



MONTHLY TECH NEWS

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- The Inaugural ACETA Conference
- RACS and ANZCA at the ICC
- Automixing – Conference Sound's Best Friend

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- Fix frequency problems in wireless mics

- Red Hot Summer Tour Goes to Bali
- Tech Tips – win a Shure SM57!

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- Adamson at Colour Conference
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- Simon Byrne
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- Blackmagic Television Studio Pro HD
- Elation Sixbar 1000

ROADSKILLS:

- Missy Higgins
- The Killers
- Squeeze

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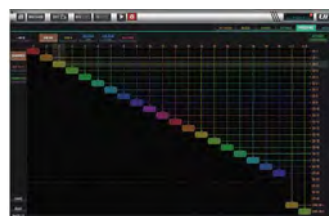
Big D - The new GUI for larger 1080p screens. With this new display you have a choice of running Gain inputs, EQ and dynamics or sends along with the usual faders and meter display.



4 Extra DSP Channels - The new channels can be patched as returns from USB DAW or LOCAL inputs (to double up on inputs for example).



Automix - The Ui24's Automix function increases gain for 'talking' mics and reduces gain for others on the fly, keeping the amount of total gain constant & creating a clean mix.



New Matrix Patch Window - You are now able to touch the matrix point you want joined or press and hold the point to remove the patch allowing for a faster patching experience.



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Adamson line arrays at Hillsong Colour, stocked in Melbourne



Microhire's crew get Adamson Certification



S10 at CMI

Adamson's line arrays have made inroads with a couple of influential customers; Hillsong Church and corporate event company Microhire's Melbourne branch. "Hillsong are a large Adamson user, and they are our preferred loudspeaker vendor for our installations," explained Hillsong's Ricki Cook. "We were presented with an opportunity to use Sydney's recent Colour Conference at the ICC

to evaluate Adamson's E 15 elements for our larger events. We have Adamson E12 arrays at our campus at Baulkham Hills, so we're already comfortable mixing on their systems."

The Adamson system brought into the ICC's Theatre was comprised of 14 E15s hung with six E12s and nine E119 subwoofers in cardioid mode per side, supplemented by arrays of 12 E15s as sidefill. An additional eight E119s subs were on the floor under the front of the stage. "The Adamson produces the sound we want effortlessly," offered Ricki. "Everyone comments about how big they can get the Adamson bottom end, but what we love is the mid-range. We can fit 12 vocals with a huge snare, get 80 more inputs in there, and hear every one of them. There was far less EQ used across the board than we had used previously."

Meanwhile, Microhire Melbourne has acquired Adamson's S10 line array system. "We researched this purchase for almost two years," said Keiran Weir, Equipment Controller at Microhire Melbourne. "We were impressed by Adamson's Metrix and SpekTrix compact line arrays, however, S Series is in a league of its own and more in line with Microhire's expanding top-tier

clientele."

Microhire has taken delivery of a complete Adamson S series small to mid-size arena system with mid-high boxes in the standard 110° x 10° (H x V) dispersion, which produces a peak SPL of 141.3 dB. They've added a complement of S119 subwoofers, and Adamson's E-Racks for power, processing, and signal distribution.

With Melbourne Park Precinct's Margaret Court Arena fast becoming a popular venue for mid-sized touring concerts, Keiran and the crew are thrilled to be able to provide a total solution on their home turf. "We often bid for large-scale events which come through, and no longer need to cross-hire a suitable line array," he elaborated. "Margaret Court Arena is hosting events with amplification playing a major role, whether it's a standard FOH-stage- theatre-style presentation, or even an expo-style gig with the floor broken up into multiple spaces with a concert stage at one end. We also provide event staging for large corporate engagements for thousands of people in Rod Laver Arena and Hisense Area, not to mention Crown Palladium, Flemington the Event Centre, the Royal Exhibition Building, and Melbourne Exhibition Centre."

Helpmann Awards move to Melbourne

The Victorian Government has announced a partnership with Live Performance Australia which will see the national Helpmann Awards presented in Melbourne in 2019 – 2021, including its 20th anniversary in 2020.

After a successful 18 year run in Sydney, the opportunity to bring the Helpmann Awards Events to Melbourne is consistent with LPA's vision of extending its national presence.

Bringing the Helpmann Awards to Melbourne offers a superb opportunity to grow and extend the reach and impact of LPA's awards program to a wider and larger audience, while also recognising Melbourne's international reputation as a destination for major events and live performance.

Live Performance Australia boss Evelyn Richardson said the awards had a "very successful" 18-year run in Sydney, but it was time for a new home.

"We are a national awards, so it makes sense for us to extend the reach of the awards and take them to other cities," she said. "We are certainly intending on broadening it even further in future years to make more opportunities for the public to attend. We will have more to say in the future with respect to whether we have different categories."



Novatech looks after their crew.

Consider a move to Adelaide?

Novatech has reviewed their current employment contracts and a new and improved offering is being rolled out to staff over the next few months. A family-owned and run company, Novatech's management team have long known that their people make the difference and have firmly entrenched this mantra as part of the long-term business plan in the form of a major goal of being the employer of choice in the market. Key highlights of the new contracts include a loyalty leave program that allows staff to obtain additional annual leave through longevity in the business, as well as short-term benefits including weekend bonuses, improved tour allowances, a staff referral program, and a short shift change bonus.

The internal reward and recognition scheme allows for peer-to-peer recognition. Every quarter this leads to a prize-giving ceremony of tailor-made prizes ranging from gift vouchers, to hot air balloon rides, through to interest trips and high-end BBQ smokers. It's the business's way of ensuring everyone is recognised for their efforts and working as a team.

This goes hand-in-hand with the health and wellbeing program that sees free fresh fruit delivered daily, free annual health checks, and free flu shots offered to all staff. It's not just the physical side of health and wellbeing of their staff that Novatech consider with free mental health support and counselling available on a confidential basis.

Novatech have already attracted staff from Sydney, Melbourne, Perth, and the UK to make Adelaide their new home. Staff have been attracted to Novatech because of the high standard of equipment, the standard of systems and processes, as well as incentives such as relocation assistance and sign-on bonuses. Novatech understand that making the leap of faith not only to a new company, but to a new state, is a large decision in anyone's world, and they work closely with



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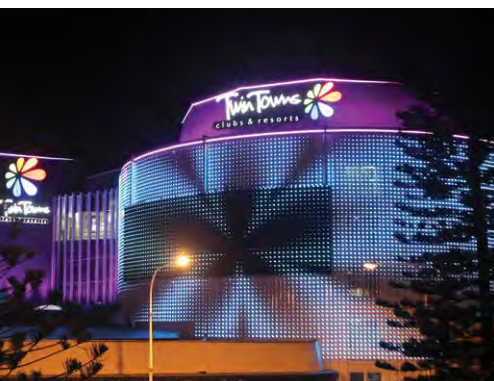
As well as the considerable financial benefits, Novatech is keen to share the South Australian lifestyle and cost-of-living benefits. South Australia is home to 70% of the country's premium wine districts, and Adelaide enjoys abundant food resources, the sunshine and fresh air of the Adelaide Hills, beaches and Murray River water sports – all within an hour of the city. Being central, Adelaide is the perfect home

base for tours to Darwin, Brisbane, Perth and Sydney as well as the quick hop across to Melbourne or Canberra as required.

Novatech welcome confidential chats with any new prospective employees to see what their next adventure may look like. Novatech are proud of their team and look forward to becoming the national employer of choice from their home base of Adelaide.



