



## MONTHLY TECH NEWS

CX129 SEPTEMBER 2017  
\$7.50 AU

## Festival of the Ecstatic:

Turning Arts Centre Melbourne inside out

## Pop-up Globe

does Shakespeare like it's 1614

## More than just communications

Inside The P.A. People

### NEWS:

- Firms backing safety guide
- Engie raids AV
- Rumours
- ULA's new showroom

### ROADSKILLS:

- Pete Murray, Camacho Tour
- Colourblind storm Splendour
- 20 questions with Saul

### REGULARS:

- Listen Here! Powering through the workload
- Biz Talk: Milked dry. Big dreams go up in powder
- Tech Tools: Fail to Plan, Plan to Fail

### GEARBOX:

- JBL Eon One Pro
- Robe DL7S profile
- EAW RSX 12M

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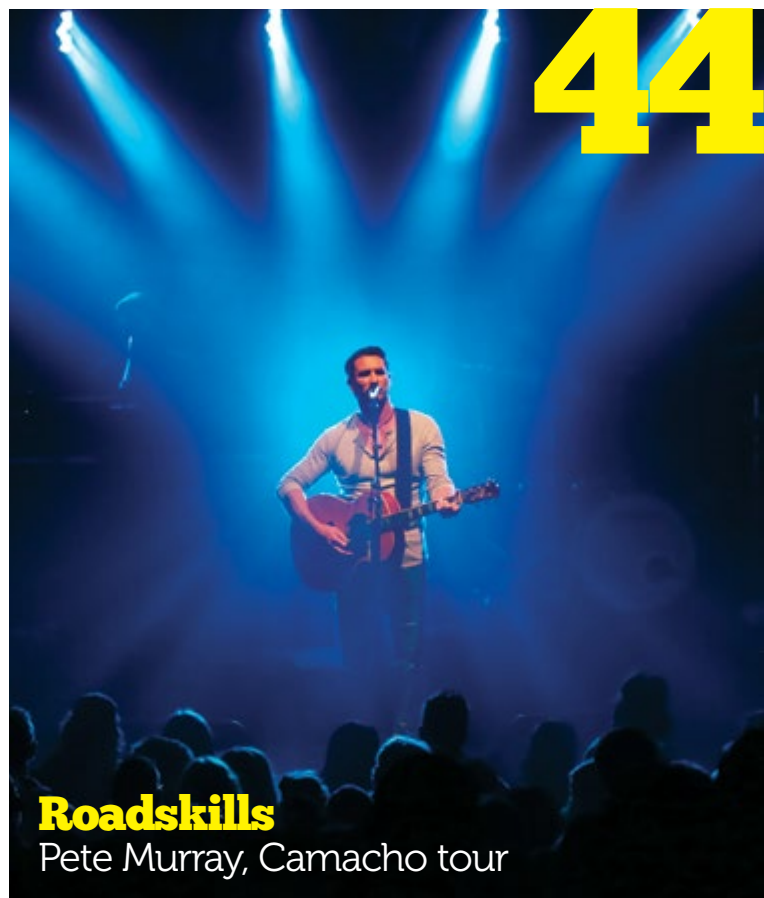
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Phone +61 2 408 498 180  
Email mail@juliusmedia.com

Editor and publisher: Julius Grafton  
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Layout: TIZAdigital by Karla Espinosa, Nadia Hidalgo

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## 32 Hundred, DQ and Framelock lead safety funding

Industry safety guide hooks many sponsors

**T**he Australian Entertainment Safety Resource Guide is on track for launch later this year, after attracting significant sponsorship from production firms, suppliers and performance groups. Authored by industry safety veteran Roderick Van Gelder, the Guide is Australia's equivalent to the UK's Purple Guide. Containing over 25 chapters, the Guide links to relevant legislation and will be continually updated online.

Major sponsors include Design

Quintessence, Col West (Framelock Barriers), and Iain Reed (32 Hundred Lighting), each of whom contributed \$5,000. Pollard Productions, NW Group, Novatech, and TDC each tipped in \$2,500.

CTL, The Look, and Shakespeare Australia donated \$1,000 each, while Madzin Productions and Staging Rentals ponied up \$500 each.

A further 25 contributors donated at least \$100 each towards the project.

Juliusmedia Group, publishers of CX and

host of ENTECH have recently joined as a major sponsor to provide the website infrastructure and promotion, with a donation valued at over \$30,000.

The Guide is currently being revised and checked, before a beta launch where it will be industry validated.

Available by subscription, the Guide website will also offer free FAQ's and links, and is intended to be the peak industry resource for safety - for anyone working behind the scenes in entertainment and events at any level.



## Engie takes out IBS AV

Tough play leaves partners adrift

**I**n the brutal and hard world of AV integration, Pro AV Solutions stood out. A network of independently owned firms, each had a state territory, and each worked as a national network, with mostly national clients.

Some 250 staff delivered the goods around the clock, designing and commissioning complex AV solutions. The directors all sat together on a board, sharing common interests and working to a single objective.

Until Engie came along, and filleted off the largest operator, Victoria's IBS AV (Aust) Pty Ltd, trading as Pro AV Solutions Victoria.

One recent morning the owners of all the other state operations woke up to discover that what was Pro AV Solutions Victoria was now Engie Services AV Technologies. Worse still, their former partner not only sold his business to the enormous multinational with interests in all kinds of technologies, he was now fronting the new national AV business!

Ian Ward deserved a good outcome when he sold his company, and it was certainly successful. Employing over 90, it was well managed and well respected.



He was however nervous when he spoke to CX, and armed with a scripted response to our anticipated questions, supplied by Andrew Turner, an Engie spokesperson.

CX wanted to understand how Engie had purchased his operation alone, and not the rest of the Pro AV Solutions network. He did not wish to discuss this. Instead, he read from prepared notes.

It transpires that the deal was done without referral to the national partnership. There was a legally binding agreement between the partners to prevent any partner competing outside their territory, and indeed with provisions for first rights of refusal

should one wish to sell.

The Engie deal somehow sidestepped all of this, and delivered the French company a much cheaper operating footprint than had they bought the group. They now have the intellectual assets of IBS AV, 90 trained staff, and a national network of DESA offices which delivers a national AV integrator almost immediately.

Ian Ward stays on as Managing Director of ENGIE Services, AV Technologies, and has the exciting challenge of ramping up the business across Australia and competing against his former partners.

For their part, the partners are seeking a solution to the yawning gap in their network. They will continue to work with Ian Ward, since many contracts in this industry run for years as projects mature.

While no one is on the record, CX understands there is dismay and hurt in play here, and a new landscape emerging that has locally owned businesses pitted against a voracious multinational that currently turns over \$96 billion dollars.





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## BYTES, BITS & RUMOURS

- **The fabulous Brisbane Convention** and Exhibition Centre is a little quieter than usual. The house techs are worried. While South East Queensland is still pumping it's possibly that some convention work is now being lost to Sydney now the new International Convention Centre has come online.
- **Talking of ICC**, we hear that the lighting truss shakes when trucks pass over the dock on top! Anyone got anything more on this? There is an 'issue' with the floor loading in The Gallery, a large events space that you cannot drive a forklift through. Then there is the Parkside Ballroom which doesn't have loading access – unless you go through The Gallery.
- **KV2 Audio** are chuffed to appoint Australian Sound Engineer, Angus Davidson as Technical Support Director for Asia Pacific and North America. Angus who has mixed for major international acts including Supertramp and Crowded House has had a long and diverse career within the audio industry. He is based in Melbourne.



- **Who knew? Daryl Braithwaite** at Falls Festival! He's another crew loved (by crew) performer, even though he is older than your ancient editor. Also well loved: Tina Arena gave a rude audience the bird last weekend in Perth when they talked over her charity performance. Our Facebook page has more.
- **Shure Incorporated** are, of course, the legendary makers of microphones, who battle with Sennheiser for the mantle of world's number one. While the family controlled German company has moved into wider product segments, Shure (also a private company with links to its founding family) have stuck to the script. Maybe until now. A press event is scheduled in Chicago two weeks from today where respectable members of the world audio media (plus CX) are flown in and briefed on something big. CX can tell you this much, as we have not yet signed the confidentiality agreement.
- **Integrate ran late August** at Jeff's shed in Melbourne. It's the second time they've run there and we think it is a winning idea for them to rotate their show out of Sydney each other year. We were hoping for another performance from Alchemedia boss Chris Holder who presented the AVIA awards last year at Integrate to enormous approbation (from CX) and aghast horror from some of the recipients. His 'off the cuff' comedy routine was pure genius. Sadly he has not been tasked this year.
- **CX were super impressed** with the TDC open house in Sydney recently. We saw some of the world's latest and best video technologies. TDC has expanded their capabilities to include show pre-visualisation, motion tracking, automation (with technology demonstrated by TDC experts) using d3, Notch, Blacktrax, along with TDC's broadcast OB capability, and high resolution creative LED offerings. Plus nice catering. We like nice catering.
- **TDC also showed** off their TEN new Barco UDX-4K32 projectors. These \$120,000 babies have a laser light source, 3,840 x 2,400 resolution, and sear you with 31,000 lumens out the spout. These are the new 'go-to' toy for projection. A couple of other suppliers, like Live Productions Australia (Sydney) and Novatech Creative Event Technology (Adelaide) now have some too.
- **Ahem.** Nice catering means more than cold pizza and warm beer. Just sayin'. Also if you invite CX to an event, (not reported anywhere here this week), and stand up and say that you are not going to kill us with Powerpoint, then for F-\$%^\$# sake DO NOT THEN KILL US with POWERPOINT! We will name and shame the next company to do this.
- **RIP Glenn Campbell**, the late and great Bruce Jackson mixed sound on some Glenn tours and wrote home that one day Glenn's wife flew in to bust the star with his girlfriend. The crew saw her coming down the hall and hustled the girl out to FOH where she was to immediately become 'Bruce's girlfriend'. Sure enough Mrs. Suspicious Campbell did enquire, and was not convinced a common sound engineer could possibly have a girl like that.....

EMAIL US: [juliusmedia@me.com](mailto:juliusmedia@me.com) or text +61 408 498 180





## QSC ramp up training K.2 and Touchmix in focus

**Q**SC's multi-product training specialist Jason Fernandez recently flew in from the USA to present a series of product sessions up and down Australia's east coast. Taking in Brisbane, Sydney and Melbourne, Jason dropped into to QSC dealers Brisbane Sound Group, Store DJ and Factory Sound to get all the techies up-to-date on the new K.2 powered speaker series and the new features in the TouchMix-8 and TouchMix-16 digital mixers.

The TouchMix-8 and TouchMix-16 have been given a firmware update with 11 new features that have migrated down from the TouchMix-30. These include anti-feedback room tuning wizards, an RTA, copy and paste, new aux access on the side of the screen, 'channel safe' mode, 100ms of input delay, and an improved graphical interface. The tablet app has been given four more user buttons, and a 'channel follow' mode, which automatically brings up the channel overview of when the

operator touches a fader on the desk. The 8 and 16 now also automatically 'call home' and check for firmware updates if they are connected to the internet – but don't panic, they then ask if they can download it and save it to a thumb drive, and you still have to run the update manually.

With the popular K Series getting a major refresh in the release of K.2, Jason spoke about his role in the update. Previously working in application and engineering support, Jason would field tech support calls, and logged all customer's issues and requests for features. These were databased and discussed in meetings with the product managers and development team.

"The K.2 is really a completely new product," he said. "We've redesigned the power distribution to be more efficient and given them more headroom. The legacy K had two 500W amps, one for each driver, with the high heavily limited in DSP. This redesign sees 1800W going to the woofer and 225W to the high, which greatly increases the headroom in the box, meaning more clarity in the high frequencies, tighter mids, warmer lows, and overall a much more musical quality. When we decided to go ahead with a new series, we agreed it had to be better than the existing K. It had to perform better, look nicer and sound significantly better, and I think we've achieved that."

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# ULA rolling out showrooms

**U**LA Group opened their new Melbourne showroom at 3/5 Phillip Court, Port Melbourne, in style on the 10th of August. ULA's Managing Director Cuono Biviano kicked off a series of short presentations from across their product range before a specially programmed light show demonstrated what the new facility is capable of. The Melbourne opening follows the recent Queensland showroom, and will soon be joined by spaces in Sydney, Auckland, Shenzhen, and Perth, with a partnership being set-up in Adelaide.



>> ULA's Cuono Biviano gets the party started





>> Andrew Moore and John Stanley  
from Light and Sound Soulitons



>> Chrome Productions' Glenn Falloon  
with ULA's Michael Montgomerie-Williams



>> Jon Goonan and Peter Sergeev  
of Audio Visual Dynamics



>> Lawrie Videky of Phaseshift Productions  
and Arosh Fernando of WooHah Productions



>> Resuliton X's Marcus Pugh  
with Braham Ciddor of Lightmoves



>> ULA's Blair Terrace  
with Phil Harris of Cliftons





01

## COLORDASH PAR H7IP AND H12IP

The COLORDash Par H12IP and H7IP are compact IP-rated RGBWAUV LED washes. They feature a user-friendly OLED full text display, IP rated connections for power, and a double-bracketed yoke that doubles as a floor stand. Both fixtures have adjustable PWM to avoid flickering on camera, selectable dimming curves to eliminate flicker and choppiness in fades, and support RDM for added flexibility.

