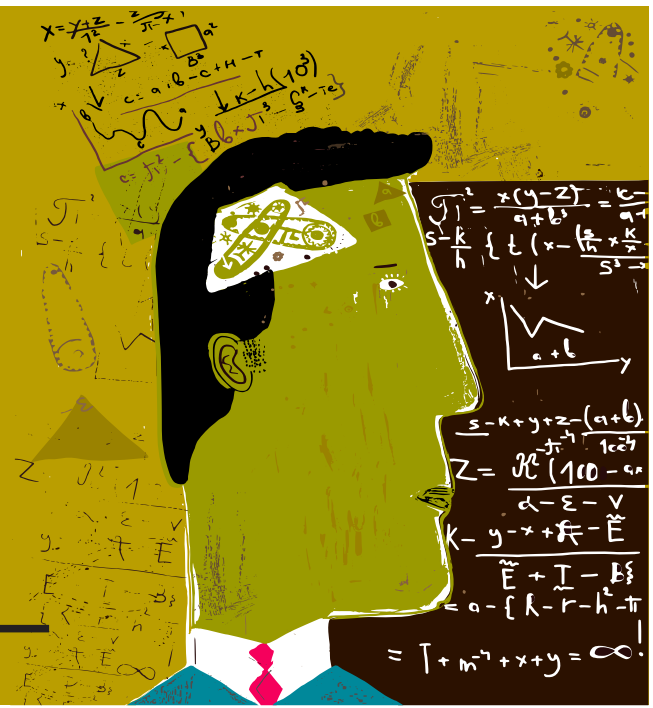
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STUFF FOR THE BRAINY TYPES

# WHOSE FAULT IS IT ANYWAY?

BY JIMMY DEN-ouden



MOST OF YOU WON'T KNOW I  
 WORK ON THE TOOLS FOR AN AV  
 INTEGRATOR EVERY FRIDAY.  
 OUR JOBS RANGE FROM DOMESTIC  
 TO COMMERCIAL AND WHILE  
 MOST OF OUR WORK IS NEW  
 INSTALLATIONS, OCCASIONALLY  
 WE GET THE CALL TO GO AND  
 SORT OUT SOMEONE ELSE'S AV  
 INSTALLATION NIGHTMARE.

**L**AST Friday was one such day, when the notionally simple task of replacing a dead plasma screen in an integrated home entertainment system turned difficult.

We arrived, new LCD and tools in hand. The old screen came off the wall, the new screen fit the bracket easily and went straight back on. It even lined up correctly in the purpose built recess in the wall. It all seemed too easy, and turning the screen on we discovered it was.

This particular installation saw all the drive equipment (amps, Foxtel, DVD player) installed remotely in a rack at the other end of the house. Pictures were delivered to the screens via HDMI over Cat6 transceivers – but not to the one we'd just installed.

We began the process of fault-finding by grabbing an Apple TV and plugging it directly into the new screen. We had pictures – great! We'd ruled out the screen, Apple TV and HDMI cable as sources of the fault. We put the Apple TV back into the rack and used a known good HDMI cable to connect it to the HDMI over Cat6 device. No joy. We replaced the HDMI lead from the transceiver to the screen and still no pictures. Checked all the options on all the devices, still nothing.

Fortunately, the previous integrator had the presence of mind to run several Cat5 and Cat6 cables from the rack to the screen. A quick re-terminate and test of a spare Cat6 line allowed us to rule out the remaining cabling. This led us to the culprit for the “no picture” fault – the HDMI transceiver/receiver combo. Dud transceiver or dud power supply (and the power LEDs made that seem unlikely). Best option now was to try new transceivers.

The process of fault-finding is a personal thing – some people like to start at the end of the signal chain and work their way backward while others prefer to verify the signal from start to end. The key is to take a methodical approach to the process. Back when we ran a training college I often saw students trying random unrelated actions to resolve faults, when simply following through their signal flow diagram and verifying the signal at every step would have been easier and faster.

A bunch of little tricks make this easier – especially in the audio domain. Most of our devices have metering and bypass buttons – both great tools for fault finding. Generally we have more than one of everything too, so swapping a non-working thing out for a known working one is another good way to verify your signal.