Twin Towns switches on its multi-million-dollar lightshow



The exterior of the Twin Towns Club's main building in Wharf Street, Tweed Heads, has been transformed into a huge digital canvas, creating a dazzling attraction for both locals and tourists crossing the Queensland and New South Wales border. The ULA Group was engaged in this project from the early concepts, working close together with the team at Twin Towns, managed by CEO Rob Smith.

Mr Smith has said he and the Board are extremely excited to see the project come to fruition. "It's been over five years in the planning and we believe the end result is truly spectacular, not just for Twin Towns, but for the entire community".

The 'huge digital canvas' seamlessly incorporates high and low resolution digital LED technology, with over 2.3 million LEDs. The centrepiece of the media façade is the high-resolution 17m wide by 5m high VuePix customised curved screen, consisting of almost 800,000 pixels. Behind the screen, a low-resolution backdrop spreads across the 'cotton reel' façade, bringing the entire building to life. The backdrop consists of 5,900 customised LED architectural nodes, which are programmed and integrated within the whole spectacular lighting show. Over 424m of DigiFlex linear architectural LED strips have been used to highlight the unique silhouette of the building.

With over thirteen tonne of steel and 6km of cable to be installed, the ULA Group team worked around the clock, at times contending with extreme heat and torrential rain to ensure the project

was completed on schedule. Besides the unpredictable weather, challenges consisted of structural limitations, main road exposure and construction hours.

The local companies engaged in the project were Central Engineering, supplying all the structural steel fabrication, CPI Electrical assisting with electrical and data solutions and the All Clear Abseiling team assisting with product installation.

Content

Bruce Ramus of Ramus Illumination Pty Ltd explains there are two distinct aspects to the visual display: "On one hand, the content is an abstraction of energy; on the other hand, content is more photoreal. The abstract interpretation is about the energy – what it feels like to live here – with movement and colour mixed with actual images. Photoreal content is all about the natural settings – mountains, farmland, beaches and all the activities people who live here enjoy."

Destination NSW and National Geographic both provided footage for the display, including aerial footage of the Tweed Valley and videos of outdoor activities such as surfing and Tweed Coast beaches. Tourism will always be a major focus on the screen, along with local festivals such as Cooly Rocks On. State of Origin will bring shades of blue and maroon and Christmas and New Year's Eve will become annual highlights. The Twin Towns light show runs nightly from 6 PM during winter months, and from sunset during summer, 365 days a year.

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1 Antari HZ1000



The Antari HZ1000 is the most advanced haze machine among Antari's HZ series. With the option of single or twin compressor modes, this hazer can now be used in a greater range of venues. Convenience

is provided by a wheeled flight case with a built-in turbo fan that brings the haze higher and enables the hazer to create drier haze with minimum residue.

Australian Distributor: Eventec
www.eventec.com.au or (02) 9897 3077

2 Chauvet DJ Freedom Flex H4 IP X6



The Freedom Flex H4 IP X6 system includes six Freedom Flex H4 IP fixtures and six quick-change battery packs in a rugged road case with built-in charger. Freedom Flex H4 IP has hex-colour (RGBAW + UV) LED technology for unlimited colour mixing capabilities.

It has maximum run time (all on) of up to 8 hours, and the charging road case simultaneously charges and holds 6 additional batteries (sold separately).

Australian Distributor: Audio Visual Engineering / avecorp.com.au or (03) 9706 5325

3 ClearOne Analog-X



The Ceiling Microphone Array Analog-X is a tri-element ceiling microphone array with 360-degree coverage for conferencing and sound reinforcement applications. The Ceiling Mic Array is 100% RF immune, optimised for speech-intelligibility, and

can daisy-chain for easy installation. Up to four mic arrays (12 channels) can be used in one combined system, and include numbered microphone elements for easy identification.

Australian Distributor: Production Audio Video Technology
www.pavt.com.au or (03) 9264 8000

4 GLP E350



The new GLP impression E350 is the brother of the S350 LED Moving Head. It runs an up to 30% brighter LED Engine, tight iris, and high colour temperature of 7500K. Optic zoom range is from 7°- 48°. Effects include an 8-facet-prism, a light and heavy frost, and a tiltable animation wheel. All functions are fully capable of working in combination with one another, making the GLP impression E350 suitable for a wide range of applications.

GLP KNV



The GLP KNV Cube and KNV Arc is a modular designed LED system which can be used as a single unit or easily combined in an interlocking system, making it easy for designers to create their own fixture designs such as a double unit or a quad cluster, all the way up to huge LED walls. In combination with the

GLP KNV Arc, it is possible to create a huge variety of shapes such as a ring or wave like design.

The GLP KNV System houses 25 high power white LEDs for maximum brightness and impact. Each power LED is surrounded by 16 RGB LEDs for creative effects and powerful backlight illumination.

Australian Distributor: TLC Global
www.tlcglobal.com.au or (07) 5539 2142

Lycian ZOT LED 5

The ZOT LED is an affordable followspot that doesn't sacrifice beam quality. The ZOT LED runs cool with no lamp changes. It's a 350W source that comes with a new Trombone for

3-1 Spot - Zoom Ratio, and a new mechanical dimmer. Beam angle is 6°-15° and the package includes a three-legged base with casters.



Australian Distributor: Lexair Entertainment
info@lexair.com.au or www.lexair.com.au

6 Mackie FreePlay Series

Mackie has introduced a new personal PA system, FreePlay Series, with matching portable Bluetooth speakers. Available in three models, the FreePlay LIVE, FreePlay HOME, and FreePlay GO, they can run on either AC or

battery power, with a built-in high-capacity rechargeable battery offering up to 15 hours play time. FreePlay LIVE includes mic and line inputs. The FreePlay Connect app can control audio levels, EQ, and reverb.



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

7 NovaStar MCTRL 4K

The MCTRL 4K is a controller that fully supports Real 4K and HDR10. It supports resolution up to 4K x 2K @60Hz, and a maximum width up to 8K. It features 16 Neutrik Ethercon ports and 4 optical ports. Available inputs include 1x DPI 1.2, 1x HDMI2.0, and 2x Dual-Link DVI. It also allows for remote control via webpage and supports ArtNet. The MCTRL 4K also features two

proprietary NovaStar-developed technologies that greatly improve image quality.



Info: www.novastar.tech or +61 0435 970 315

8 Riedel Bolero Standalone

Riedel have unveiled the Bolero Standalone Application, a license-enabled upgrade that will provide several performance enhancements along with standalone capabilities. With the Bolero Standalone Application, antennas are daisy-chained to each other in a line or a redundant ring via a low-latency, synchronized TDM network. The solution is truly plug-and-play, with no IP configuration needed. A new external power supply can power up to five antennas, so power and data redundancies are easily achieved. A new, single-RU, half-width external interface box, with six analogue

4-wires and three GPIOs can be directly connected to any antenna and then patched into an existing intercom system. The system is easily configured via a web GUI internal to the antennas.

Other new capabilities provided by the Bolero update include individual rotary programming, Bluetooth headset support, and a new belt-pack QuickMute feature that allows users to easily set the volume of all channels to zero.



Australian Distributor: Riedel Australia / www.riedel.net or (02) 9669 1199

9 Robert Juliat Dalis 861



Sharing the same qualities of control, colour mixing, coverage and silent operation as Dalis Cyclight, the Dalis 861 is configured into a rectangular format with 24 asymmetrical micro reflectors and 8 LED emitters (6 colours plus a warm and a cool white) arranged in four rows, Dalis washlight

gives access to a wide variety of saturated colours and pastel tones. Offering a very wide opening and even coverage, it is suitable for side lighting, low-level light for dance, and as a short-form cyclorama luminaire when space is at a premium.