Australian Distributor: Showtools International  
www.showtools.com.au or (02) 9824 2382

## CLAYPAKY AXCOR PROFILE 900 02

The Axcor Profile 900 is the first Claypaky spotlight to use an LED light source instead of a traditional discharge lamp. The white LED engine has high luminous efficiency, total power of 900 watts and luminous flux of 24,000 lumen output. Its linear zoom has a range of 7°- 40°, and its colour system is 16-bit CMY + linear CTO + 6-colour wheel. It also features 6 HD interchangeable gobos, an animation wheel, 4-facet rotating prism, variable "soft edge" frost, variable flood frost, iris with multiple macros, and a framing system.

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## ATEN CONTROL SYSTEM

The ATEN Control System, incorporating the VK2100 (ATEN Control Box), the VK6000 (ATEN Configurator) and the ATEN Control System App is a standard Ethernet-based management system that connects all the hardware devices in a room or large facility to provide centralised control directly via a mobile device and tablet computer. The VK2100 Control Box easily deploys into an existing installation and integrates

03

seamlessly with ATEN VanCryst pro-A/V products and nearly any other hardware device found in a room, including A/V equipment, lighting, conference systems, air conditioning, motion sensors, power switches and many more.

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## DIGITAL PROJECTION M-VISION LASER 18K 04

Digital Projection's new M-Vision Laser 18K is a single chip DLP projector with 18,000 lumens output and 10,000:1 contrast ratio. The M-Vision Laser 18k brings budget-sensitive applications a large-screen imaging solution and near-three-chip performance at a single-chip price point. Its DisplayPort accepts frame rates up to 60 Hz and HDMI 1.4 for Side by Side, Frame Packing and Top/Bottom 3D formats. The motorised shift, zoom and focus across the whole lens range offers flexibility and ease of setup, while the intuitive

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The new TMB ProPlex OpticalCon Routing Boxes are a rugged, quick, and convenient way to combine or split single- and multi-mode fibre data. Three models are available: 1x QUAD to/from 2x QUAD, 1x QUAD to/from 2X DUO, and 2x QUAD to/from 2X QUAD. Each unit has OpticalCon connectors throughout, with IP65 covers and recessed receptacles to protect connectors from damage, with an optional clamp or coupler mounting bracket available. Australian Distributor: Lexair Entertainment  
www.lexair.com.au or 0418 691 509



## MACKIE THUMP SERIES 07

Mackie has introduced five new Thump Series powered loudspeakers; the Thump12A (1300W 12"), Thump15A (1300W 15"), Thump12BST (1300W 12"), Thump15BST (1300W 15") and Thump18S 1200W Subwoofer. All models include a flexible built-in

2 channel mixer featuring Vita preamps with Wide-Z technology that handle mic, instrument or line signals with ease. Application specific speaker modes let you dial in the system at the push of a button. The 'Boosted' (BST) models include advanced DSP and

wireless technology with channel EQ, wireless streaming, user presets and more, all controlled with the Thump Connect app.

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MYTHOS<sup>2</sup>MYTHOS<sup>2</sup>

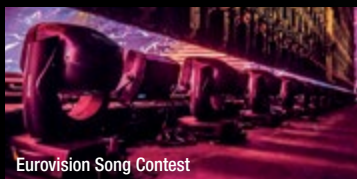
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All the features you love from the original hybrid fixture but with 2 new superpowers: **new super-smooth dimming upgrade**, which makes the Mythos<sup>2</sup> suitable for the

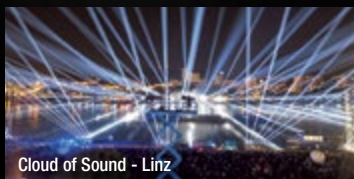
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Eurovision Song Contest



Cloud of Sound - Linz



MTV Video Music Awards

# history

## 1991: 2017

**History** - where look back at the industry five, fifteen and twenty-five **years ago** this month.

### ➔ Channels September 1992 / 25 years ago



We included a preview of U2's Zoo tour production, where six rigged Trabant cars were the stars. Each was loaded with a 2.5k HMI fresnel (the 5ks started melting the cars), LSD Mirror Stobes plus eight molephays behind the grill. U2 were reportedly advised by Dire Straits not to tour Australia as it was 'stuffed', having cost them \$100k per show.

In other features, lighting designer Mark

Shelton recounted Belvoir St.'s touring production 'Diary of Madman' in Russia where the average luminaire was a circa WWII Reich & Vogel copy. Advocacy from the consul-general and the ABC's Monica Attard prevented a permanent season run in Siberia. Elsewhere, Julius Grafton detailed the carve-up of Strand Lighting (Australia) with Premier Lighting and Starlight Technologies formed as a result.

### ➔ Connections September 2002 / 15 years ago

Jamie Schmidt from Townsville-based firm Wild Gravity recounted the production for the Croc Festival in Weipa. The main hurdle was getting there including 600kms of filament-shaking corrugated dirt road. Remarkably the eighty pars, Mac 500s and Wholehog 1000 still worked, albeit with a coating of red dust.

Our Letters section was aflame with reader feedback about our August Tag and Test story, and in the details-department, John Grimshaw

dutifully read and summarized for the 52-page Draft DMX Standard.

Profiles that month included event producer Ignatius Jones ("Audiences have come to expect high tech, but if you deliver decent theatre people will be thrilled"), and production reviews of Oliver! and Kylie Minogue. Vision technology for Kylie's show was outstanding with imported Barco D-lite LED screens and clever vision signal management.



### ➔ CX Magazine September 2012 / 5 years ago



Australia's Music Link Group went into administration (we had flagged this in February that year) and also Selecon-Philips were considering a limited release LED version of the iconic Patt23 - if the original tooling could be found. There was also an extensive analysis of the Technician on Duty issue with interviews from both sides including ToD workers.

In Features we reviewed the production for the Darwin Turf Club Gala Ball where Top End Sound and Total Event Services supplied everything except the portaloos, band and food.

Profiles were of industry notables lighting designer Roger Foley of Ellis D. Fogg fame, professional audio specialist David Bell, and Ross Wilson of Daddy Cool and Mondo Rock.

Read these and all issues for free at [www.cxnetwork.com.au](http://www.cxnetwork.com.au)





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# Supersense: Festival Of The Ecstatic

## Turning Arts Centre Melbourne Inside-Out

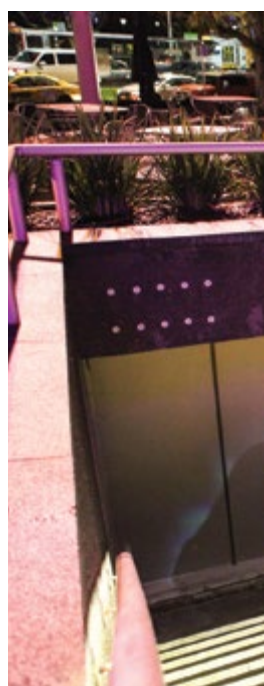
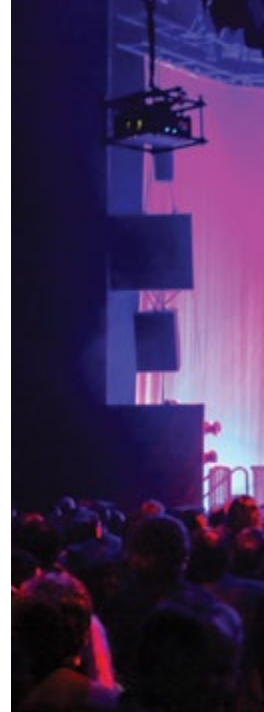


>> The Ecstatic Music of Alice Coltrane, State Theatre (photo credit Mark Gambino)

For the second time, curator Sophia Brous's Supersense: Festival Of The Ecstatic has taken over Arts Centre Melbourne, turning the venues inside out and upside down, making the separate theatres one, and blowing minds while it's at it. Jason Allen talked to Arts Centre tech staff on how to run a music festival in a venue built for pretty much the exact opposite...

Over the weekend of 18 to 20 August, lucky Melbourne punters could buy a day pass and have their body and brains subjected to legendary Japanese psychedelia, improvised noise-art from New York, master musicians from Morocco, or a recreation of Ian Sommerville, Brion Gysin and William S. Burroughs 1960's strobe-driven multimedia meltdown 'Dream Machine'. Over in Hamer Hall, English legends Spiritualized played with the Australian Art Orchestra and the Consort of Melbourne. It was quite the weekend.

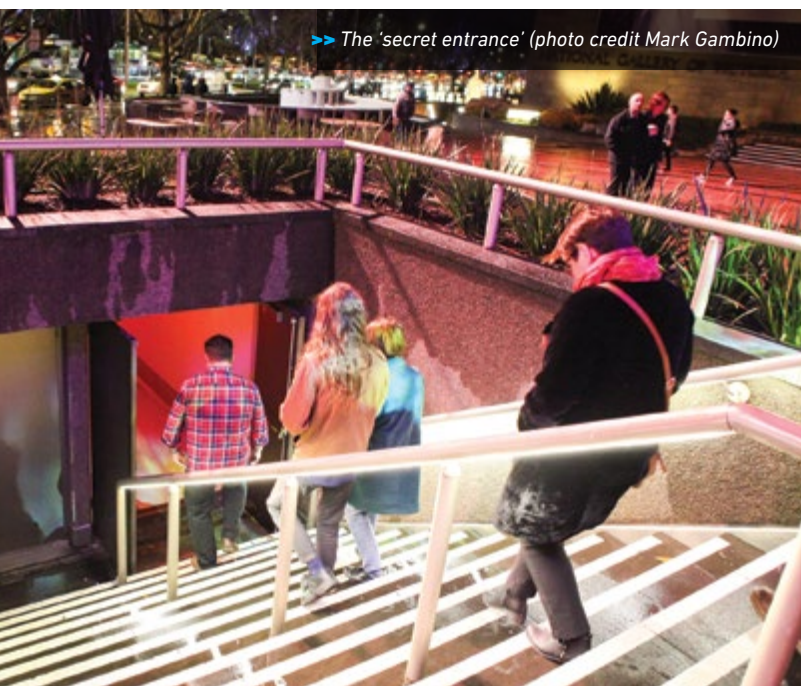
In order to run 28 international and local acts over three days, including 'Overground' – a festival within the festival of improvised music and art in the foyer spaces – The Arts Centre production team used rehearsal rooms, back-of-house corridors, a secret entrance, stages as venues, and a lot of elaborate staging in places it's not normally found.







>> The Master Musicians of Jajouka, Morocco  
(photo credit Mark Gambino)



>> The 'secret entrance' (photo credit Mark Gambino)



>> Acid Mothers Temple's Keiji Haino  
(photo credit Mark Gambino)



>> Back-of-house (photo credit Mark Gambino)



>> Waangenga Blanco and Laurence Pike on the Playhouse stage (photo credit Mark Gambino)



## >> Front of Back of House



"Obviously, we don't normally run things with a festival pass," said Daniel McKay (left), lead Production Manager on the Supersense project. "We're not using the foyers as entrances; we've opened up a special exit in the Forecourt and are funnelling punters in from

there, which completely changes how they experience the venue. The challenge is to make FOH and facilities understand how to make it work. Then we have to get production on-board with having punters in places that are not made for punters."

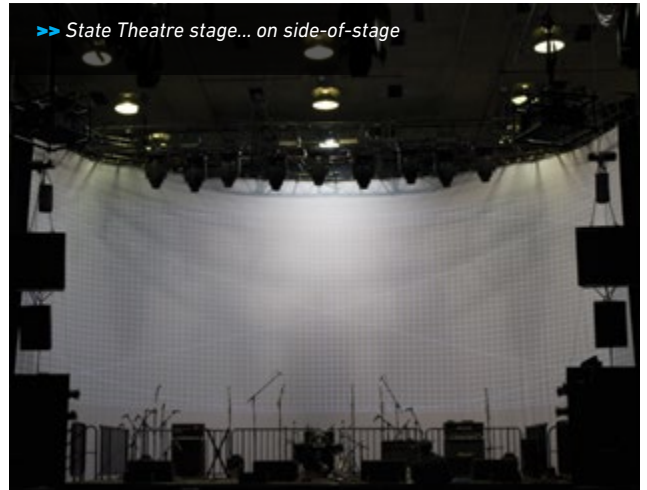
"In the State Theatre, we've built a stage in the prompt side wing and the actual stage is where the crowd stands." Daniel continued. "We're putting 200 drinking punters and a bar in areas that are usually operated by professional staff. That means you have to mask off and hide services, like 400 amp power sockets, chain motor controls, e-stops, and the fire curtain release."

The labyrinth of backstage corridors linking The State Theatre, The Playhouse, The Fairfax, and the State Theatre Rehearsal Room are all transformed into public areas, activated with lighting. They're unique spaces usually only experienced by the house techs and performers. Despite working there for nearly seven years, I think I only set foot in the corridor being used as the main festival entrance twice in my tenure, and that was by mistake.

>> Overland takes over the foyers (photo credit Mark Gambino)



>> State Theatre stage... on side-of-stage



>> Bar on the State Theatre stage (photo credit Mark Gambino)



>> State Theatre FOH ops position (photo credit Mark Gambino)



## >> Rigging The Gig

The other remarkable thing about Supersense is the fact that it is logistically possible at all – usually regular presenters like the MTC, Australian Ballet or Opera Australia would be in residence, making a weekend like this impossible. Through careful scheduling, Arts Centre programming created a window. But there were still hurdles to overcome for production.