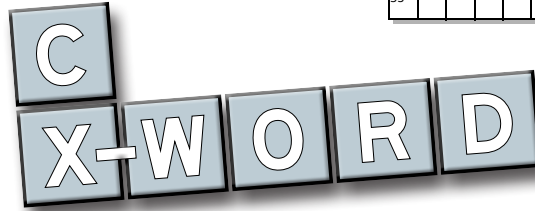
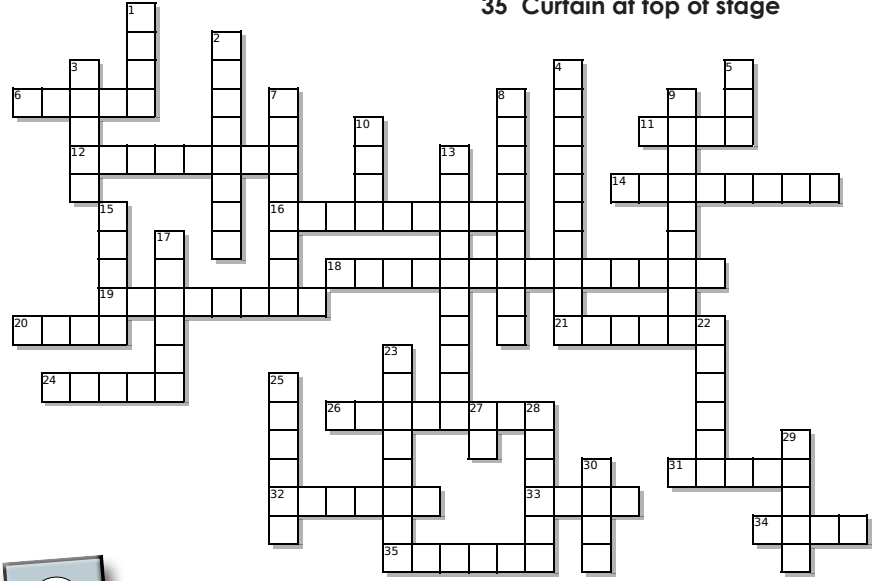
So that's it for this month, a short one to remind you that often thinking smarter about a problem will sort it out more quickly (and with substantially less embarrassment) than thinking harder. Take a logical approach and stick with it. Finally, if you're working with another person make sure you communicate to determine that you're both chasing the same fault!

ACROSS

- 6 Not desirable power
- 11 Not financial
- 12 Paired
- 14 Where it all comes together
- 16 Measured in ohms
- 18 Scientific study of sound perception
- 19 Unlike what a hairdresser does
- 20 One only
- 21 Fader by another name
- 24 Metal tube
- 26 Space before clipping
- 31 Not where a train crosses
- 32 Roland by another name
- 33 Low in saturation
- 34 Not done in a car at speed
- 35 Curtain at top of stage

DOWN

- 1 Not from an egg
- 2 Look nice on cottages, in profiles 3 Fabricated structure
- 4 Undesirable within a beam
- 5 Not for cooking
- 7 USA lighting firm
- 8 Essential humans
- 9 Relies on body language
- 10 Lee 120
- 13 Very big audio brand
- 15 Video projector
- 17 Unifies luminaire with stand
- 22 Generic name for crew
- 23 Usually intended
- 25 Sorts the points
- 27 Done from a truck
- 28 The dog respects only one
- 29 Not involving water
- 30 Not on the leg, more with a curve



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Answers - page 72

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## The ACETA Forum® - A Unique Industry Resource Unveiled

Few would deny that one of the most valuable aspects of personal and corporate development and well-being is the acquisition of productive knowledge, the opposite position being ignorance. It is difficult to imagine achievement and progression without access to meaningful knowledge, an essential asset in confronting the contemporary challenges of personal and corporate life. The most effective means of gaining meaningful knowledge is by association, particularly with those engaged in a similar purpose.

One of the most valuable attributes of an industry 'peak body' is its ability to facilitate the dissemination of knowledge for the benefit of its members and the broader industry. In 2013 ACETA established the concept of a Forum for this particular purpose, and recently concluded it was now time to introduce **The ACETA Forum®** as a reality, an initiative that will expand as opportunity and resources permit. Initially **The ACETA Forum®** will be experienced as a series of webinars for ACETA members. Subject matter may include personal development, corporate governance and compliance, technical and technology issues, along with any other relevant and topical areas of industry interest. An example of some specific webinar topics may include:

- The challenges of maintaining a compliant business - RCM, employee management, what constitutes insolvent trading etc.
- The anatomy of busy – are you busy being busy or effective?
- Product compliance – understanding your responsibility.
- Protecting Intellectual Property – trademark, patent, copyright etc.
- Understanding the Digital Dividend and its outcome.