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

10 Tascam ML-16D and ML-32D



ML-16D



ML-32D

Designed to provide connectivity between analogue and digital components, the Tascam ML-32D and ML-16D are multichannel Line Level to Dante and Dante to Line Level interfaces. Supporting Digital Audio at up to 24bit/96kHz, both units feature analog line level I/O

via D-Sub connectors (8 on ML-32D and 4 on ML-16D) and feature front panel LED meters to display both signal level and overload for each active channel. They are available in Australia now with the ML-16D RRP \$2399 and ML-32D RRP \$3499.

Australian Distributor: CMI Music and Audio
www.cmi.com.au or (03) 9315 2244

11 Televic Plixus AE-R



The Televic Plixus AE-R is a new central engine that combines full conference functionality with a lightweight design. The new engine no longer requires a PC during the meeting and makes it easy to combine wired and wireless setups. It also gives users a new easy-to-use interface that makes it easy to configure, manage, and record meetings. The AE-R engine

comes with simple volume dial and a record button on the front to keep things streamlined. The engine's web server gives users access to full meeting functionality. Multichannel recording of 4 audio streams on internal memory or external USB disk can be achieved with just one click.

Australian Distributor: Production Audio Video Technology
www.pavt.com.au or (03) 9264 8000

12 TMB ProPlex IQ Tester



TMB ProPlex IQ Tester is the first Ethernet Tester designed for entertainment production. It can "Wireshark" for analysis of any Ethernet protocol, plus network troubleshooting. It can test DMX receive/transmit, perform DMX timing analysis, record DMX, control

RDM, and function as a bidirectional Ethernet-DMX gateway. Its PoE tester can determine the capabilities of any connected PoE source. It can also receive SMPTE timecode, and receive, analyse, and transmit LTC.

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The Inaugural ACETA Convention our peak body flexes its muscles

By Jason Allen

The inaugural ACETA Convention in Wangaratta was described by one industry stalwart as "the best industry event I've attended worldwide, ever". From Friday 4 May to Sunday 6 May, the most influential and prescient members of the commercial and entertainment technology sectors laid aside their competitive differences and enjoyed a packed programme of motivational, practical, and educational seminars.

By unanimous vote, the Convention will run again, same time, same venue, in 2019. Convention organisers Julie Hinton and Deborah Sloss, the ACETA Board, and President Frank Hinton should be immensely proud of what they achieved. Running a peak body is an essential but thankless task with little reward, but the transformative nature of this Convention on its participants is testament to the quality of the event.

The atmosphere was collegial and inspiring – like most small to medium businesses, we spend a lot of time working 'in' our business instead of 'on' our business, and the flow and location of the Convention took us out of all of that. As knowledge and experience was shared, the burden of the common challenges we all face was lifted a little. A common reaction was "I thought it was just me that had these issues, and that I was doing something wrong." Hatchets were buried, peace was made, and the vibe was, as Quest Engineering's Frank Andrewartha put it, "chill".

Those who made the trip early kicked off with a round of golf on the Friday, followed by the opening plenary and a civic reception hosted by the Mayor and City of Wangaratta at the surprisingly well-kitted out Wangaratta Performing Arts Centre. It is obvious that the City of Wangaratta is extremely serious about luring us entertainment technology types out of the big cities and into their area, and the cost advantages are compelling, particularly for manufacturers.



ACETA board member Frank Andrewartha



ACMA's Mark Loney



Sheree Cross of SV Strategic Solutions



Convention organisers Julie Hinton and Deborah Sloss

Kicking off the next day, the seminar programme ran across two rooms, starting 9:30 AM, finishing 4PM Saturday and 2 PM Sunday. The biggest hits with the attendees were Sheree Cross of SV Strategic Solutions presenting 'Facilitating Corporate Change - Amalgamation/Acquisition/Sharing' and Andrew Su of Compass Global Markets 'Foreign Currency Trade - the Inside Story'. ACMA's Mark Loney updated us on the current state of wireless compliance and policy reform, and Dolby's Glenn Dickins presented a timely seminar on Spatial Sound Testing & Measurement.

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Dolby's Glenn Dickins



Roderick Van Gelder



David Bell

Roderick Van Gelder of the excellent Australian Entertainment Safety Resource Guide explained why wearing hi-vis is usually a bad sign, Frank Hinton shared his thoughts on leadership mentoring, and ACETA co-founder David Bell talked strategic planning. Tiny Good explained The International Code of Practice for Entertainment Rigging (ICOPER) and how that will fit in with ACETA certification for production companies.

The closing day rounded out with workshops for manufacturers, distributors, and service providers to outline the challenges in the industry, how to address them, and what ACETA can do about it. The results of each session were then presented at the closing plenary, where subcommittees were formed to tackle each issue. It is clear that as an industry, we need to grow up, get organised, and get our house in order, which is why...



Closing Plenary

You should join **ACETA NOW**

The main takeaway from the Convention is that ACETA has tremendous power to address the problems that every sector of the industry faces, but needs you to put your hand in your pocket and become a member. It's not enough to think that the Board and the current members have 'got it covered', and are 'doing a great job'. They are, but the true power of ACETA to transform this industry will only come to be once every responsible production company, distributor, manufacturer, and service provider joins up.

ACETA Accreditation for Production

Production companies – want to stop local councils from hiring

Barry the Backyarder who undercuts you by 50% every year on Carols in the Park and then does the gig with dodgy gear on an unsafe stage? Join ACETA and they'll lobby local government to only hire ACETA accredited companies.

ACETA accreditation is being worked on right now by a subcommittee headed by Showtech's Tiny Good. At the end of the development process, they'll have a system of quality assessment and accreditation, and from there it will be relatively simple to get government to adopt policy only to hire accredited companies. Let's face it, local councils need all the help they can get in hiring production – they'll love this for the removal of risk.



Some, but not all, of the Conference attendees

Distributors – stop non-compliant product at the dock, get preferential supplier status

Distributors – sick of getting undercut by grey importers bringing in containers of cheap non-compliant product? Join ACETA and they'll lobby federal government to stop containers at the wharf if they can't produce compliance documentation. This has been implemented in other countries such as South Africa and there is no reason it can't happen here.

We have the inside word that there are already major institutional customers (who we can't name in print) who have internal processes that preference ACETA members in their supply chain. There will be more, especially after an ACETA membership drive and awareness campaign. This is about having a competitive edge, and you don't want to be left out.

Like having a job and being able to sleep at night? So do we

Want to protect this entire industry and your livelihood? Join

ACETA. We are collectively one bad day away from a tragedy and the kind of government scrutiny and over-regulation that could ruin us all. If, god forbid, there's a serious accident and our industry is responsible, investigators and government will treat us more favourably if we have standards and certification in place, and we can show that we are working towards making sure the entire industry is doing the right thing.

Only ACETA can get that done. If we don't have a strong peak body with majority membership that is also enforcing standards, we could be shut down overnight. And look at the EU stage lighting situation right now – their strong peak bodies are fighting that ridiculous legislation with all of their power, and will win. What's going to happen when some MP gets the same hare-brained idea here? Will you be supporting the peak body that stops it, or will you have sat idly by because 'someone else will handle it'.

You are that someone. Join ACETA now.

<https://www.aceta.org.au/join-aceta.html>



ACETA board member Tony Hambling



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Deb and Julie present Murry Tregonning with the award for Worst Golfer



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Novatech, RACS, and ANZCA at the ICC

How to survive a major conference!