"We have the Australian Ballet coming in the State Theatre the day after Supersense," offered Daniel. "This was going to make us all pushed for time, so we've pre-rigged their lighting for them, which we did on the proviso that we are allowed to use it. Over in the Playhouse, we've pre-rigged Bell Shakespeare's movers. It's accommodating the needs of our major presenters, and it's helping both of us out in the long run."

## >> Psych on a Cyc

The band stage built in the State Theatre wing features a curved projection screen, designed and purchased by Arts Centre production specifically for Supersense. "Sophia Brous said she hates seeing a big, rectangular white screen hung behind a stage," explained Daniel, "So we decided a curved cyc would be effective. We need to accommodate the projection requirements for the artists, and create a visual identity for the rest of the festival. We've developed imagery that uses video and stills of jelly - which you don't realise is jelly - and anywhere there's projection we're using this imagery."

>> The cyc is lifted on the State Theatre stage (photo credit Mark Gambino)



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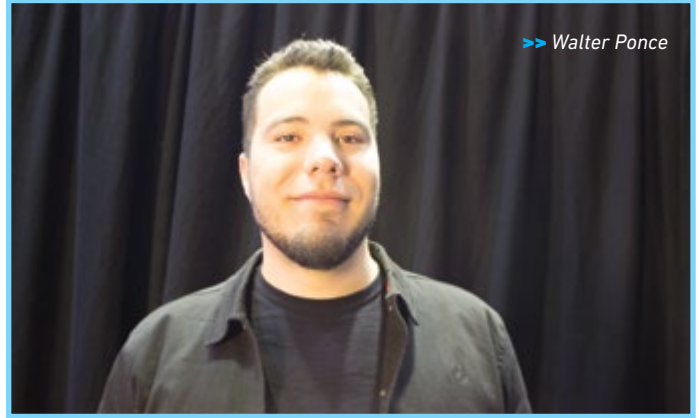
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>> Haycom's Jim Bob

With two Christie 13K projectors brought in and looked after by Jim Bob of Haycom, The Arts Centre's Walter Ponce was acting as Sound and Vision Supervisor in the State for Supersense. "I'm managing all the content and working with the artists," said Walter. "Some of the content is from us – I've added multiple layers of effects to our

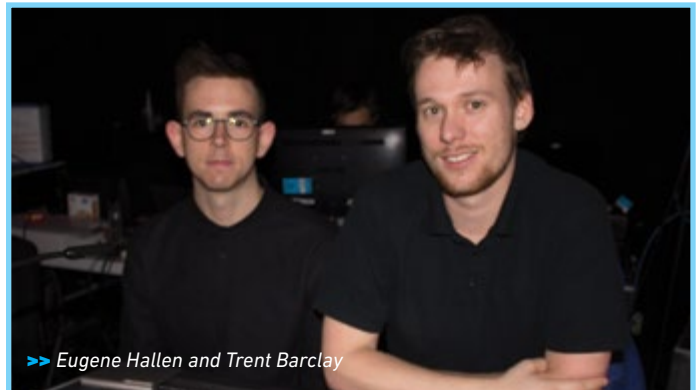


>> Walter Ponce

'jelly' theme, and we've had our Broadcast team create and animate text as translucent content with an alpha channel. We've got a Christie Spyder processor handling the two projector blend, and two Macbooks running QLab handle all the content."

## >> The Dream Machine

Lighting on the State stage was handled by lighting systems specialist Trent Barclay and lighting technician Eugene Hallen. "We drew up the plans for the stage itself, and the challenge was not getting anything in the way of the projectors," said Trent. "The rigging points in the prompt side wing of the theatre are quite limited. I'm using the house PRG V676 console. We've got a bunch of Martin Mac Vipers, Claypaky Sharpies, and LEDs for stage wash. For the shows, mostly I'm busking it, but we have plotted 'Dream Machine' and one other item. 'Dream Machine' uses 24 Martin Atomic 3000s strobing for 10 minutes at full intensity to create the frequency that stimulates REM sleep."



>> Eugene Hallen and Trent Barclay



>> Acid Mothers Temple rock The State (photo credit Mark Gambino)



## >> Line Check

Almost all sound requirements for the whole festival were satisfied by house equipment, just redeployed in places it's not normally found. The State's DiGiCo SD10 sat at opposite prompt, paired with an SD9 on foldback, with FOH driven by sound supervisor Josh White. Like most festivals, audio was handling multiple acts and fast changeovers, with the added diversity of an eclectic programme.

"Tonight goes from a Japanese heavy drone act, followed by Middle Eastern woodwind players in their 60s," said Josh. "The third act is a cello with its own processing. It's all different, which is what we do. One of the acts is a one-off combination of all the other acts, with 35 to 40 lines. We've done this on the State stage before, and it's great. With all the borders in, it's a room. And at the end of the show when we open up the cyc so everyone can leave through the auditorium, they all see where they are and it blows everyone's mind."



"Tonight goes from a Japanese heavy drone act, followed by Middle Eastern woodwind players in their 60s," said Josh. "The third act is a cello with its own processing. It's all different, which is what we do."

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&gt;&gt; Dr Miles Gregory

From 21 September to 21 November, Melbourne will be treated to an amazing season of Shakespeare performed in a replica of London's 17th century second Globe theatre. The season comes after the amazing success of the first Pop-up Globe run in Auckland. Jason Allen spoke to company founder and artistic director Dr Miles Gregory on how to make theatre like a Jacobean...



&gt;&gt; Curtain call at the Pop-up Globe

## **“All the world’s a stage”** The Pop-up Globe does Shakespeare like it’s 1614

The Pop-up Globe is built of 16,000 pieces of scaffolding, plus plywood, corrugated iron, insulation, stadium seating, and carpet. Through painstaking reconstruction from primary sources, it's as close as possible to the dimensions of Shakespeare's own second Globe theatre, finished in 1614, replacing the original Globe that was destroyed by fire a year earlier. This is as close as a modern audience is going to get to seeing Shakespeare performed as it would have been on opening night. There's no lighting (to speak of), no sound, no comms, no cue-lights, no performance relay, no paging – no modern infrastructure whatsoever.

The Pop-up Globe retains features long gone in modern theatre – The Yard is the standing section in front of the

stage, open to the elements as the roof only covers half of the structure. Tickets for The Yard, said to be some of the best in the house, are a ludicrously affordable \$20. In contrast, the Royal Rooms, basically on the stage, and are a lordly \$300. No matter where you are in the Pop-up Globe, you are no more than 15 metres from the performers. It's this intimacy, along with the amazing theatre-making machine behind the scenes, that has seen three wildly successful seasons and international interest in this Kiwi company, originally formed for a one-off season to commemorate the 400th anniversary of The Bard's death in 2016.



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## I'll Put a Girdle 'Round The Earth

"We've got a crew of 25 in Melbourne working to put up the building in just under 35 days," explained Dr Gregory. "It's a very substantial building, and it feels permanent. We use a large amount of carpentry and carpet to reduce noise, including in The Yard, which uses an outdoor marine-grade carpet. The electrics, which are just for a house state, are ludicrously simple - there's a switch and they're either on or off. There's no dimmers, no lighting control, no cues, no amplification and no tannoy. There was a discussion about if we should have lights at all, but while audiences in Shakespeare's day went to the theatre in the afternoon, modern audiences attend theatre in the evening. This is not government funded, and we have to sell tickets, so we have to perform in the evening."

"Backstage is rudimentary," continued Dr Gregory, "The dressing rooms are contained in the building, but there's none of the things you'd expect a theatre to have. Our tech rehearsals are very simple. What we do have though is a lot of pyrotechnics, mainly black powder pyros. We have firing cannons in the heavens, which are spectacular, and flaming arrows. The pyros have to be electronically cued, and the term we use is 'Jacobean Special Effects meets Modern Health and Safety'. We use litres and litres of fake blood, and there's also fake vomit. We're just completing work in Auckland on a thunder run in the heavens using cannon balls, and finding it highly effective. We've learnt that these mechanical effects are effective in a way we never thought they would be."

## To Be or Not To Be

The exact dimensions of the Pop-up Globe were established from the painstaking five-year research of the University of Sydney's Professor Tim Fitzpatrick and Russel Emerson, who used contemporary illustrations of London, and CAD, to recreate the design. Specialist NZ scaffolding company Camelspace were brought in to realise the project, and build it as accurately as possible. It's the first time the second Globe has been reconstructed full-size. The well-known recreation known as Shakespeare's Globe in London is quite different to the Pop-up Globe; it has 20 sides to the Pop-up's 16, and is 100 feet in diameter as opposed to the Pop-up's 88. The Yard in Shakespeare's Globe accommodates 700, the Pop-up's, 330. Many academics believe Shakespeare's Globe is too large.

"We were concerned with replicating faithfully the dimensions proposed by the research," elaborated Dr Gregory. "Everything in the building is either scaffolding, corrugated iron, or plywood. What I knew is that it doesn't matter what you make a building out of, what matters is the dimensions and the relationship between the actor and the audience. That was important, because what goes on inside the building is magical. There's a painted heavens above the stage that gives a brilliant acoustic. The area under the stage is hollow, and there are sweet spots that really resonant - there's extraordinary resonance in the centre."

» The Heavens  
from The Yard





## Strut and Fret Our Hour Upon The Stage

Skilled scenic artists are employed on each new build to decorate the stage and ceiling as they would have been in the 17th century. "Using the magic of scenic art, half of the building is heavily dressed," added Dr Gregory. "There's an elaborate scaenae frons (ed. – elaborately decorated permanent background in Roman theatre) reconstructed from research, and panelled rooms around the stage. When you look at the stage, it's possible to believe you're in a true reconstruction. But if you turn around, you see scaffolding and stadium seating. This whole project is about the

exciting mix of ancient and modern. What's interesting is the combination of 400 year old language and modern scaffolding."

With all the focus on the 'Pop-up' nature of the building, what's really arresting is all the work that's going on to fill it with people and performances. "The building really is the simplest thing we do," said Dr Gregory. "Most of our time is spent running a huge theatre company that runs four major productions simultaneously. We have a 15 person wardrobe department that made 450 costumes last season. We employ over 30 actors on five month contracts from around the world, and opened four shows within two weeks of each other in a building that is being built around us."



## Tomorrow and Tomorrow and Tomorrow

"The most extraordinary accomplishment is the quantity and quality of this output. We're committed to the quality of the Shakespeare we make. People come to see the building; they're intrigued, but the reason we've sold 240,000 tickets in 18 months is because of the theatre we make. It's unlike anything you'll see anywhere in the world, including in any of the 14 other replica Globes around the world. The way we make theatre is revolutionary and it turns people into evangelical converts. That's why they return again and again to see it. It's really something to see young people returning dozens of times to see the same show. Theatre is about space, not materials."

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# More than just communications

## Inside The P.A. People

By  
Julius  
Grafton

**T**he PA People work around the globe, supplying highly complex communications systems for the largest events ever held. But they also rent belt packs and radios from their Rhodes complex in mid west Sydney. Sitting in between these extremes they design and install audio visual systems for venues and buildings across Australia.

It's a story about technical passion but also love of the show, understanding of theatre, and good old Australian ingenuity. Boss Chris Dodds is the kind of guy who likes to have a go.

It wasn't too long sitting in their meeting room before he leapt up, and swept down the stairs to the truck yard. It appears I just had to see something.

"This is my box", he declared, twisting open the side doors on a new 20' container. Inside are large objects with neatly fitted soft covers, a stack of risers, some electronics racks, and a couple of 250kg concrete ballast blocks.

Sure enough, the objects turn out to be the 3m tall stainless steel 'A O' elements with inbuilt LED screens that featured in so much of the footage of the iconic Australian Open tennis season early this year.

"They had a branding company design the new logo and in the presentation video they had these two huge letters, with video inside. They said 'we want exactly that', and started looking around for someone to build it", Chris explained, the words almost tumbling out in enthusiasm.

Tennis Australia bought the system that The PA People built, wholly within the Rhodes factory where they fabricate wood, metal, plastic and electronics. It's a man cave of epic proportions, with enthusiastic people multi-tasking to meet the current project challenge.