These represent a small sample of the topics that could potentially be covered, however to ensure relevance, industry priorities and sentiment will be taken into account before any webinar program for members is established. Whilst it is hard to append a member value on such a resource; for some it will prove to be priceless. In addition, participation in a Forum of this nature presents numerous additional benefits which include mentoring, along with the development of social and business networks.

To the broad industry, and as a *by the industry for the industry* asset, **The ACETA Forum®** will evolve relative to opportunity, exhibited need, available resources and participation levels. It has the potential to be experienced in many forms, and whilst purely speculative at this point in time, looking ahead we offer the following ideas as a guide to what is possible:

### TELEVISION

**The ACETA Forum®** could be presented as an on-line television program, either directly by ACETA, in partnership, or under a licensing arrangement to another party. The subject matter could be broad but focussed around technology development and application with content provided by technology creators, their representatives, practitioners, journalists and educators.

BY FRANK HINTON

## PRINT MEDIA

The **ACETA Forum®** could be presented as a component of a hard copy publication or even as a standalone product. Once again this could be a direct ACETA activity, a partnership, or licensed to another party with the parameters similar to that mentioned above.

## INDUSTRY EVENT

The **ACETA Forum®** could be a component part or even the heart of an industry event. The most sustainable industry events are those focussed on, a) disseminating meaningful knowledge across a broad industry spectrum and, b) facilitating an easy to access networking opportunity, these are the two aspects that drive attendance and satisfaction levels.

In this 'real-time' environment **The ACETA Forum®** could be presented in various forms including a mix of:

- Interactive workshops
- Seminars with a facilitator and a panel of experts
- Lectures by industry leaders

From the outset a standards sub-committee would be formed to establish relevance of any proposed presentation and its subject matter to ensure the highest standards are maintained.

Facilitators would be engaged for the various industry or technology sectors, and would be highly esteemed experts in the specific field, with the skills to engage panellists and ensure audience needs are met.

## ROADSHOW

Something similar to that described above could be mobilised and presented in various regions throughout Australia.

In summary, a webinar program for ACETA members will commence in the not-to-distant future. New streams and enhancements of **The ACETA Forum®** will roll-out subject to opportunity, exhibited need, available resources and participation levels.

We believe this is an exciting initiative that offers significant value for ACETA members and all sectors of the broader industry, please participate with your (always welcome) suggestions.

To the industry we invite your response,  
if you could contact:  
[ian.harvey@aceta.org.au](mailto:ian.harvey@aceta.org.au)  
with your comment.



Frank Hinton  
President ACETA

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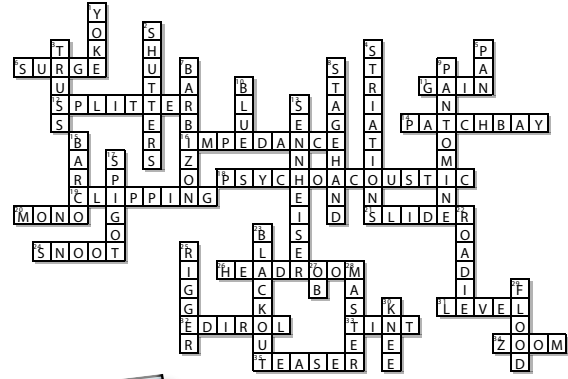
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# Clutch Trouble

A GUIDE TO THE NOBLE ART OF DRIVING WITHOUT A CLUTCH

---

FOR ALL THOSE GIRLY-MEN (THANKS, ARNIE) WHO DRIVE AN AUTOMATIC CAR, AND WALLOW IN SUCH TRAPPINGS OF AN EFFETE SOCIETY, THIS STORY IS NOT FOR YOU.