By Jason Allen

The Royal Australasian College of Surgeons (RACS) and The Australian and New Zealand College of Anaesthetists (ANZCA) run a major conference annually. In May 2018, they merged their conferences and just about filled the ICC at Darling Harbour. Novatech Creative Event Technology were on deck to record every word of every presentation, fuelled by caffeine and good vibes...



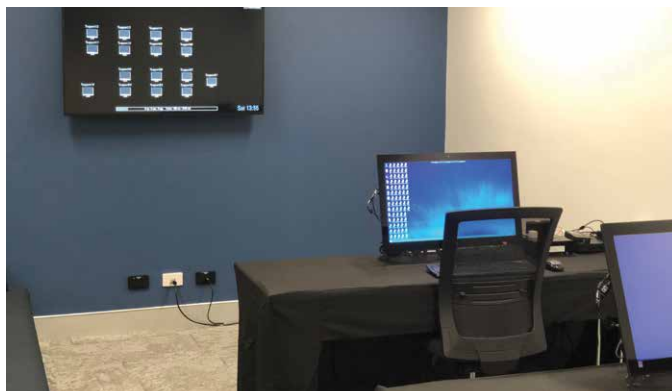
Leko Novakovic

“This was our fifth year doing AV for the conference for our client KOJO Events” said Novatech’s managing director Leko Novakovic. “This year, the combined conferences meant there were 4,000 delegates, and 1,600 presentations over five days. At its peak, the conferences hit 30 concurrent sessions in 30 different rooms. There were around 2,500 presenters delivering six hours of presentations each. All the presentations are captured for webcast, and uploaded to an online portal.”

To cover lecture capture on this scale, Novatech have designed and built their own self-contained, racked and roadcased system. “OneSystem is what we call it,” continued Leko. “It was designed with three criteria – it had to be reliable, easy to use for our operators, and easy to use for the presenters. We’ve built 30 identical systems. We created a 19 RU rack

that lives at FOH which houses two computers with an input at the operator end, and a custom recorder that we found overseas that we want to keep a secret! It takes full HD audio and video and can upload to the network. There’s a button to switch KVM, network switching to integrate all the rooms together, and a stage input which lets you put an operator at the lectern. And then distribution, audio isolation, and audio input and output come out of that rack.”

This makes rolling into the venue as straightforward as possible. “We just ask the house techs for a trestle for keyboard and mouse, power, internet connection, a couple of XLRs for audio output, a couple of XLRs for audio return, and that’s it. It just plugs in. There’s a loom that we’ve made with power, Cat5, XLR, DVI, and fibre. That runs from the rack to our own lectern that houses the monitor for the presenter, laser pointer, and a



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wired presenter remote with an input for local laptop and alarm capability.”

OneSystem records the slide deck and presenter audio, but occasionally video of the speaker is also required. “In some rooms, especially the larger training rooms, they sometimes want a speaker image,” explained Leko. “The recorder can take a camera input, so we record the presentation slides PiPd with a live camera and audio. But in most cases they are just interested in the actual deck of slides and the content.”

With that many recordings to cover, Novatech have a lot of boots on the ground. “There was a total of 12 Novatech staff,” outlined Leko. “We had two in speaker support. At peak there were 16 speaker support operators, most of which were local crew. We always have a few Novatech crew in support because they know the system and the conference well. Speaker support involves checking in the speakers, checking and loading their PowerPoint, and getting sign-off for permission to webcast. Then we know the presentation’s there, and it’s been checked on an identical computer. That’s how we guarantee the quality.”

“We then we have five crew working on webcasting,” continued Leko. “At the end of each session, they get the recording off the recorder over the network. They scrub to find the title slide, check audio levels, make some adjustments, and output it and name it in the format needed for the server, where it’s uploaded for webcast. Additionally, there’s five floor managers, senior technical directors, who take care of five to eight rooms in an area. Our job is to work with and support the operators and convenors in each room. We’re the Mr Fix-It, go-to types. It’s all about providing everyone in the whole organisation real comfort.”

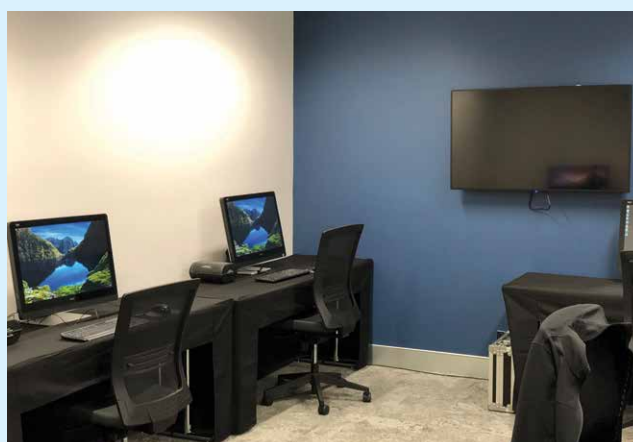
With 2018 done, Leko and the team are already prepping for 2019. “In 2019, the conferences split again,” Leko elaborated. “The RACS Conference will be in Bangkok in a large hotel, and the ANZCA Conference will take place in the Kuala Lumpur Convention Centre. It’s great for us, as it gives our crew an opportunity to travel internationally, and us a chance to demonstrate this technology in another market.”

Leko’s Tips for Surviving a major conference

- 1. Planning, planning and more planning.** We started planning for this conference months and months out. The better your plan, the better your outcome.
- 2. Coffee!** We’re talking 5:00 AM starts, daily. So Coffee’s a big one.
- 3. Rest is important.** As tempting as it is to finish a 12 hour day, go to dinner and have a few drinks, rest is really important.
- 4. Working as a team.** A conference relies on teamwork. There were 12 Novatech staff, 12 KOJO people, the college’s internal staff, and the in-house team of techs. That’s a lot of people working together, and teamwork’s important.
- 5. Have fun!** We try to keep the vibe good and keep everyone comfortable. If we don’t look stressed then the client doesn’t feel stressed.



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MISSY HIGGINS

SOLASTALGIA TOUR

By Cat Strom

Photos: Troy Constable

Nine time ARIA Award winner and Australian favourite, Missy Higgins sold out her national tour in record time



Singer-songwriter Missy Higgins launched her long-awaited fifth studio album, *Solastalgia*, with an Australian tour in May.

Kait Hall has been working as Missy's lighting and set designer since 2007. As the last couple of Missy tours featured video, this time round they were keen to revisit a more tactile design resulting in four roadcases of drapes and set pieces.

The starting date for the tour was dictated in part by the Ed Sheeran shows for which Missy was the main support act. Missy is six months pregnant, so after the first round of her shows sold out quickly, they couldn't extend the end of the tour. Instead they squeezed ten shows into thirteen days so simplicity was the key to getting things set up quickly.

"I started working on ideas for this tour last year knowing that the album had a post-apocalyptic theme running through it," remarked Kait. "Unfortunately my ideas of what a post-apocalyptic world would look like were very different to the art direction so I had to rethink everything when I was shown the artwork. For the album cover Missy was photographed amongst very dramatic salt dunes which we have tried to emulate on stage."

Kait researched material that could give her a three dimensional, textured set piece finally deciding upon an aluminium-based molding cloth which delivered exactly the look she was seeking. Its self-supporting structure means it was perfect to mould rock shapes around the MAC Vipers on the floor, but proved too difficult to handle for the rest of the set.

"It was just too bulky and rigid to tour in large pieces. So for the backdrop we ended up using a plastic that you can heat to get ripple effects, but can fold up into a cubic box," Kait explained. "It was then attached to a black canvas cloth. The floor is a painted canvas with lots of textured mats that are placed over cables."