>> AO sign Pre Shipment

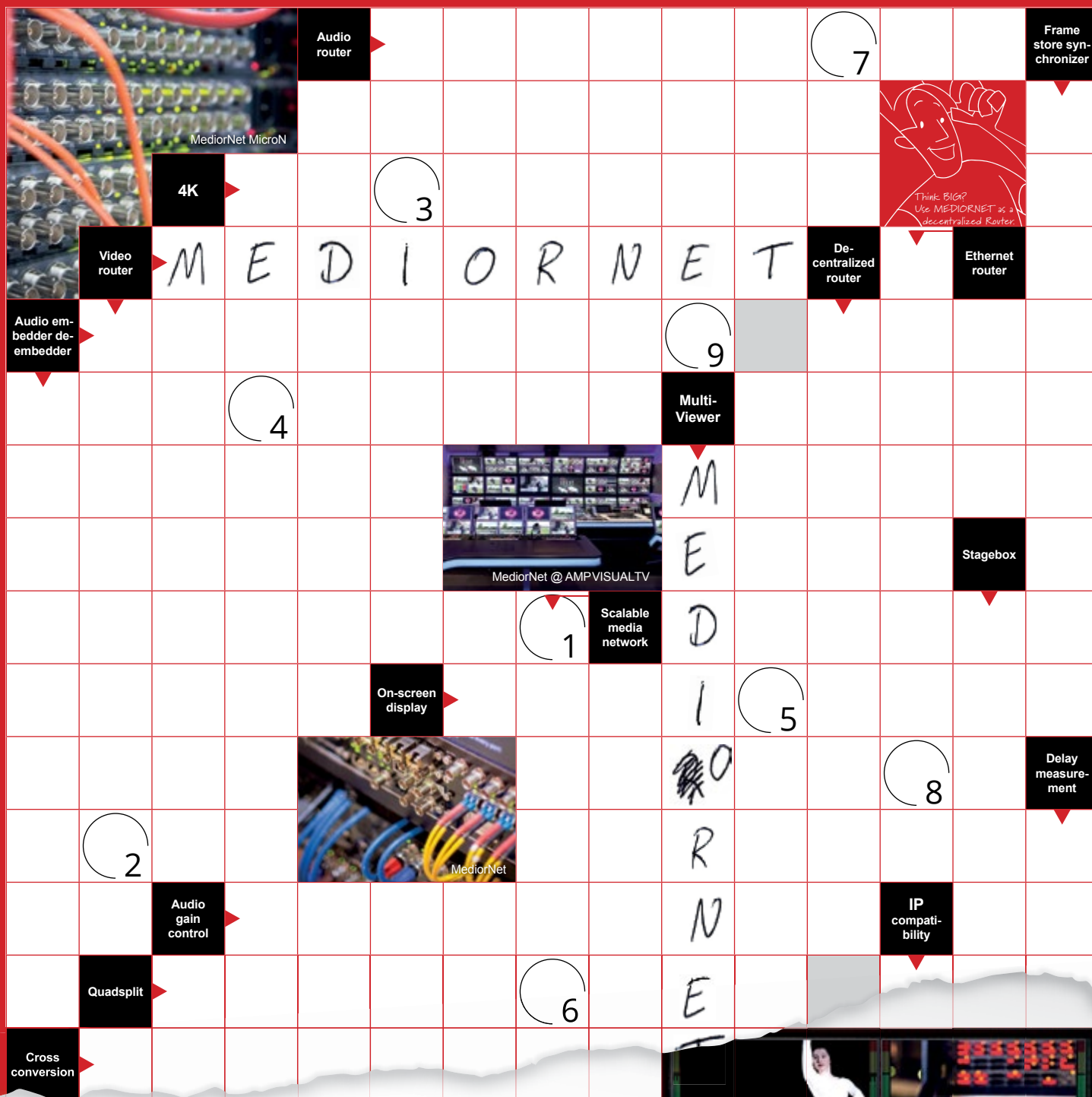




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## THE COMMS WORLD



>> Baku Opening Ceremony - Image Courtesy of Jo Nisbet

Every production company has a bunch of beltpacks and headsets, and a batch of radios. While PA People rent and sell these, it's on the complex gigs where they make their reputation. Because comms failure can maim or even kill a show, stone cold dead.

Take the huge arena ceremonies attached to major events like an Olympics. These are a virtual 'arms race' to complexity, each event endeavoring to exceed the previous. Such as Baku, home of the Inaugural European Games in 2015.

"It was the biggest comms system ever delivered anywhere", Campbell Waller (Manager, Event-Comms) said.

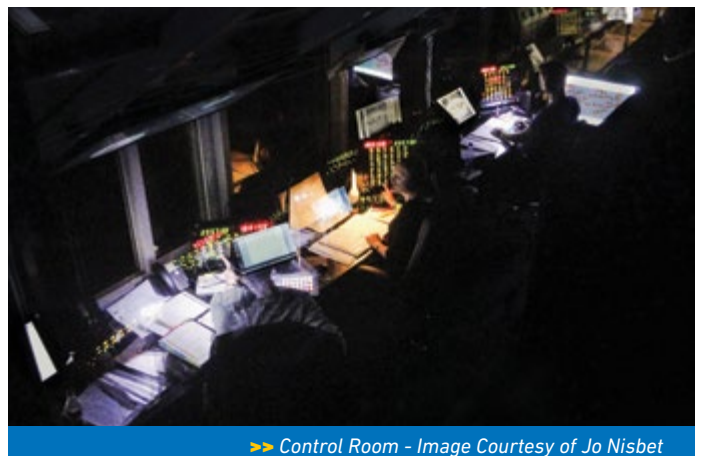
"So much RF hadn't been successfully done at this scale. We put a lot of effort in, with 30 racks of RF."

"There were five key elements", added Chris Dodds. "A big matrix intercom, 200 key stations, and 400 ports of things connected. Then a very large 2 way radio system: 40 duplex bases, and 56 simplex bases all in one room, plumbed together."

"It all went out on 4 antennas", said Campbell.



>> Campbell Waller & Chris Dodds



>> Control Room - Image Courtesy of Jo Nisbet



Chris: "We regarded it as challenging, but we knew we could do it. The tech team on this job pushed for what they believed they could deliver. We had 1,200 2 way radios, plus some people on party lines, which means there were 1,500 people directly related, plus the 6,000 cast on fm receivers (which requires changing the batteries 4 times!). On top of the 200 matrix stations, there were 150 digital party line belt packs, and 80 full duplex packs."

Campbell: "Plus a CCTV system for the venue that was 46 cameras, with 50 people viewing."

Chris: "We have the biggest ClearCom rental inventory, fullstop."

Campbell: "But we can help a TD that wants 6 belt packs and 10 radios, that is what we do."

## PUTTING IT ALL TOGETHER

Chris: "We can integrate a small system. Anyone can buy equipment – we bring integration not just at a technical level but also at a conceptual level – we're theatre people. We understand what the gig is about."

Campbell: "At a large scale there can be simplistic things – all that gear needs to be air-conditioned, and that's out of our scope. Our gear at Baku was on 40kva of UPS (uninterruptible power supply) which gave us 1 hour if the power failed. Power comes on dual feeds. But Radio interference – that is a massive challenge. High quality filtering mitigates that – even in-ear monitor transmitters can cause interference to us – we have to fault-find on the ground."

➤ Gear - Image Courtesy of Jo Nisbet



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Chris: "After all the RF surveys had been done, we've found all the spectrum available, then maybe a Government at an event country decides to do digital TV testing! That's happened. We go back and impress on them that they need to stop until the event is over. So they cancelled the TV licenses until we could do the ceremony."

Campbell: "We've had a pirate FM station just start up somewhere near. Because they can! We had that in Athens, on one of our frequencies! Comms is the only department to integrate with every other department – other than finance. The comms work 24/7. They might have finished a rehearsal, then they want to do pyro test. We are the critical part of the service."

Chris: "Redundancy is critical."

Campbell: "An example, in the middle east in Qatar for the Asian Games in 2006, it almost never rains. But 4 feet of water filled the moat we were in. We saw the weather

coming, and got the gear lifted up".

Chris: "In Baku, it was very windy and dusty."

Campbell: "Our gear is always covered in dust – airflow management is part of the design. Along with redundant fibre loops, and the UPS protected remote racks".

Chris: "All our gear sits on an Ethernet backbone. By default we are network specialists, we move audio, video, we move all the comms and every other thing all on our system. In most jurisdictions we build relationships. They say things can't be done, and we show them it can be done. We have to work closely with the government."

Campbell: "It's all complex. The advantage we have is we can do it all – design and construct – in house. We literally think outside the square, to get to the technical and creative solutions. It's a big part of what we do."

## CHALLENGES!

Campbell: "So many challenges. Freight lead times, being in Australia, and utilization at scale."

Chris: "Even if we did every major gig in the world, we would still only get 30% utilization for our gear".

Campbell: "The Ceremony component of major events is scaling back a little, in terms of overall budgets."

Chris: "They have to ask themselves, is the country showcasing itself, or just doing an event?"

Campbell: "We do heaps locally too. Take the recent job we did for TP Group at Luna Park in Sydney, it was 3 nights

on site, with boats on harbor, and comms to all the tech departments along with general distribution across the site. Great execution, and cost effective too. We met them early with a list of gear and helped them pull it together. Having guys exposed to really big events helps – we talk at the level where we're part of the solution."

Chris: "The City of Sydney New Years Eve fireworks, we won a 5 year tender and just won another. The system now bears very little resemblance to what we started with. We install systems. We operate systems. We maintain systems. We know the challenges of a day-to-day operation."

**"Even if we did every major gig in the world, we would still only get 30% utilization for our gear"**





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**What do you do** when you find yourself working on 16 audio projects at once? Drop everything of course and write an article for CX!

## LISTEN HERE

### POWERING THROUGH THE WORKLOAD



**ANDY STEWART**

**T**his issue I thought I'd write about my current circumstance: what happens in studio-land when the pressure is really on and your clients start applying a blow-torch to your arse to get their productions over the line. How do you maintain your energy, working effectively day in and day out to produce consistent, high quality results for all your clients... all at the same time?

The first thing to make sure you don't do in this situation is work too late into the night no matter how busy you think you are. Working late

is inefficient and counter-productive. You might try to convince yourself that those extra hours are getting you closer to the finish line, and that this extra effort doesn't affect your judgement or energy levels in the days that follow, but it's an illusion.

I'd say midnight is the very latest you should work if you're starting at 9am, although 10pm is probably better. (For a full-time worker that's equivalent to five hours overtime every day!)

What generally happens with me – and this is especially true if I have clients in the studio – is that I tend to get a second wind at around 9.30pm. If, under some delusion that I'm not already pretty worn out, and I let this wind blow me into the wee small hours, I end up working 'til 2am, which wipes me out for the following day.

I'll be low in energy, forced to lean far too heavily on six cups of coffee, and be less capable of facing the onslaught of high-energy midrange tones. This has the disastrous affect of adversely influencing my tonal choices, making me unconsciously inclined to reach for tonal cuts out of self-preservation, and before I know it my mixes are dull and lifeless.

Getting a decent night's sleep is crucial to good mixing.

#### WORKING EFFICIENCIES

One of the fastest ways to achieve good results if you're mixing – and this applies to production work and mastering as well to a lesser extent – is to think ahead by saving plug-in settings and

session templates for future use. (This is especially relevant within the same album project.)

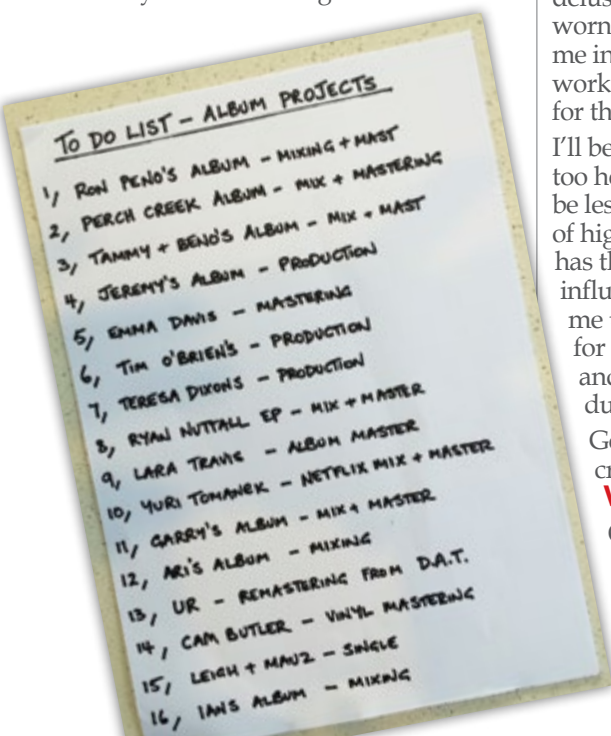
Templates and saved plug-in settings can save you hours of grunt work every day.

Let's say for instance you're mixing an album in a DAW that was tracked in one big session. (You know this because you either tracked the album yourself or asked your clients in-depth questions about how things were recorded before you started mixing it.) In most circumstances this means the drums, bass and bunch of other instruments were probably setup once utilising identical recording chains and left that way for the whole album.

This knowledge is valuable, time-saving information that works heavily in your favour – as it once did when engineers mixed on analogue consoles.

Rather than getting your first mix sounding awesome only to then start the second from scratch, save the first mix session as a Template. But don't save everything – some of it isn't relevant to the new song. Just save aspects of the mix session file; things like plug-in settings, bus routing, groups and so on. Don't save the volume automation (it's irrelevant to a new song) or for obvious reasons the audio content since you don't want that information importing back into the other song's mix session. You only want to harvest the work that went on around the song, not the song itself.

Once you've done this – just label it 'Fred's Album Mix Template 1' – you



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



can then use this giant body of related work again, applying it to the new song as you see fit.

Though it won't be 100% effective on every instrument and some songs won't even have the same collection of sounds, there will nevertheless be some commonality of instrumentation, and these are the sounds you don't want to have to setup again entirely from scratch. Sure their compression settings, FX send levels and the like will all require adjustment to suit the new material for the obvious reason that the song is different. But without a doubt, using a template from your previous mix that only wrapped up yesterday will get you hours down the mixing road and relieve the tedium of starting the new mix from ground zero.

It's akin to fast-forwarding yourself in time three hours to the early afternoon. Your mix is starting to take shape but, hang on... it's still only 9.30am!

Saving time and energy, and keeping yourself fresh in this way also gives you breathing space to imagine how the new song mix will play out, rather than being bogged down all over again in the tedium of setting up effects sends, groups and so on. Over days and weeks of mixing album after album, avoiding some of this grunt work becomes crucial to your ability to do

the job properly without burning out. Moreover, it's a far more efficient way of pushing things forward than staying up 'til 3am the night before!