IT'S DEDICATED TO THOSE PIONEERING REAL MEN AND WOMEN WHO DRIVE A MANUAL CAR. YES, I'M AWARE THAT MY 8 LITRE PLYMOUTH ROADRUNNER SUPERBIRD WAS AN AUTOMATIC, BUT SERIOUSLY, NO-ONE WHO NORMALLY DRIVES A RIGHT HAND DRIVE CAR WOULD EVER DRIVE AN LHD MANUAL CAR. YOU'D BE FOREVER WAVING YOUR LEFT ARM OUT THE WINDOW TRYING TO CHANGE GEAR! BELIEVE ME, I'VE TRIED.

When we left last month's story, I had just finished mixing daughter Fifi TBL's gig, and as I drove out of the city and turned the corner into St Kilda Road, the clutch cable in the classic 1989 Turbo Capri snapped and the pedal fell to the floor! I knew instantly that I should have stayed nice and warm at home instead of going out mixing, but listening to my daughter's pleading made me feel guilty. Thus proving that no good deed goes unpunished!

Most Capris were made with a hydraulic clutch, which will gradually stop working, but still remain useable for a long time. Not this baby though! In order to cope with the massive amounts of power (just a hint of sarcasm there!) the Ford engineers had decided that only a cable operated system would work for the turbocharged engines. And a cable will either work or snap – there's no 'working a little bit'.

I had to admit that the clutch had been feeling a bit strange for the last few weeks, though. Every time I pressed it down it felt spongy and reluctant to move, but replacing it is a fiddly, greasy job, even if you can find one, and thus held no appeal for me in cold, wet, wintry Melbourne. So I had left it, hoping that it would last just a le-e-e-tle bit longer.

Unfortunately it didn't, the end result being that I was now clutchless and 25k from home on a dark and stormy night. Hmmm; what to do?

Well, it may surprise you that I knew just exactly what to do, because this wasn't the first time I'd had clutches die on me. Once in a truck, and now twice in two different cars.

So welcome to 'Old Dunk's Totally Unauthorised Guide to Driving Without the Clutch'. It won't be easy, but it will get you home.

When the cable snapped I had been about to change from second to third gear, so I left the car in second and let the bunch of traffic that I was driving with go past me.

There are traffic lights every couple of hundred metres along St Kilda Road, so I pattered along, albeit slowly, until I could see the first set. They were red, but I was hoping that if I slowed down early enough they would turn green by the time I was up to them.

Not a hope in hell. They resolutely refused to turn green, forcing me to come to a dead stop, as without a clutch the engine will stall when you put the brakes on to stop. Stalling while in gear is not good for engines or gearboxes, so what you have to do is blip the accelerator a little, then lift off the accelerator and push the gear lever towards neutral as soon as the revs start to drop. You'll get the hang of it after a couple of goes, and the lever will gently slip out of gear. The engine is now coasting, and when you get to the lights, you put the brakes on and turn the engine off with the key. Which is exactly what I did.

This being Melbourne traffic, of course the lights instantly turned green as soon as I stopped!

But how do you start a car without having a clutch to disengage the engine from the gearbox?

Easy – you just put the car into first gear, and turn the key. The starter motor whines, the car gives a little lurch and then trundles along in first gear to the next set of lights.

Luckily for me the lights appeared to be linked so I made it through the next set of lights just before they turned to red. However, linked traffic lights assume you'll be driving at around 40 to 60 kph. Screaming along at a couple of k per hour in first gear was going to be a very slow and noisy trip home.

But technology is close at hand for the clutchless.

A modern (well, 1989 anyway) manual gearbox is fully synchromesh, which means changing gears is quiet and easy, and can even be done without a clutch. Anyone who had



**α DUNCAN FRY... CONTINUED**



I managed to get to third, and kept it there at a steady 40k. Talk about luck - I cruised through the next five traffic lights without stopping. But at the top of the hill after St Kilda Junction I was forced to stop and restart the car about three times before I got to the next set of linked lights.

Luckily these continued for most of my journey home. There were a few kilometres between these lights; plenty of time to slow down or speed up as required to slip through on the green.

Then there was only one more forced traffic light stop as I neared Cheltenham Towers, the fabulous Fry penthouse, which has angle parking outside it. I aimed the car towards the kerb, and with a blip of the throttle I snicked it into neutral, turned the engine off, and I was home.