When the set is uplit or downlit, it creates textured shadows but when Kait doesn't want a 'salt dune' on stage but rather a projection surface, she lights it from the front and the ripples disappear.

The set was constructed under the supervision of Sean McGrath at Reveal Productions whilst Resolution X supplied the lighting for the entire tour.

"The way ResX prep and package their gear is very reassuring," added Kait. "It was great to have Eve Conroy on the road as systems tech who did an outstanding

job. There are only two of us touring this system but Eve has been so methodical with her prep that it went up very quickly and consistently. I have an MA2 light with wing to run the show, it does everything I need for a structured tour and as a busking console. Like many artists, Missy might add or delete songs on the fly so you need to have an adaptable workflow. Usually we get the set list about an hour before she goes on stage so something that is quick, flexible and reliable is a must."

A Missy show is not about lots of flashing lights, it's about ensuring she stands out and the lights enhance that in a theatrical manner. It's a moody environment with plenty of moments where the whole rig focuses down on Missy.

On the stage floor were four Martin MAC Vipers and eight LED Par Quads for uplighting, all buried behind layers of various set pieces so you can't see the actual fixture. In the air, there are 14 MAC Quantum Washes and 15 MAC Vipers. Eight MAC Auras top light the set whilst eight more MAC Auras are used as key profile from the front. A solitary MAC 700 holds the moon gobo which is mentioned lyrically in a few of Missy's songs.



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"Originally I had multiple types of fixtures in the rig but when we were looking at trying to economise on truck space and fixture count – just to make it go up quickly to fit in with the schedule – I paired it back to just a few types of Martin wash and spots," added Kait. "The hazer is an MDG ATMe. Obviously it's more awkward to have gas in any touring environment but it is well worth it. There's nothing that compares to an MDG; the haze is so even and the particles are so fine plus there's almost zero residue."

Usually Brent Gray works as an account manager for JPJ Audio in Melbourne but whenever Missy tours, he is released from his shackles to hit the road.

"At this point Missy's schedule is just enough for me to dip my toes back in and remember what it's like, including the parts of touring I dislike!" said Brent. "It's been a quick, hectic tour but that's good in a sense because you pack a lot into a short time. As we're only touring the control package we decided not to have a JPJ tech with us so it's just Nathan Davis, monitor engineer, and myself. That means we're setting up our own gear which keeps us busy."

The control package included consoles, IEMs and the infrastructure to put it all together with Missy's own mic collection. Brent ran an Avid VENUE | S6L 24d, which he describes as a considerable step up from the Avid Profile he has used for many years.

"I used a Midas XL4 on Missy's Sound of White tour so as you can imagine I never particularly found the Profile to be an amazing sounding console," he said. "What I did appreciate was the small footprint, especially when mixing in Australian theatres, and the workflow when compared with other similar consoles as I was experienced with Pro Tools and Mac computers."

"In my opinion the S6L is a huge step up in sound quality as well as functionality.

It sounds great, is extremely powerful and equally flexible. I really like the new programmable Layout function as well as the additional control in the Events section. With Missy, there's a range of different instrumentation that is never used all at once, so instead of having to flick through layers of input and output channels to find what I need for any given song, I can have it all right there on one layout, dedicated to that particular song and recalled via the snapshot. Likewise, I'm now able to trigger delay sends via the x, y and colour switches on the delay return channel. For me, that level of functionality really enables creativity during the show as I spend much less time navigating the console and more time mixing."

Brent had the new Waves option card so he could run a pair of redundant Waves servers with the S6L. The Waves plugins are installed directly onto the console meaning the settings are retained within the show file and the controls are mapped directly to the user interface. As everything bar the processing power is stored in the show file, you can run redundant servers without having to copy and paste settings between the servers.

"I use a lot of analogue emulation, pretty much the classic old school stuff such as SSL channel strips, Urei 1176, dbx 160, Pie and Fairchild compressors," added Brent. "The NLS Non-Linear Summer plugin is great for emulating a signal path through a discrete channel on an analogue console complete with the unique discrepancies that come with the manufacturing of individual electronic components and the various permutations that can occur within that process. It doesn't

do much apart from give it a signature sound, but the great thing is that they've modelled 32 channels of three separate consoles and every time you use it, it defaults to the next spare channel so you're getting the emulation of not just one individual piece of analogue gear and therefore don't get the additive artifacts from using the exact same piece of equipment. To me, that is one of the things that we've perhaps unconsciously grown to expect to hear. In the world of 0's and 1's I feel that we miss that."

Brent added that in this digital world he finds himself increasingly heading back to the sound we all know and love; analogue, with its mixture of wonderful and minute imperfections, but with the power, ease and recallability of digital.

"I use the Waves plugins fairly heavily and don't do any EQ, compression or gating on the console itself because I can build a completely custom sound console," he said. "I started doing that on the Profile, preferring to use it more as a matrix mixer than for its sonic qualities, I've just continued down that path. However, with the S6L I get a very high fidelity front end which is wonderful so the analogue emulation is now more what I'd describe as recreational than medicinal, to use an analogy. Also, I can resize my custom console for an individual song which is awesome!"





Brent Gray



Kait Hall

"Missy is a great singer, but her vocal tone is truly remarkable and that's the main thing I really focus on getting across. I build up the rest of my mix around that primary element, using everything from instrumentation to equipment to help translate the emotion she is conveying lyrically and tonally in the most appropriate way I can. I also had a couple of TC Reverb 4000s, one running an EMT 140 Plate reverb and the other a 480 Hall, both used for Missy's vocal depending on which song. They're great, compact units and I can run them via AES/EBU at 96k, avoiding unnecessary DA conversions and keeping everything lined up with standard S6L operation."

The band all used Sennheiser G3 IEMS and the only stage monitoring was a couple of d&b E12 subs for the drummer. Microphones included Neumann KMS105s for Missy's vocal mics and TLM 102s on the overheads, Shure KSM32s on guitar and bass amp, M88 on the kick and Shure 57 on snare – everything else was a Sennheiser 900 series.

Brent finds the Enmore Theatre to be an 'interesting' room to mix in, observing that it can change a lot from night to night.

"I don't know if that's because the room's acoustics are particularly susceptible to the tonal influence of different groups of people, but I remember the first tour I did here with Missy where we did four shows in a row, every night the room sounded slightly different even though I didn't change a thing beyond the usual balance of instruments," he related. "It's the actual tone of the room but I can't quite put my finger on what causes it. It's quite a live room with a lot coming back through Missy's vocal mic, but it is a Neumann KMS105 which is very open anyway. It's probably not my favourite room to mix in but I think it sounds good!"

All tour dates were sold out and with each show finishing to a standing ovation, Missy Higgins and her crew were possibly doing a bit more than good.

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By Andy Stewart

The four-hour mix session

If time is money, musicians have none and record companies spend none, it's time mix engineers took stock of the ways we waste both. Blowing a client's budget shouldn't be the default Plan B of any engineer working against the clock, nor should working for free.

I've been guilty of it as often as the next person: wasting time during the course of an album's mixing process. It's not because I'm lazy or incompetent but rather because some approaches to mixing an album are, over the long haul, slower than others.

Knowing how to tackle an album worth of mixes in a time-efficient manner that best suits both your hourly rate and your client's ability to participate meaningfully in the mixing process, is the real trick to meeting a client's budget.

But, let's face it, satisfying everyone's musical expectations while fine-tuning the last details of every track on an album can be a time-consuming, unpredictable and hard-to-quantify process. Everyone works differently and everyone's music requires a slightly different approach given a certain set of unique circumstances.