### ANALOGUE MIXING

Though this might seem like the opposite of a time-efficient method of getting things done, in my experience analogue mixing can sometimes pull faster mixes than in-the-box processing.

I'm lucky in that I own and mix on my own Neve console and have a wide range of analogue outboard gear. But irrespective of whether or not you own a Neve, the point here is that there's no doubting that, for some mixes at least, analogue compressors, EQs and effects can wipe the floor with their digital counterparts – though no-one likes to admit this much any more.

For simple songs the instrumentation of which might only involve a vocal, acoustic guitar, a bass and some percussion, but where the sounds might be a bit sub-standard, good analogue gear can get a mix over the line in half the time. It's worth considering this next time you're in a mixing studio surrounded by analogue gear that's not being patched in.

### ONE LAST THING

Parallel compression is a much talked about but widely misunderstood

process in the world of mixing. Some people use it, some don't. But for mine, a heavily compressed parallel stereo mix bus containing some or almost all of the ingredients in the mix is a vital cog in your mixing machine. To lack an in-depth understanding of the many benefits of this process is to ignore a blind spot in your arsenal.

More so than ever before mixes these days need to be exciting and loud (when that's relevant of course). To achieve this outcome without the use of a parallel mix bus compressor is a tough ask. It can take far longer to pull an exciting mix without one and arguably mixes that lack them never quite reach the same explosive heights. Next issue I'll be focussing my gaze squarely on this process, explaining the technique and exploring its many positive mix benefits. If time is of the essence, patch in a parallel mix bus compressor.

Until then, if you're flat-out, don't drive yourself into the wall by staying up too late. Use your DAW to maximum effect by saving your hard-earned plug-in settings and Templates. The time you save will allow you to get some sleep at night like normal people. Over the long haul you'll quickly wonder how you ever did it any other way.

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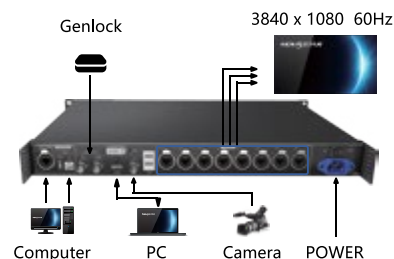
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By Julius Grafton

# Milked Dry

## Big dreams go up in powder

**W**e apologize to Gary Helou in advance, as he apparently has thin skin and can be hurt and offended by narky words in the press. So it seemed in August 2014, when The Australian published an apology after an article suggested the Board of dairy giant Murray Goulburn Co-operative were in some way unimpressed by their top dog.

"Gary Helou has the complete and unqualified support of Murray Goulburn's board of directors and that Murray Goulburn's board believes that Mr Helou is performing soundly as its managing director", the grovel stated.

History is writ different, as Helou faces legal action by the Australian Competition and Consumer Commission. The ACCC alleges 'unconscionable behavior' by Helou, his finance deputy dog, and the co-operative itself.

The story laid out in court documents is that Helou overstated the farm gate predictive price for milk solids from 2015, based on forecasts that were wildly optimistic. The dairy farmers worked with a price system that was based on an 'End of Year' price, and an 'Opening Price'. They were paid the opening price across the year, and squared up the ledger at the end of the year.

Helou was the savior, the golden boy who had come in and for very unclear reasons, part floated the co-operative some years earlier. At the time, the co-op said the new structure would stabilise returns to farmers. A public float (always) results in a shift of board focus to share price and

returns, which is counter intuitive at a co-op, which is historically structured to support farmers.

Now I'm not saying this is the reasoning for the partial float at Murray Goulburn, however floats are sometimes done to bolster a CEO's remuneration because if the float floats well, the opening price is exceeded, and performance bonuses materialize. I simply have not researched deep enough, so I can say that this may not be the case here.

Anyway, the problems at the co-op were building each day as a global rout on dairy prices pushed down the returns, while the farmers woke each day at 3.30 and milked their herds. They had no idea what was looming.

It loomed for quite a while, the ACCC says in its prosecution. (The defense had not yet been heard before this article went to press.) ACCC say that the co-op board were discussing the falling price of milk almost as soon as they decided in May on a target price of \$6.09 per kilo of milk solids.

The story is that the target was far too high, and it was continually discussed for most of the rest of the year until the co-op confessed to the farmers that the real price was closer to \$4.75. Then the co-op started to demand the farmers pay back the difference!

Imagine you work all year and are paid – say – \$50,000. Trust me, you're doing it tough on that money in most big cities these days. Then just before the end of the year,



they tell you 'oops, the rate should have been \$40,000, so you owe us 10 grand. Cough up!'

The very co-operative that the farmers thought were protecting them from market variations had become enormously unstable. Many farmers were simply unable to continue, banks foreclosed on loans, and herds were trucked off to the meatworks.

Helou had been sort of proactive through the period – he sent a guy to China to sell 58,000 tonnes of infant food powder. The only problem was, the greatest previous tally to China was just over 11,000 tonnes. They not only had to sell all that powder right away, they also had to figure out how to produce it.

Pie in the sky, the guy in China emailed that he was having trouble meeting buyers due to the Chinese New Year. Helou sent a shouty email with words to the effect that he needed to stay there – and not come back until he hit the target! Honestly, where do these corporations find these kind of executives?

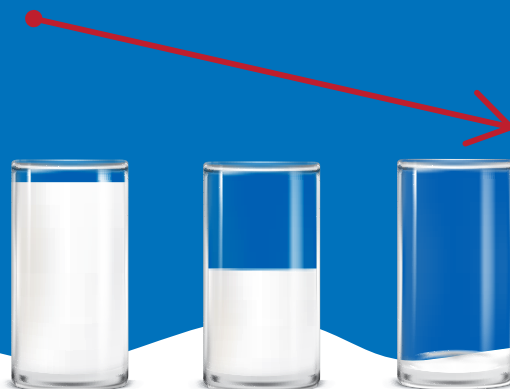
Anyway the board apparently had enough, and Mr Helou departed, along with the CFO.

Recently the co-op has announced it will close plants in several rural towns, adding pain to communities. At least one of the affected plants could have been on sold, but according to some locals the co-op would prefer to strip the plant than sell it to someone who might eventually complete against it.

Murray Goulburn has reversed its refund demands after many farmers upped and took their milk elsewhere, and promised if they come back they'll get back some of what they were charged.

Even worse, the turkey management (no offence to our gobble gobble feathered friends) have, at presstime, announced they will fall short with their most recent targets. Rather than further punish their declining herd (pun intended) of farmers, they will borrow another \$100 million.

This will go down as a classic case of bad management and poor stewardship, especially given the vulnerable nature of farming where the farmer is locked in to a supply deal. A good reason to avoid a deal that locks you in.



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# EAW RSX12M

## EAW ADDS MONITORING TO RADIUS

By Jason Allen



**E**AW's Radius Series is a total connected PA solution. It includes a line array with flyable subs, and point source mains, fills and a sub. The whole range is powered, comes with Dante built-in, and is made to be designed, predicted, controlled and monitored wirelessly via EAWmosaic, a comprehensive iOS app. The RSX12M adds a monitor wedge to this line-up.

Radius is designed to be run as an integrated system, and as such, it's unlikely though not inconceivable that you'd be using the RSX12M outside of the Radius environment. Radius is perfect for mid-sized installs in houses of worship, clubs, and education, and a package of the line array and monitoring could also find a good home in rental.

The RSX12M runs a 12" woofer with 2.5"

voice coil, and a 1.77" compression driver through a 1x1" exit. It has 105 degree coverage in both the horizontal and vertical, and EAW quotes a response from 55Hz to 18kHz. It's bi-amped, producing 500W peak. There's EAW's trade-marked DSP on-board, which includes their 'Focusing' processing that "corrects inherent acoustical anomalies to deliver

immaculate impulse response", and 'DynO', which "intelligently preserves a clean impulse response even at the highest output levels." Let's think of them both as combinations of dynamics and EQ processing.

At 16.3 kg, the RSX12M is easy enough to throw around a stage impatiently. It took me a minute to discover the cleverly hidden handle under the front of the wedge, but after that, I could easily carry two if I needed to. The connectivity is straight-forward and extremely useful – you can daisy

chain both the PowerCon (up to five units) and Dante etherCON, and connect analogue XLR as either the primary input or fail-over. The comm port cables back to a switch, which you connect your WiFi to, and there's your system control in place.

If you don't have an iPad to run EAWmosaic (it's the only device the software supports as of printing), you can access the RSX12Ms settings via a nice OLED screen and rotatable,

**Brand:** EAW  
**Model:** RSX12M  
**Pricing:** RRP \$3,889 inc GST  
**Product Info:**  
 eaw.com  
**Distributor:**  
 www.pavt.com.au





pushable knob on the rear panel. In the menu, you'll find practicalities like IP addressing (EAW recommends you run a DHCP server), but most importantly, level, tuning presets, delay, crossover and an incredibly thoughtful and useful pink noise generator that can check each driver individually.

There are four voicing presets built in; White, Grey, Blue, and Sapphire, plus one 'User' spot reserved. On paper, White is basically flat, Grey has a slight low boost and high-end rolloff, Blue has a slightly higher bass boost and high end rolloff than Grey, and Sapphire is like Blue but adds some 10kHz 'air'. In reality, White is flat, Sapphire sounds a lot like White with more extreme top end, Grey is kind of dull and good for drum fill, and Blue sounded quite strange initially.

According to EAW, "Blue voicing provides a more significant 2 dB low-frequency boost, coupled with the same high-frequency roll-off as Grey, but with 2 dB more mid-frequency attenuation from 700 Hz to 8,000 Hz. This voicing is most suitable for high-SPL performances with



significant upper-mid content." When I ran this voicing at lower levels, it seemed to produce weird, pumping dynamic effects from 200Hz to 800Hz. I checked back with the documentation and, when cranked up to use as intended, it performed as it should.

Presets aside, when tuned to taste and tested extensively with vocals, the RSX12M produced honest, reliable results. I started with 'White' and adjusted from there. When driven hard, any limiting that might have been happening was not audibly intrusive or obvious. I had more than enough level to get over the instrument mix. I felt I needed to drive the range from around 1.6Khz to 3Khz a little harder to get the cut-through I need, but the RSX12M still produced a workable result with no undue feedback issues. The 105 degrees of both horizontal and vertical dispersion are appreciated, as the vocalist can wander about quite a bit with no issues.

When incorporated into a full Radius system on a Dante backbone, the RX12M would be one piece of a powerful solution that would save a lot of time, cabling, testing and tweaking.

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# EON ONE PRO

## JBL'S ULTRA PORTABLE PA

By Julius Grafton

**T**hanks to the latest digital audio technology and the battery revolution, JBL have managed to get a full range, portable PA product that will run up to six hours without mains juice.

Seemingly aimed at solo or duo musicians and/or any school or fitness club application, this lightweight system provides enough output provided the environment is not a challenge. Pushed hard it has a quite advanced limiter that sounds a lot less 'crushy' than earlier iterations.

The package is easy to lug at 17kg, with delightful ergonomics. Folding out the top tablet holder cradle, you extract the narrow column array of 6 x 2" speakers, along with a pair of height extenders.

Some cleverness: the dispersion pattern is altered electronically depending on how many height extenders you plug in. Use them all and the pattern throws longer than if you use one, or none.

Tested with music (we hooked up via

**Brand:** JBL  
**Model:** Eon One Pro

**Pricing:**  
\$2,700 retail inc gst

**Product info:**

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

**Distributor:**

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

Bluetooth) and also with a Shure SM58 mic, I got good tonal balance from the top array and the 8" sub. JBL say it delivers 45hz to 18khz at -3db, I don't disagree.

While I think the limiter is very well behaved, it needs to be since it seems to be pivotal to the battery life. I got enough sound out of the system, but there would be times when a second system would be needed. To help with this, JBL include a pass through XLR so you

can hook up a second unit without the slightest hassle.

The four channel mixer has phantom on two of the channels, and the other pair accept high impedance as well as low, so you can plug a guitar right in. Channels 5 and 6 are fed from a pair of RCA connectors or the Bluetooth.

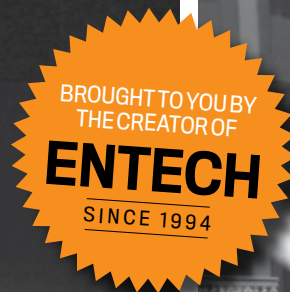
Rudimentary tone controls are joined by a single setting reverb dial, it pours on a thick hall type reverb.

The big deal is the portability and the battery life.

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# ROBE DL7S PROFILE

By Julius Grafton



## LED MOVER FOR THEATRE



**T**his is Robe's first fixture to use a new 800 watt LED engine containing 7 colours. It has 7 degree to 43 degree zoom, four rotatable framing shutters, and an iris. At about 8,500 lumens (everything on), it produces respectable light output.

Clearly designed for theatre, it's internal fan system is very quiet, as are the pan and tilt motors. The zoom engine is louder, as you'd expect, since it is hauling a lot of lens, including the 132mm output lens. In any case, I don't think a lighting designer would include a zoom shift in a show cue.

On the subject of panning, there is a deceleration system when reaching the pan destination, to avoid truss wobble inertia. This minimizes the possibility of a truss load of these having a sway if they are all suddenly panned together. Being LED it doesn't have strike up issues like discharge lamps do. What it does have is good dimming, the bugbear of a lot of current LED product. We did a ten second fade in the test and I couldn't see any problems.