Monday morning I decided that instead of changing the clutch cable myself, I would take the car to 'Honest Dave, the Customer's Friend' - the mechanic opposite the ARX factory, and get it done properly. The traffic on the short journey to work was a lot heavier than Saturday night, needing more stops and starts, but I managed to make it to Honest Dave's place without any serious problems.

Honest Dave came out to meet me, took one look at the car, rolled his eyes upwards and grunted "Jeez - what's wrong with this piece of fish now?" A little bit too honest for me, but never mind.

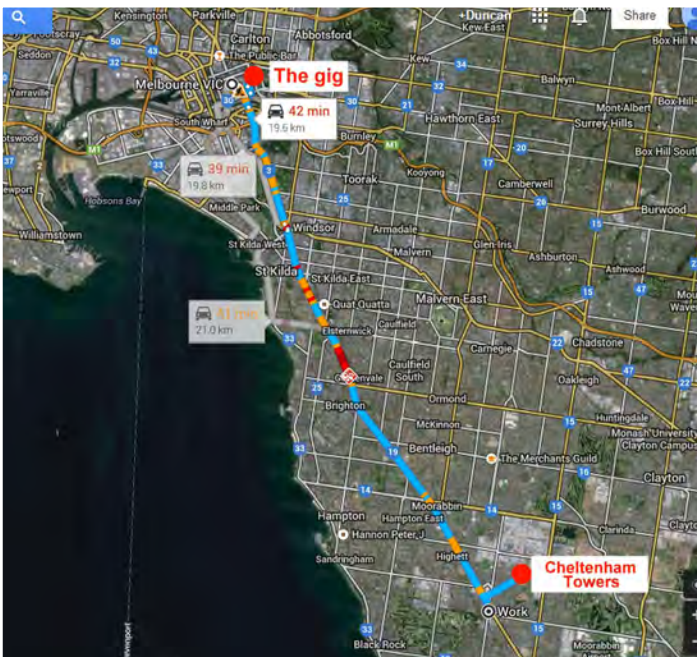
"Snapped clutch cable." I replied

"OK, leave it here and I'll see what I can do." And with that he turned around and went inside.

Two hours later it was parked on the ARX nature strip, with a brand new clutch cable, and a very reasonable invoice taped to the steering wheel, in case I missed it. Back to as-new, and I didn't even need to get my hands dirty!

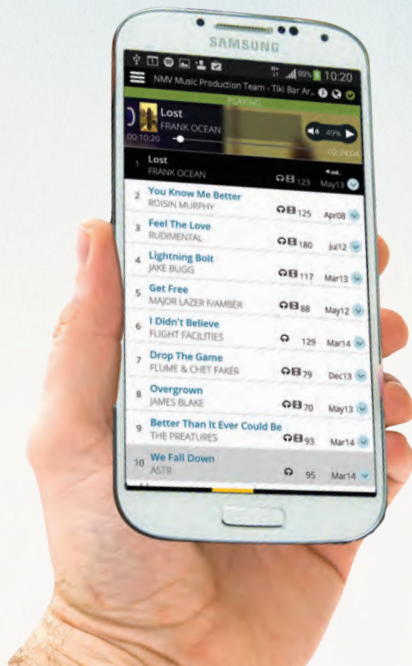
I feel obliged to point out in closing that, while it's possible to go first - second - third etc. through the gears without a clutch, it's not possible to go from first to reverse. Unless you own a Lamborghini, reverse is still a non-synchro gear requiring a dead stop, then re-starting with the gearlever in reverse. I know this because the metal-on-metal screeching noise the gearbox made while I attempted to change from first to reverse up Honest Dave's driveway nearly caused the engine to leap through the bonnet!

**Don't try that at home, kids!**



an original (i.e. non BMW) series Mini or early Jaguar would be very familiar with the loud grinding noise resulting from trying to put it into the non-synchro first gear while moving!

So you start the car as above, then at the time you would normally change gear from first, ease off the accelerator and flick the gearlever though neutral and towards second. With a little bit of luck and practice it will snick into second. Build up the revs a bit and try for third. If the lever feels blocked by the next gear, blip the accelerator then push it towards the gear you want. Never force it, but keep trying and you'll soon find a gear of some kind! Although, from first gear to overdrive fifth might be a little too much of a jump and stall the car.



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