So, what then? Surely there must be ways to combat this open-ended, unquantifiable budgetary sinkhole so that mix engineers can work for a decent hourly rate without clients being forced to pay more than their initial allocated budget.

The solution to this difficult economic conundrum lies in two areas of negotiation: the mix engineer's working methods and the client's budget, both of which contain wriggle room.

In a nutshell, the problems faced by most professional engineers in the music industry are economic. Budgets are shrinking faster than watering holes in the outback, while the cost of everything around us only ever seems to go up.

Quoting realistic prices to clients for the mixdown of an album can often be impossible to calculate, at other times unpalatable to reveal, lest the client run a million miles. The final figure can sometimes surprise even the engineer!

One thing is certain, however: when earnings shrink over time and, in combination, professional engineers lower their own perceived value the problem only worsens.

EFFICIENCY = MIXING X CLARITY (SQUARED)

The time it takes to produce a dozen or so well honed mixes is often vastly underestimated by everyone, and is often quantitatively at odds with an artist's penchant for adding to, tweaking, revisiting and fine-tuning the work itself. Sometimes the gulf between what budgets can realistically cater for and what digital mixing processes can ultimately achieve is wider than the Grand Canyon.

But we all know this already, right? Who, in recent memory, mixed an album where the budget far exceeded the time invested? That's right, no-one.

We are therefore armed – whether we realise it or not – with one crucial fact: we know that time is of the essence when we mix and working for free is almost inevitable if we don't change our methods and sharpen up.

One of the best ways I know how to work more efficiently is by using the one strength of digital mixing that very few people seem to take advantage of or value: the ability to save session files [Command S] and reopen them when your perspective is refreshed.

The alternative time saving method – making no effort to chance the process, with one exception: speeding it up – is unrealistic.

THE FOUR-HOUR SESSION

The trick to increasing your time efficiency as a mix engineer is to slice the day into thirds. As much as it pained me to adopt this working method a few years ago (and no, I don't do this all the time) I found it ultimately saved me from the more excruciating experience of working for free for a week at the end of a project. The four-hour mix window is my new 'one day session', and I try and work up to 15 of these 'days' a week.

A lot can be achieved in four hours, especially when you put yourself up against the clock. Unlike mixing a song 'til you drop – whether that takes four hours or 40 – a four hour session focuses your process and gets your up and running quickly. By knowing that you only have what amounts to one-third of a day to achieve an outcome, you press harder and work more efficiently. You don't get up and walk around, you don't drink tea, chat and/or take phone calls in that block of time (and expect your clients to pay for it) – you just mix. You have a fresher perspective, think faster, take advantage of time-saving digital facilities more regularly like mix templates, saved plug-in settings and the like, and aim to make the song you're working on presentable within that time-frame.

As simplistic as this sounds, when you do it well, three sessions a day for

a week, at the end of that time you basically have an album in the can. Of course, you might then spend another week expanding upon these mixes: exploring their dynamic shifts, fine tuning various details and adding new production effects. But by working in smaller time chunks you get further down the road faster, to a point where the discussion with your client becomes more about detail than broad strokes.

As stated in a previous CX article a few years ago – and it's arguably truer today than ever – as a general rule, any time spent in front of a piece of music should involve some sort of productive work. Don't just have it playing over and over in the background while you have dinner. When you're hearing it, it should count.

There's no point rushing things, but neither should mix sessions (professional or otherwise) dawdle along at a snail's pace as if time is somehow irrelevant to the outcome. It's always relevant, irrespective of the budget.

ATTACK OF THE ACCOUNTANTS

The other side of this coin is, of course, budget.

As I've said repeatedly in articles before, there's no point starting a mix project without some sort of budgetary discussion and agreement around

terms. Clarity at the beginning of a mix project is crucial to friendly and balanced interactions throughout, so do yourself a favour at the outset and get a budget on paper that lists what you expect to achieve in what timeframe, and for how much.

Prior to this, do a rough calculation of how much it has cost your clients to work with you in the past, per song. If determining that all seems impossible, think again. Simply work out how much you've earned from mixing in the last 12 months and divide that figure by how many songs you've mixed in that same period. If the figure seems low, well then congratulations, you've been selling yourself short. Alternatively, if it's reasonable then quote a figure that's roughly based on that. Most people who, when pressed, don't know how to quote have never done this most basic calculation.

The trick to getting people on board with a realistic budget – especially when it starts off painfully low – is to detail what's involved in the project in a friendly discussion at the outset. Far more than your clients in most cases, you know the nitty gritty of what's involved in the process – you might have done 100 albums, or 1000, they may have done two – so pointing out the oversights in their rough mental arithmetic can often see the budget increase to a more realistic figure.

A SHORT NOTE ON GOING IT ALONE


Sometimes mixing without clients is unavoidable, but often it's a short route to working long hours without pay. Why? Because often what you mix in a client's absence isn't quite what they'd hoped for, and getting the mixes realigned with their expectations can sometimes be a time sink of hellish proportions. And who will pay for this realignment in most cases? Depending on your definition of the word 'pay' either no-one, or you. It won't be the client.

I know it may seem preferable – and faster in some circumstances – to mix without a client present, but often it's not. Generally speaking, having the client in a session is your greatest asset and a means to quick outcomes, provided you know how to interact with them and ask the right questions.

When the budget's tight and working on a project seems to makes no financial sense, push for more funds and work faster (not less effectively) by cutting your days into thirds. Four-hour sessions might just be the answer to that problem we all face – working for nix!



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




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By Simon Byrne

Automixing - your extra hand

I can see you're frowning already. I'm the mix engineer! No computer algorithm can possibly do a better job than me!

You are right...and wrong.

In mixing high profile conferences and unscripted events, the challenge is that you don't always know who is going to talk next, which means you are forced to keep lots of mikes at least partially open, so you struggle for gain before feedback and get room noise.

Enter the automixer.

Automixing mimics the action of a human operator: increasing gain for "talking" mics and at the same time, reducing gain for all others, but doing it much more quickly than a human could and keeping the amount of total gain constant, so a clean live mix can be created. It is an aid to a tighter, cleaner sound, with consistent ambience which is less prone to feedback.

On high-end events it does not replace the human operator, but

assists them. You still do your mixing art, with the help of the automixer keeping things clean in the background.

There have been various attempts at automixing, the first being loosely based around noise gates, but experience has shown that in most live situations it isn't possible to find a gate threshold that will work without obvious chopping.

Once the level passed the gate's threshold, the channel would open up so the voice is heard. Because it has to sense sound before it opens up the channel, it was never great. If the threshold was set too high, the start of words would be chopped so "Good Morning ladies and gentlemen" would become "ood orning adies nd entlemen". If the threshold is set too low the microphone stays open so it does not work. Even worse, if the threshold is set correctly but the speaker moves off mike, it impossible to maintain the threshold for all conditions. The secondary effect is that the room ambience captured by open mikes also cut in and out leading to a very unnatural sound.