On board are two gobo wheels for 8 replaceable gobos in the fixed wheel, which that come pre-loaded with a slew of common effects, including a lot of the generics that you use in theatre - breakup, window, venetians, and clouds. The animation wheel gives you six more, including a rudimentary water or fire effect.

In the colour temperature department, you get

**Brand:** Robe  
**Model:** DL7S  
Profile  
**Pricing:**  
\$22,385 retail inc  
gst.  
**Product Info:**  
[www.robe.cz](http://www.robe.cz)  
**Distributor:**  
[www.jands.com.au](http://www.jands.com.au)





what you want – it'll mimic anything from 2k to 10k. Robe quote LED life at 20,000 hours, which is more realistic than some others and to be honest, who actually knows? 20,000 hours is a very long time considering that is 20,000 hours of actual light emitting. With everything happening, the maximum power draw is 1,000 watts.

A real neat feature is the Robe Navigation System called RNS2. This user interface has a touchscreen, with gtag addressing. Imagine holding down or hitting a button to get to 401. With this you just slide your finger along.

The controller is battery backed up, so you can fire up the RNS while the unit is in its case to change settings. Weight is 36 kg.



Clearly designed for theatre, it's internal fan system is very quiet.

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# PETE MURRAY

BY CAT STROM

**"WE TRY TO SQUEEZE IN AS MUCH OF THE SET AS POSSIBLE BEFORE IT BECOMES TOO AWKWARD FOR THE BAND MEMBERS"**



# CAMACHO TOUR

PHOTOS: TROY CONSTABLE

With over one million album sales to his name, Byron Bay singer-songwriter Pete Murray is the quiet achiever of Australian music. Following the release of his new album *Camacho*, Pete embarked on an epic 33-date national *Camacho Tour* that kick-started in Lismore on July 12 and finishes up in Darwin on September 9.

Cam McKaige last lit Pete seven years ago and was delighted to be asked for his creative input for the new tour. *Camacho* means very cool in Spanish and Pete was looking for a design to enforce this idea.

"He asked early on if I had any ideas on the backburner and coincidentally I had this idea of the LED tubes which seemed to fit perfectly," commented Cam. "I tasked Phaseshift Productions with constructing twenty-five of them and they are pretty much the entire set. I worked on the idea that being an abstract look, it didn't have to be the same every night. As we were doing such a wide variety of venues, it was very easy to reduce the size



of the show down whilst still retaining a good visual impact."

The full show has a 40ft back truss, top and bottom, with the bottom truss on a one metre arch. Each section of truss holds three LED tubes and Cam has reduced the back truss down to 20ft for some shows. With the abstract programming the show stills works, however if the truss has to be under 20ft, the tubes are dropped all together and plan B is instigated!

"We try to squeeze in as much of the set as possible before it becomes too awkward for the band members," added Cam. "If there's really not enough room there's no point in ruining everyone else's evening!"

The LED tubes are two metres in length and are basically a length of opaque tubing with an LED Tricolour Par Can at each end. Custom racks were also made so that they can transport fully assembled.

"So far they have worked out really well," said Cam. "Especially for an idea that came off the backburner and had to be made road ready within three days!"

The LED tubes are very much a set piece in the sense that there is a lot of big block contrasting colours broken up occasionally by chases which change the whole feel of the show.

"They're pretty much a cool look but can become quite abrupt and frenetic at any time," said Cam. "However, as the set is also the lightshow it's very easy to always want to use them so I resist that. In some songs I may only use half of them, and in some songs they're not on at all."

Apart from six analogue Profiles, there are no globes in Cam's rig which cuts down on power, distro and all the kerfuffle that travels with fixtures with globes. The chosen fixtures were carefully thought out as Cam didn't want any profile units, any Sharpys or any wash lights.

A photograph showing the interior of a large event space. The ceiling and walls are covered in white fabric that is draped and gathered in various ways, creating a soft, ethereal atmosphere. Several black stage lights are suspended from the ceiling. In the foreground, there is a metal frame structure, possibly for a stage or display. The floor appears to be dark. The overall aesthetic is clean and modern.

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## NEARLY EVERY SHOW ON THE TOUR HAS SOLD OUT

"I am getting so sick of using the same equipment over and over again," he remarked. "I love the Claypaky B-EYEs so it's all about them, especially the internal macros you can get out of them. I've tried to create something that you can't hire which hopefully gives the audience a fresh look – I don't know of anyone else touring custom LED tubes and B-EYEs as their only back light!"

As Cam already had the concept of creating an abstract set with all the LED tubes at an angle and not necessarily spaced perfectly, he wanted to incorporate some symmetry to the asymmetry of his design. Consequently the twelve B-EYEs are evenly spaced within the asymmetrical LED tubes.

"To get the most out of B-EYEs you really need them pointing straight out into the audience," explained Cam. "It's that dramatic look of staring straight down the unit that gives the effect the B-EYE does so well. A lot of their programming is highlighting solos sweeping towards that person."

Having happily used Claypaky Stormys before, Cam was keen to include colour mixing strobes and was offered eight Philips SL Nitro 510C strobes, four purchased specifically for the tour.

"They probably wouldn't have been my first choice but I'm happy enough with them," he said. "You can use them in a wash mode, they're very bright and super-efficient plus they come with a bunch of macros. They're a fun, user-friendly light. Again, I was trying to keep away from a round beam and the rectangle was a nice option for me."

Six Robe Robin 600 LED wash fixtures are Cam's only front coloured light; in a perfect world they're on a front truss along with the analogue profiles, in a non-perfect world they are side lights.








## PHASESHIFT PRODUCTIONS MADE THE LED TUBES

"They're quick, easy, bright and a good workhorse," said Cam. "For control I'm touring an MA Lighting MA 2 light plus a command wing which I love. And I must mention my second in charge Josh Evans, he has been priceless on this tour."

When speaking with Cam, the tour was half way through and all but two shows had been a sellout. It's rare for a musician to take the challenge of playing the entire new album live, interspersed with some oldies, but Cam thinks it was a great decision. Just like the lighting, it was a bold statement.

Jimmy Foster has been in charge of Pete Murray's audio for many years and the last time we met, Pete was doing a solo tour with just three of them on the road. This time around there are fourteen on tour, including a full band, and a lighting and audio package.

JPJ Audio supplied an L-Acoustics PA system comprising of twelve dV-Dosc cabinets, six dV SUBs, and six SB218 sub woofers all running from LA8 amp racks with a Dolby Lake Processor.



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JIMMY FOSTER



CAM (ERA SHY) MCKAIGE



"We use our PA system in venues without a suitable PA system or those that don't have a PA at all," said Jimmy. "In places such as the Enmore, Forum and Tivoli we plugged into their system but still have our own control package. I have a five mix engine Avid Profile FOH with a Smart C2 compressor on the PA system and an Avalon VT-737 valve compressor as an insert on Pete's vocal."

Jimmy describes the mix as reasonably clean as there is not much noise coming off the stage with the only live source being the drum kit. The base rig is running through ValveDrive DI's, Pete's guitar rig is now a Kemper guitar rig (basically a guitar/amplifier/sampler/simulator) so there are no amps onstage for him and that's taken care of by Ant Milne his guitar tech. The lead guitarist Brett Wood is using a Fractal system which is the same as the Kemper, just a different brand, and that's taken care of by his tech Cam Batten.

"It helps that the stage is clean as Pete's vocal is not the loudest so you need quite a lot of gain from his vocal microphone to get it to sit on top of the mix," added

Jimmy. "His vocal is paramount, it's not one of those mixes where you can bury the vocals slightly and get away with it. It needs to sit on top."

"It's a big sounding show. His new record has a lot of drum samples and triggered kit sounds so we're trying to replicate that live. The drummer is using some pads and triggers, we mix between the live mic'd drum sound and the triggered synth sound, there are cues stored in the snap shots of the console which we flick between. There's a fair bit of light and shade and contrast in the show which is something Pete hasn't done before as he's usually a straight up acoustic act. There's a lot more production in this show."

Microphones include Radial DI's across everything and the new Shure Beta98's on the toms, the new 91A on the kick as well as a Beta 52. Jimmy tried a wide range of new mics on Pete's vocal before returning to the tried and trusted Shure SM58, saying it simply works the best for him.

Luke Mulligan was also running an Avid Profile for monitors using Shure PSM1000 IEMs for everyone on stage with no wedges at all.



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**ENTECH**  
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**M**elbourne based lighting and production company Colourblind smashed out a mammoth fifteen shows at Splendour In The Grass this year, working with emerging artists such as D.D.Dumbo, through to larger acts such as Slumberjack and Peking Duk on the main Amphitheatre stage.

Colourblind Director Lynden Gare acted as Production Manager, supported by his Production Co-ordinator Clare Casement and Crew Chief Matt Drinkwater. Colourblind Lighting Designers and Operators working across the event included Matt Smith, David Fairless, Daniel Black, Brad Salt and Tim Snartt.

Colourblind's co-founder and Peking Duk's regular LD Matt Smith, was working his tenth Splendour festival and said that this year's event was a huge undertaking.

Whilst the main lighting rigs were supplied by Chameleon Touring Systems, floor packages for the Colourblind gigs came from MPH, SWS and PRG with Show FX supplying special effects.

"We often use Melbourne's MPH and SWS for these acts," Matt commented. "As Slumberjack play bass heavy, high

# COLOURBLIND

## STORM SPLENDOUR

### IN THE GRASS

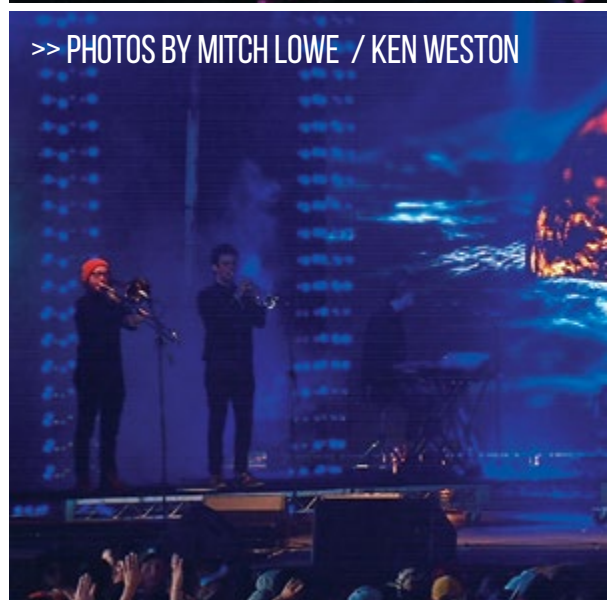
energy dance music we had asked for some Martin Atomics but ultimately Matt Downs of SWS gave us his new GLP JDC-1 strobes, which were great. He also provided some GLP X4 washes and GLP X1; I'm a big fan of GLP gear, so that was fantastic. With Kilter (designed by Nick Beachen and operated by Tim Snartt) playing on the Tiny Dancer stage, SWS supplied a floor package, including GLP X1s, helping to create another stand out show."

For Tove Lo's performance, Lighting Designer Lynden Gare brought in a PRG package of ChromaQ Color Force 72 battens to light the band risers and one of Lynden and Matt's favourite older moving head profiles; the Philips Vari-lite VL2500 Spot.

"This was for the Mix Up Stage, which was dominated by Claypaky Sharpys with only six Martin MAC Vipers overhead," explained Matt. "The house lighting design and packages at Splendour are always very good. Jeff Pavey knows how to make a stage look good with his big designs, but most acts want something bespoke to themselves too."



>> BY CAT STROM



>> PHOTOS BY MITCH LOWE / KEN WESTON







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LIGHTING DESIGN  
AND PACKAGES  
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ARE ALWAYS  
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For some of the acts, Splendour is a launching platform for their new show. This year Peking Duk were playing live for the first time with a band and numerous guest singers, such as AlunaGeorge and Vera Blue. They were keen to make a big impression and by the reviews, they did just that. In fact, Triple J posted an article after Peking Duk's Friday night appearance posing the question with their headline 'has Splendour already peaked with Peking Duk?'.

"Peking Duk love a big, brash lighting and video show with lots of pyro and effects, but they wanted to take it a step further at Splendour," remarked Matt. "The festival provided the opportunity to show off the musicality that they can bring to a stage beyond a DJ set.

With that came a big, new show design, and I'm proud of what we could achieve. Despite it not being the headlining slot, we definitely made it look like the biggest show of the night!"

The overhead rig was based around the plot for headliners LCD Soundsystem and included fifty-six MAC Vipers, thirty-six MAC Quantums, and fifteen SGM X5s. Matt added another seventy fixtures in his floor package.

"Peking Duk gave us a rough sketch of how they'd like the stage to look with a screen and risers for the band, from which Lynden and I created a unique, festival-friendly design,"

said Matt. "You only have between 15 to 20 minutes to change the stage, which is a fairly big task."

The stage consisted of a large upstage video wall and four risers; two for the Peking Duk duo, one for a drummer and one for guest guitarist Dan Sultan. An additional 12m x 2m video screen from Creative Productions was in front of the DJ rig and Richard De Souza was the Video Director for the show.

"When they were DJing, you could only see the top half of the boys amidst the large silhouette of the screen", explained Matt. "Then when they played live, they had the same silhouette projected with the front LED - it was a theme they were really pushing."