A much better solution is a concept that was invented in the 1970s by Dan Dugan of Dan Dugan Sound Design in San Francisco. After several years of experimenting, Dugan came out with a patented system which was demonstrated to the Audio Engineering Society

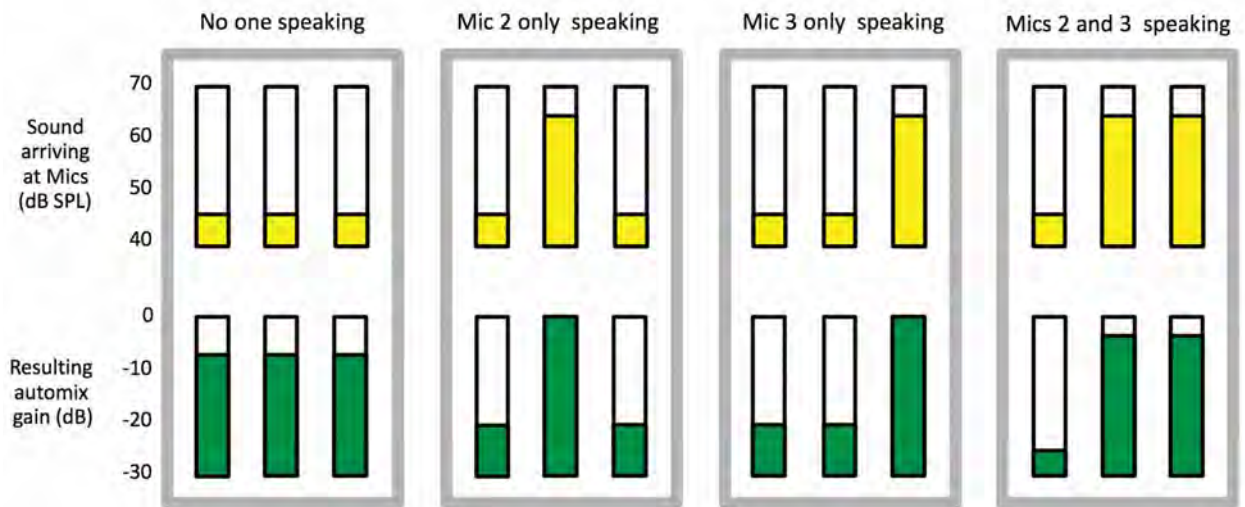
in 1974.

Dugan's method of automixing, which sets a maximum gain for the room and then smoothly mixes all microphones by splitting the overall room gain among all open microphones based on the signal levels at the microphone inputs, was patented by Dugan in 1975.

When one person speaks, that microphone's gain level fades up instantly, while the other microphone gains are reduced. When the speaker pauses, all microphone input levels will adjust to medium gain to collectively match the level of one microphone at full gain. The resulting effect will be as if all speakers are sharing one microphone. When several people talk at once, the remaining gain is shared. This dramatically reduces noise, feedback and comb filtering from adjacent microphones.

Each individual input channel is attenuated by an amount, in dB, equal to the difference, in dB, between that channel's level and the sum of all channel levels. It is not gates, compressing, limiting or automatic gain control, but available gain sharing across the open microphones. It works really well!

The figure below shows automixing with a three microphone system



The first frame shows no one speaking. The sound levels at all microphone inputs are low. The system fades all channels to medium gains, adding them all up to match the level of one microphone at full gain.

The second frame shows one person speaking. The system automatically fades his/her gain to full level, while the other two inputs are turned down.

The third frame shows a different person speaking. The system automatically fades his/her gain to full level, while the other two

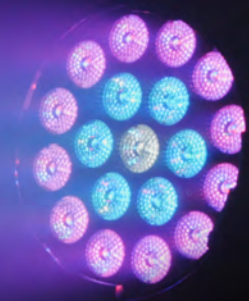
inputs are turned down.

The fourth frame shows two people speaking simultaneously. The system automatically shares the gain between them, while the other input is turned down.

The automixer ensures that system gain remains consistent, even when several speakers are talking at the same time. They make perfectly matched crossfades, without any signal compression and without a noise gate that would cause undesirable artefacts.



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SB Dugan Automixer

Other manufacturers recognised the benefits of Dugan's automatic mixing system, but due to his patent, had no choice but to develop alternate automixing techniques. One system developed by Shure was known as "adaptive threshold gating," where a microphone is activated based on the ratio of the audio level at the mic vs. ambient room level. These worked, but suffered from the inability to adopt the gain sharing model.

Dugan's own system languished for many years too. In the early 70's he decided not to manufacture himself but rather licenced his technology to Altec. Altec implemented the technology in only a couple of their installation products and according to Dugan, did a poor job. The net result was that a great technology was not being used by the licensee, and no one else could use it either. This meant that for nearly 20 years everyone was presented with sub-standard automixing and of course, no one was really happy with using it. No wonder it had a poor reputation.

In 1993, Dugan's patent expired. This freed him up to start manufacturing himself and other manufacturers could now experiment with the gain sharing concept. However, with the advent of digital boards, it meant his style of technology could be implemented as plugins. Yamaha's CL, QL and TF series desks come with it built-in. Soundcraft, SSL and Allen & Heath have their versions and Waves produce a genuine Dugan plugin which means Avid, Digico, and other brands can all take advantage.

But is it worth it and does it work? Absolutely! Since Yamaha added it to their QL series boards,

I've been using it on nearly all of my gigs. I consistently get greater gain before feedback (as much as 16 dB), lower noise floor, consistent ambience and a much tighter sound due to less open mics at any one time.

I honestly cannot see myself doing conferences, panel discussions, unscripted events, and theatre without it.

A few hints:

Automixing should always be inserted post fade. That way, an off stage performer's mic whose fader is down won't affect the automix of the mics onstage whose faders are open.

If you are running a lectern with two microphones, you don't want those mics automixing between themselves as they'll end up fighting each other for the available gain, even though they are covering the same source. The solution for this is to route the pair of microphones to a submix, insert a single channel of automix over the pair and then route the output to the main feed along with the other microphones.

Automixing has suffered a poor reputation for many years. But as the Dugan patent expired, he and others have been able to implement really good solutions that really work. Give it a go!



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Red Hot Summer Tour Goes to Bali

By Cat Strom

Promoter Duane McDonald decided it was time to bring the successful Red Hot Summer touring concept to Bali and CX went along for the somewhat bumpy ride.

Since its inception eight years ago, the Red Hot Summer Tour phenomenon has grown to monster proportions. Touring the width and breadth of Australia for half the year, it's a simple formula; jukebox hits taken to the people. This year the RHST made its debut in Bali with the lineup of Aussie favourites Daryl Braithwaite, Shannon Noll, Ross Wilson, 1927, Pseudo Echo and Jason Singh. Held at Finns Recreation Club in Canggu, the concert was fraught with problems which was not entirely unexpected.

"I knew it wouldn't make much money – in fact it has actually lost around \$50,000 but that can be written off against the Australian shows," said Duane McDonald, promoter of the RHST. "However, if it works and everyone is happy we'll do it again. It was really targeting the expats but it hasn't worked with that market. In the end we sold 1000 tickets so it'll be OK."

With ticket sales low leading up to the event, Duane could have cancelled the gig and saved money however he knew that punters had already purchased airfares and accommodation so, in his heart, he couldn't do that.

Duane seemed to take it all in his stride. He's one of those easy-going, immediately likable characters and it was evident that the crew and artists enjoyed working with him. Only 24 hours before the main event, he was struck down with a severe case of Bali belly and had to be pumped full of drugs and rehydrated with a drip to the lets-rip-off-the-Aussie cost of \$1000. The concern for his welfare on the day was evident and somehow he managed to get through.

Rewind 12 years and Duane was the proprietor of a hotel in regional Victoria when he received a cold call from Premier Artists about the possibility of Diesel playing at the hotel. That



Ross Wilson with Duane McDonald



Shannon Noll

was followed by The Screaming Jets, then Jimmy Barnes, and so Duane got hooked on promoting. Well over 100 Jimmy Barnes shows later, he is still just as enthusiastic.

"The early days of RHST were really tough and a bit of a learning curve," explained Duane. "Eight years ago Jimmy Barnes released his Red Hot album and he came up with the idea of finding six small regional towns to do shows promoting the album. And that's where we got the idea to do the Red Hot Summer tour. Since then Jimmy has done four of the eight tours."