On each of the floor risers were three Robe Pointes and two Philips SL Nitro 510C strobes. Seven Robe BMFL Blades were positioned in front of the upstage video wall, with one more sitting behind the duo for a backlit silhouette effect whilst DJing. Across the stage were six of MPH's new 8ft pre-rig truss as towers that each accommodated three Robe Robin Spiders, purely for colour wash, and four Philips SL

PEKING DUK LOVE A BIG,  
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AT **SPLENDOUR**



DESPITE IT NOT  
BEING THE HEADLINING  
SLOT, WE **DEFINITELY**  
MADE IT LOOK LIKE  
THE **BIGGEST** SHOW  
OF THE NIGHT!





Nitro 510C strobes. Lynden commented how nice it was to use pre-rig that fits four across a truck. "There was a lot of extra light!" laughed Matt. "I think it was a very impressive show and the crowd seemed to respond well."

Unfortunately, I didn't get to use the Spiiders for anything other than washing the stage and I didn't get into using the pixel mode. They're a great fixture and I really like what Robe are doing now. The Spiiders have brilliant colours, excellent zoom and provide extra light. The BMFL Blades are an amazing fixture too. Whilst the Philips SL Nitro 510C are not the newest on the market, they're a visually stark strobe and thirty-two of them on a stage deliver a pretty remarkable result."

Most of the Colourblind crew operated with MA Lighting MA2 consoles, except for Tim Snartt and David Fairless who prefer Hog 4 consoles.



BILLY HATCHER (SHOW FX), CLAIRE CASEMENT, DAVID FAIRLESS, MATTHEW SMITH, TIM SNARTT, DANIEL BLACK, BRAD SALT, MATT DRINKWATER, LYNDEN GARE.

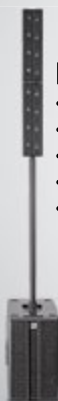


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# 20

## QUESTIONS with

# Saul Skoutarides

**Saul Skoutarides** is a touring monitor engineer born and raised in Australia, now based in London, UK. Although, he doesn't live in Australia anymore and hasn't done for ten years, he still considers **Australia the place where** he learnt the most about his job and the industry. Saul believes that Aussie crew are up there with the best in the world, as they have to make it work in venues and with gear that is not the latest and greatest. He says we have a **natural talent** for adapting to circumstances that can be less than ideal and just getting it done. 'I'm very glad I grew up an **Aussie!**' he says.

**S**aul is currently on the road mixing monitors for Kings Of Leon, which he has been doing since 2009. The tour is out until November and then into next year after a well deserved break.

### 1. What are the three best things about your job?

Working with some amazing bands.  
Making life-long friendships.  
The travel.

### 2. And the three worst things?

The travel.  
Not being able to call in sick when you are genuinely really sick.  
Missing loved ones.

### 3. What do you never leave home without when working?

My golf shoes or snowboarding boots and helmet.  
Depending on the season.

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

Having an 11 hour direct flight cancelled and having to fly the 36hr route instead.

### 5. What has been the strangest request from an artist?

"Do you want Nando's? We're putting in an order."  
I know this is not a request, but it came mid song in rehearsals one day, the artist walked over to monitors, pulled one ear out and asked me this question. I guess he was just concerned that I might be hungry.



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

Anyone who was 'big' in the 80's.

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

I'm struggling a bit with this one. I can't really remember any that wouldn't get me into trouble for mentioning.

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

Hans Zimmer Live 2016. I was only on the tour for a couple of weeks covering for the crew chief through Europe, I was also sub mixing the Orchestra/Choir. I guess I just really enjoyed doing something a bit different and technically challenging. To see 72 people perform without a conductor was very impressive!

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

Various pieces of fruit placed in specific locations around the venue daily by the artist to improve the energy flow of the building.

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

All of the women who work on the production side of things. They have to work much harder in a male dominated world to earn respect. But the ones who make it are some of the best in their game in my view.

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

Rod Laver Arena, it sounds great!

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

I know it's not very exciting or new, but iPad apps for mixing consoles are pretty cool. Great for doing little TV gigs where your desk is in another room, or just tuning wedges etc.

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

**Whilst awake:** Having the bus driver drop me in the middle of nowhere in Canada and hitch hiking to a mountain so I could snowboard for the day. Then catching a greyhound for three hours to get back to the city where the hotel was.

**Whilst asleep:** Sleepwalking into the corridor (more than once) and ending up in hotel reception in my underwear trying to explain myself and get back into my room.

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

Benicassim 2009. The gig was cancelled. The whole site almost blew away in a dust storm. I had to share the lid of a Heritage 3000 with the stage manager in the back of a truck for the night so we could load out in the morning once the storm had passed. There were

bits of scaffold falling off the main stage, one actually went straight through the roof of one of our trucks. There were power lines coming down through the night and bits of catering tents flying around the site. It looked like a war zone the next morning!

**15. What would your ideal rig contain?**

Midas PRO X Console  
TC System 6000 FX processing  
Cranesong STC-8 Stereo compressor  
Sennheiser SR 2000 IEM system

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

The Oils, I really really love the music.

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

Not really, I just like to take it as it comes.

**18. When attending a show as a punter, what is your pet production hate?**

Trusses that aren't level. It messes with my OCD.

**19. If you could invent anything to do with audio, what would it be?**

A clone of myself, then I could be on a golf course at the same time as doing a gig!

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

A drummer (collective \*gasp\*)



*Saul in action with Kings of Leon*

# Borderless Trading is Challenging the Supply Industry and Undermining Consumers

## Part 2 – Reality Check

**T**he ACETA column last month titled *Borderless Trading is Challenging the Supply Industry and Undermining Consumers* struck an emphatic chord with many entertainment technology acquirers as it did the industry supply sector, with the vast majority in accord with the banner headline sentiment. Whilst the actual impact of borderless trading is unknown, the unexpected response to our column indicates the negative outcome in terms of commercial activity and employment, is far greater than many of us realise and therefore demands a follow up reality check.

There seems to be a number of reasons to risk off-shore purchasing of entertainment

technology and it is no surprise that cost and convenience are cited as the principle motivation. Before addressing cost parameters, we offer an observation on convenience and few would deny we live in a world that has surrendered to it, regardless of the consequence, including a sedentary lifestyle and obesity. If we want to take the predilection for convenience to its ultimate conclusion then the next feudal lord could well be the creator of the app that competently performs all of an individual's ablutions, ensuring they never need to leave the comfort of their bed. As for cost, historically it may have been the case that price levels of certain products in Australia were above some international territories. However, whilst it is rarely considered, in many cases we were actually lower in cost, particularly brands of European origin. In the contemporary market place, when taking into account the cost of supply, service and support of most entertainment technology, Australia is indeed competitive. Whilst individuals and organisations have cited cases to the contrary, those representatives who price above what the market considers fair and reasonable do so at their peril. It is not ACETA's role or responsibility to impose on any party's commercial activity, but it does encourage a balance of moderation and sustainability, along with a commitment to compliant and fair trading. On a pure cash basis, there is no doubt a saving by direct off-shore acquisition can be realised in some instances, however the anecdotal evidence supplied indicates most often it is not the case, with benefit more an assumption than a reality.

In last month's column, we defined





the off-shore purchaser's responsibilities when they bypass the locally accredited representative and assume the status of importer along with the incumbent consequence, which we won't re-visit here. However, it is the core issue of warranty, service and support where the interests of both the off-shore purchaser and the local accredited representative meet head on. The typical scenario we hear time and time again, revolves around an off-shore purchase arriving damaged, defective or developing problems a little later, and/or the acquirer needing technical, operational or installation support or even documentation. They contact the local accredited representative to discover they are not covered by warranty, service or support unless they pay for it. No fair-minded person will expect a local representative to resource and support a sale it did not participate in without a fee for service, unless there is an international warranty agreement and the acquisition is from a brand accredited source, whereby the local agent will be suitably compensated. This situation however is not a normal one and most accredited international resellers respect their territorial boundary agreement with the manufacturer or risk losing their accreditation, so the acquisition trail can deliver complexity and grief.



Aside from consumer risk potential, there are two principle casualties of borderless trading, the economy and employment and this concerned a number of respondents to last month's column, therefore warranting brief comment here. The undermining of the economy is patently obvious, what is not as well considered is the direct and negative impact on employment opportunity. A successful society is an inclusive society, one that understands and ensures the availability and delivery of the core essential rights such as justice, welfare and education etc. However, what is less spoken about is an individual's right to sustain themselves and practise their skills, a right as important as any other. Being employed facilitates and defines a broad societal contribution and personal well-being, there is no down side. The overwhelming majority of us have children, grandchildren, nephews and nieces and it is fair to assume we would want them to have the opportunity to sustain themselves and practise their skills. ACETA will continue introducing initiatives to assist development of commercial activity and employment in the Australian entertainment technology industry and encourage its constituents to maintain a client focus, trade in a fair and sustainable manner and ensure a value add to the acquisition process. To those who acquire or consider acquiring off-shore we would ask you to consider your options in the industry and culture that sustains you.

All the best  
**Frank Hinton**  
President ACETA

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# FAIL TO PLAN, PLAN TO FAIL

By Simon Byrne <

**T**echnology has got to the point where there really is no reason why every detail cannot be planned accurately prior to setting up an event.

Technologies exist which allow us to model the PA performance, visualise the lighting design, plan the sight lines, determine load ratings and so on. Key to all of these is accurate plans, generated by computer aided design (CAD).

CAD software is more than pretty pictures. It is a mathematical representation of the real world which can be manipulated in various ways to deliver information that you, and all stakeholders need. As events get more complicated, CAD saves time and money because it gives the ability to pre-visualise the setup and make changes before things get expensive.

The CAD programmes use vector graphics to depict objects. Unlike bitmap images, vector graphics are not based on pixel patterns, but instead use mathematical formulas to draw lines and curves that can be combined to create an image from objects such as circles and polygons. Vector images are edited by manipulating

the lines and curves that make up the image. Vector images have some advantages over bitmap images.

Vector image files tend to be smaller than bitmap images because a bitmap image has to store colour information for each individual pixel that forms the image. A vector image just has to store the mathematical formulas that make up the image, which takes less space. Vector images are more scalable than bitmap images. When a bitmap image is scaled up you can see the individual pixels that make up the image. When a vector image is scaled up, the image is redrawn using the mathematical formula. The resulting image is just as smooth as the original.

The standard file format for CAD files is usually either DWG or DXF. DWG is a propriety format that is owned by Autodesk. To make things more complicated, there are 18 versions of it! Despite this, it is probably the most widely used format for CAD drawings because it is the native format for Autocad, the world's most popular suite of CAD programmes. When used outside the world of Autocad, it can be problematic.

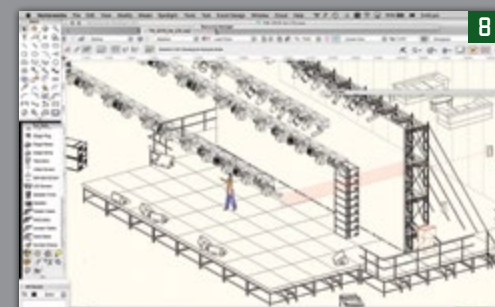
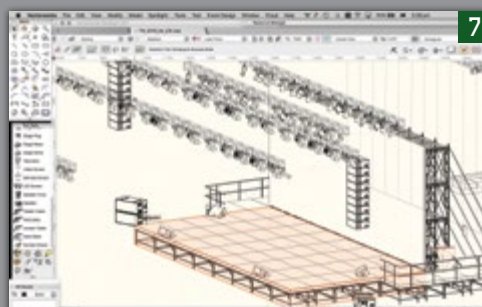
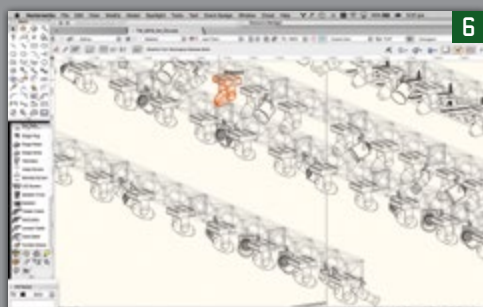
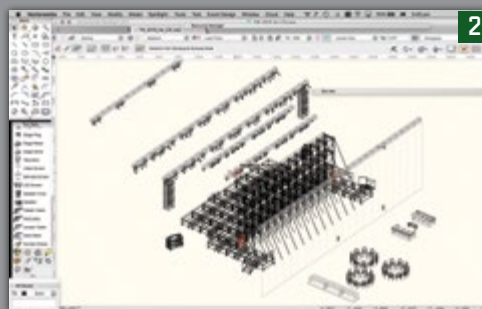
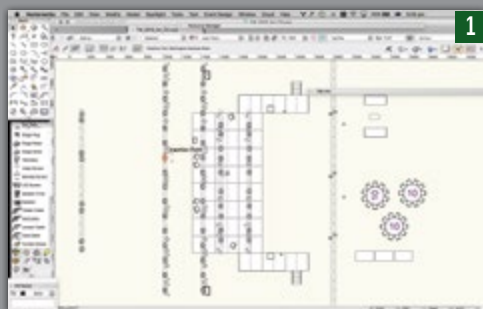
To solve this, DXF was developed (also by Autodesk) which stands for Data Exchange Format. This file format was created for enabling data interoperability between AutoCAD and other programs. It has become a de facto interchange standard if you like.

So, what is the process for planning an event using Cad software?

It starts with getting a floor plan, preferably in either DWG or DXF form. Unfortunately though, that rarely happens. Absurdly, a lot of the venues I work in, guard their CAD files as they claim it is their intellectual property. In reality, it is the in house AV companies trying to make your job harder.

However, you can usually work with a PDF by using a service such as Online PDF to DWG Converter. This converts the PDF into a form that can be edited in the Cad software, and scaled accordingly.

Talking of software, what to use? Autocad is well known but it does not get a lot of love in the production industry. This is because it is expensive, and it isn't optimised for event production work.



**LINKS:** Vectorworks Spotlight <http://www.ozcad.com.au> • Turbocad - <https://www.turbocad.com> • Draftsight - Entry Level 2d CAD software with full DWG and DXF compatibility that borrows heavily from AutoCAD. Has a free version. <https://www.3ds.com/products-services/draftsight-cad-software> • Free Online PDF to DWG Converter <https://cadsofttools.com/pdf-to-dwg-online/>



Vectorworks Spotlight is the gold standard for CAD in our industry. It is a powerful 3D product that comes with a lot of built in tools specifically for production work such as stage sections, truss, lights, video displays and so on. It also has numerous add-ons for rendering realistic images and visualisation as well as superb user support. Indeed, in Australia the support phone is often answered by Peter Neufeld, a highly experienced and respected theatre lighting designer so when you talk industry tech, he knows exactly what you mean.

For those with simpler needs, Turbocad Deluxe is much cheaper (like 150 bucks) and is adequate for many routine layouts and floor plans. A couple of the major in house AV companies use Turbocad because it is cost effective and their requirements tend to be simpler.

Don't want to spend any money? Download a free copy of Draftsight. Draftsight is a 2D vector CAD package which borrows heavily from AutoCAD. It is not bad!

So the floor plan has been imported. Imports rarely work without needing to be tidied up and most importantly, remove what is not needed. There can be literally thousands of items that aren't needed so by removing them, the file size becomes smaller, so your computer performs better, and makes the final document clearer to understand.

Then scale it precisely to real world dimensions and verify them. Errors in supplied plans are common. Then put the floorplan on it's own layer and lock it. What's a layer? Layers are independent drawing spaces that stack on top of each other to create an overall image. Think of them as layers of paper that you can see through. Layers are great for keeping things organised. For example, you may have a floor import layer, a ceiling layer

with rigging points, a layer for staging, audio, lighting, video and so on.

Time to get creative! Whatever software you use, efficiency and speed lies in the use of symbols (sometimes called blocks). Symbols are just drawings of items that you use a lot. For example, if you own some QSC K10 speakers, you'd create a symbol of it, and save that symbol to the hard drive. Then, whenever you need a K10 in a drawing, you simply insert it rather than drawing it again. Drawings with lot's of the same symbol in them are more efficient because the software only needs to draw it once, and then duplicate rather than drawing individual items many times.

I have a massive symbol library that I have built up over many years. Basically, if I know something is going to be needed more than once, I make a symbol of it. Desks, chairs, tables, lights, whatever. Now I can put together a plan quickly because I have the components. I'm a Vectorworks user and it comes with a huge library of production symbols. Manufacturers are a great source of symbols too. Most have DXF files of their products that can be quickly converted to symbols.

Templates save time too. A template is just a blank document that contains your preferences as well as your printing layouts, logos etc. It saves a lot of time because things are set up the way you like it.

Now, get to love keyboard shortcuts and entering data manually. The reasons for this is that you want to be fast, but you really want to be supremely accurate. With these tools, you can design and plan things to the millimetre, so why wouldn't you? By using a mouse, you create the possibility of small errors which can build.

Care needs to be taken in outputting your

files. Let me tell you of a job that I am only just getting used to telling.

In 2003, I was commissioned to do a job in Christchurch, New Zealand. At the time I did not have any contacts but after some quick research, I found a recommended set builder with the skills that we needed. We emailed some plans over for quoting purposes only. When the contract was awarded, my designer produced a full set of scale construction plans, printed them out and posted them to Christchurch.

6 weeks later I am standing in the Christchurch Convention Centre supervising the load in and the set truck arrives and starts to be unloaded. I'm watching a few panels come out and I think to myself "they seem small" but I reserve my judgement because it would be unfair to make judgement until things go up.

But then my custom made lecterns come out and they are definitely small. Great for a dwarf convention, but not what we needed!

It was at that time we confirmed that the entire set was the wrong size! The whole thing was 11% smaller than it was supposed to be. This, as would expect, did not make for a good day!

The set builders used the wrong set of plans. They used the quoting set and printed them out and used the "fit to page" function on their printer which shrunk the scale drawing by 11%. The plans did have a scale on them but they never referred to them. As a result, they diligently cut and built everything to the wrong scale. I was in my very own Spinal Tap/Stonehenge moment!

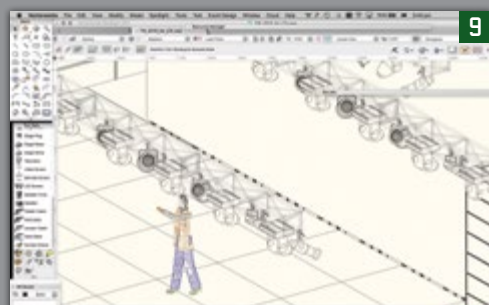
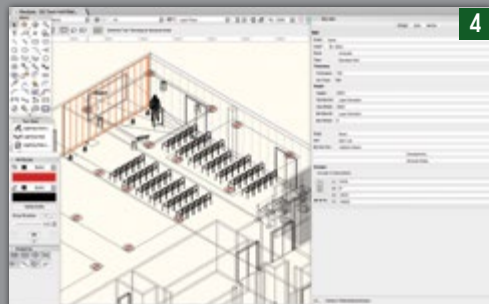
What really pissed me off was the fact that they never phoned me despite admitting to wondering why all the dimensions were non standard. Muppets!

This highlights the need to get the printed documents set up correctly. Always, always, always include a scale bar and note the scale. Try to avoid using non-standard scales and check they are correct once printed.

If big plans are needed, make a A0 size PDF and email it to a plan printer. An A0 size print only costs about \$5 in black and white and is invaluable on large jobs.

A significant investment in time is required to get the best out of CAD software but once you know how to use it effectively, you find yourself using it all the time. As well as planning my jobs, I've designed a house, the garden, my wife's flower shop, lot's of woodwork jobs and designed super accurate metalwork. I give the DXF file to fabricator, he loads it into his CNC machines and waterjet cutters. This provides incredibly accurate work that I'd never be able to achieve on my own.

Good CAD skills serve you a lifetime. It is worthwhile making the effort to get good at it.



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# Are you concerned about your mate's mental health?

**FACT: Most Australian tech crew and roadies have attempted or considered suicide<sup>1</sup>!**

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



# DUNCAN

Fry



## Sounds Like TEEN Spirit?

**O** subscribe to a number of online newsletters, full of articles on live music production, studio music production, future trends, technical advice, music distribution, streaming and more.

Fascinating stuff if you're 'in the biz', with a wide variety of opinions and thoughts on where things are going. However, just in recent times I've noticed a common theme creeping in - namely articles on the proliferation of computer technology in the creative side of music production. As The Guardian website says, "Will we be slaves to the algorithm?"

In other words, computers writing, singing, producing and selling hit songs. The only human input comes from the person who says "We need a song for young people that captures the essence of Nirvana, Blink 182 and Rage Against The Machine, 120 bpm, but sung by a girl, and we need it tomorrow!"

So that gets typed into the WeBeLyrics program, which hooks into the MelodyChordster program (incorporating CatchyRiffs), which brings up the VocalizeMe program along with the BonzoMatic drummer, Cobainerizer guitar and the ever popular One-Note-Bass plugins, preferably with the Drop D option.

While this is going on, the computer is also searching through its list of GrrlStar avatars that can be ready to 'sing' the song on one of the video clip templates in its database.

While doing this, the Make Appealing Bio app is searching for common back-story themes that will push every cliché button possible - "we were so poor", "if only my Nana could have seen this", "I saw something nasty in the woodshed", "I couldn't have started this journey without: my Winnie The Pooh doll/The Lord/Old Shep/Gandalf/cocaine" (Warning! This feature may cause massive system instability if overused).

As soon as the FabboHitSong robots have trawled through the finished production and given it the OK, the Media Release is immediately sent to the computers at social media, news organisations, TV Stations and music streaming companies. In some cases, due to the monopolisation of today's media, all this may only require one email!

The song is then uploaded to the computers at iTunes, Google Play Music, Microsoft store and others. People's computers then download and pay for the song.

Computer to computer contact with no human oversight? Hmm - what could possibly go wrong there? Quite possibly nothing at all. In fact the most likely human input would be someone adding a little extra in the form of a hidden command that automatically rockets the song to the top of the charts and deposits all royalties to someone's own bank account!

All of the above may sound as though ol' Dunk is being more than normally paranoid. Perhaps, although just because you're paranoid, it doesn't mean that someone isn't out to get you! Required viewing for all those who mistrust computers should be the classic 1970 Sci-Fi movie *Colossus: The Forbin Project*. All your worst fears will be confirmed. Spoiler Alert - It's not a happy ending!

But although the computer programs listed above are figments of my imagination, real programs like this do exist.

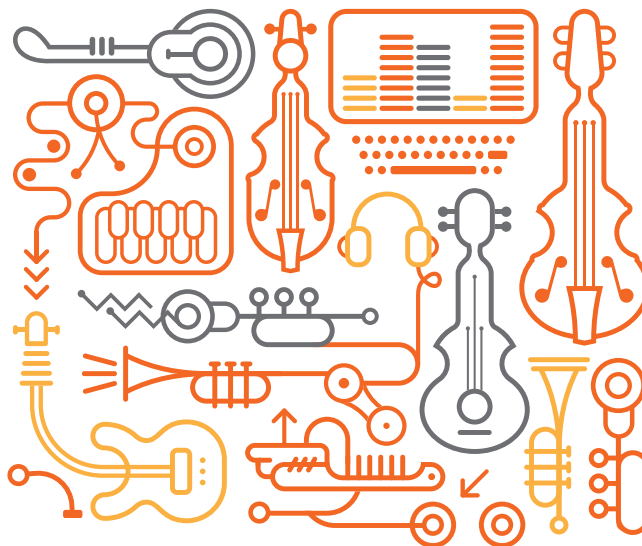
Way back in 2003, the New York Times published an article by Bill Werde, called 'Could I get that song in Elvis please'. It detailed the development of a program called Vocaloid, from Yamaha, that could create a convincing human voice from a database of phonemes (the little bits that make up the sounds of words). The article likens them to audio fonts; just as you can print a letter in Helvetica or Times New Roman, so you could make a song sound like a soul singer, opera singer, choir boy... or Elvis!

A little online checking shows it is currently used as voices for Japanese Anime movies!

Just last year (2016), software giant Adobe gave demonstrations of Project Voco, (nicknamed the 'Photoshop-for-voice') a voice synthesizer that could take a voice recording and insert, in the original voice, words that were never said in the original recording. Adobe's Zeyu Jin said "We have already revolutionised photo editing. Now it's time for us to do the audio stuff." One expert warned that the technology could further undermine trust in journalism. Another said it will make it hard for lawyers, journalists and others who use digital audio as evidence. No shit!

In the QUARTZ Media newsletter, writer Shelby Hartman and drummer Greg Ellis blame the aural blandness of today's music on the click track, which forces musicians to play strictly to the 'click' and stifles creativity.

Ellis says that producers these days are so used to working on the click and also using autotune that when it comes to listening to the real thing they think it sounds wrong. He is currently filming a documentary on this phenomenon, called (of course) 'The Click!' No word on who to blame for the vapidness of today's lyrics, though. Perhaps a legitimate case could be made



for enlisting the help of a computer with this, because scientists at Kingston University in London have designed an A.I. (Artificial Intelligence) computer that can write its own folk music, called Bot Dylan! A little science joke - don't quit your day jobs, folks.

It was "trained" to learn the different patterns and structures that comprise a typical song by scanning through 23,000 pieces of Irish folk music. From there it could predict and generate a new tune; so much so that by May 2017 it had already 'penned' more than 100,000 original tunes in the folk genre. A tough gig but someone had to do it!

A Christmas photograph was scanned into a computer at the University of Toronto, which used a program to analyse the image, and then generated some Christmassy lyrics to some music it had generated at the same time, and sang them. The lyrics and music don't have the same depth of feeling as, say, 'Surfin' Bird' by the Trashmen, or even 'Ca Plane Pour Moi' by Plastic Bertrand, but it's a sign of things to come! The algorithms and technology that power all this made-up music are everywhere; from computers reading out your email to you, to telling Siri or Cortana what to do and where to go. Actually a lot of people want to tell them where to go, usually followed by throwing them against the wall!

The trickle down effect of all this technology means that for around a couple of hundred dollars you can buy, as I have, a guitar pedal that will change your guitar sound to a 12-string guitar sound, saving you the effort of trying to keep a real 12-string in tune! And for the same price, another pedal will automatically work out what key you're playing guitar in and sing perfect three part harmonies with you. However it's wise to remember the old computer programming rule: garbage in, garbage out. Or, in my case: shit voice, shit harmonies!

**Next Month:** *So we've already computers writing, singing, and producing hit songs - what'll happen when they start reviewing and buying them too? And who owns their copyright?*



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