Duane knows his market which tends to be your average middle-aged Aussie punter, dare I say veering on the bogan, and he contracts the bands to suit.

"I love a lot of the new acts but this is a different demographic to the winery shows – we're more Carlton Draught," said Duane. "They've spent their \$100 and basically they just want to relive their youth."

Duane is conscious of the fact that his audience tends to be an older crowd and that some of the artists on stage are pushing 70. The tour often lives up to its name and Duane admits that the shows in 40 degree heat worry him. Keeping aging punters and artists alive is just one of the challenges he faces every year.

"Getting acts to play where you think they should play on a bill is another challenge!" laughed Duane. "I like to roll the music and everyone has their own opinion, but ultimately it's about the people buying the tickets."

Most RHST shows are held on a Saturday, which is another key to its success. Gigs on a Sunday are not as popular with the punters.

"There are only so many Saturdays in the time period, and towns get upset when they get a Sunday," said Duane. "The other challenge is traveling through the night for the next show (which is why Saturday shows tend to finish around 8.30pm) as we tour everything from food trucks to toilets. That way the setup is exactly the same at every show."

Often it's the small towns close to a big town that work the best, for example Jacob's Well, which is 60 km from Brisbane, sells 12,000 tickets in a town of 1000 people.

"There's a town in South Australia called Mannum that sells out every year, it's now in the South Australian Hall of Fame and it's good to see the little towns get something out of the tour," said Duane.

With the tour lasting 24 weeks, Duane has had to start splitting the acts into two different shows as it's hard to ask an artist to



Daryl Braithwaite

tour for that long. Consequently this past summer had one run with John Farnham, Daryl Braithwaite, Baby Animals, The Black Sorrows with Vicka and Linda, and 1927, proceeded by an earlier run headed by Suzi Quatro, The Angels, Baby Animals, Moving Pictures, Chocolate Starfish and The Screaming Jets. Added to that were a few shows headlined by Icehouse.

"I'm slowly pulling it back in," said Duane. "Next year there will be three tours again but the following year will be our 10th Anniversary and I'm aiming to go with the one main band and five supports."

When Duane first started working with Jimmy Barnes, Powa Audio were already working with him and so Duane followed suit.

"The first four or five years of the RHST was a case of just getting it over the line," added Duane. "We had big acts but people just weren't comfortable with the concept at first. Powa were there from the start, they stepped up and built with it. When we could no longer use a trailer stage, they stepped up and built a ground support. Then they built a second one so we could leapfrog production. They used to carry an EV XLC PA system but a lot of riders weren't friendly to that so they bought L-Acoustics K2 to keep everyone happy. You have to stay loyal to companies



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like that. They've never let us down and we've put them through some horrible shows!"

However all that fancy, new-fangled technology had to be forgotten upon arrival in Bali! Two of Powa's crew traveled to Bali so that 'if it all went to s**t, they could make it work'.

"The generator came in on the back of a motorbike," laughed Duane. "The stage crew came in with bare feet and rather than drive the gear in, they carried it all on their shoulders. If we made them do that in Australia, we'd never hear the end of it! I

hired some cold spark pyrotechnics for the end of the night and asked the boys where the switch was but they said there was no switch. At the right time in the show, one of them will climb the truss and hold the two wires together and up it goes!"

Powa's Pat Kearney is production manager across all of the RHST shows and in Bali he was also monitor engineer. Powa's Gabe Lauriola ran FOH except when Brad Parker arrived to mix Darryl Braithwaite.



Powa's Pat Kearny



Powa's Gabe Lauriola



Stage Manager - Brett Millikin



Brad Parker with Gabe Lauriola

"I worked in conjunction with the local production manager and supplier who pulled in all the bits from Bali," said Pat. "It was a juggle as it was our first foray into Bali. Initially ticket sales were only 300 so we had to scale back on production to suit the budget, then as ticket sales picked up we juggled some more to get a bit more PA and some more lights. It was very much an unknown quantity especially as I had never been to Bali before."

Fortunately Pat could seek advice from Dan Corless who runs Wick Studios in Melbourne as he has a property in Bali and has done several shows on the island.

"He put me in touch with the right contacts and told me what to watch out for – especially 'Bali Time'," said Pat. "As a result we built a dead day into our schedule so when things didn't arrive in time or work, we had time to sort everything. Yesterday we tested the backline and straightaway there were two amps that weren't working and needed to be replaced."

Logistical hurdles for the local suppliers included not being able to fit a large production in their small trucks. Everything, including staging and the truss, arrived in tiny

trucks. With Bali's notoriously bad traffic, the journey from the warehouse is a three-hour round-trip so getting the gear to the gig was a long process.

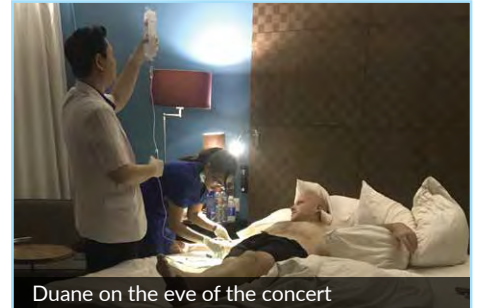
"At Powa we pay a lot of attention to detail on safety and there have been times when our due diligence has been put to the test and we've come out OK," added Pat. "Coming into Bali was a bit of a surprise for us! I still cast my eye over the structure to ensure it won't fall down but there are finer details missing such as the way they connect things together with U-clamps and not scaff clamps. Things that make the engineering side of things difficult. In Australia, I can get an engineer to sign off on a structure but there's nothing like that here!"

Pat approached the production with a very broad mind as to what would actually be delivered and he always had a backup plan. As to electrical safety, he had been told to expect some very scary things but was pleasantly surprised to find that the local guys had made an effort.

"There are no C-Form connectors, no 3-phase connectors – it's all wired directly from the generator busbars into a distro with busbars on the distro. When the backup generator



Waterproofing your lights Bali style



Duane on the eve of the concert

arrived, they wired in a crunch box but it's literally just a contact crunch box, which I've been told they just switch over then and there with no synchronisation. That could result in all sorts of things happening so we put some procedural things in place so if we need to go to the backup generator, then we shut down, switch over and restart."

PA choice was limited and if you wanted anything decent, it had to be flown in from Jakarta and with poor tickets sales that wasn't an option. However the small German-made Nova Acoustic used actually sounded fine on the night partially due to Pat plotting it in Ease and preparing it well. Consoles were Midas Pro Series.

"Similarly with monitors, I chose a specific wedge that would do the job but when I got here instead of 12 there were eight with four of a different kind," commented Pat. "By the day of the event it was eight of them, two of another and two more different ones! In Bali there are no large supply companies, it's all pooled from a variety of small hire companies."

The lighting was kept simple with just 24 LED Pars, a relief to Pat

as it was less weight in the unrated roof and also less load on the generators.

"There were no 100 or 150 kVA generators available and if I went with a 60 kVA then it was two little trucks that delivered them which was nice and easy logistically," he said. "Basically it was a case of getting as good a look as we could but without going overboard."

Pat remarked that the Balinese crew were very keen and helpful, even though there was the odd miscommunication, and he couldn't fault how hard they worked.

Powa are considering placing some of their older stock at Finns Recreation Club as the venue are keen to hold more events.

Earlier this year Ticketmaster awarded Duane with a trophy for being Australia's biggest selling festival for the year and he was stoked.

"I've never even won a chook raffle but I thought 'you know what, it's worth it,'" he remarked.

Whether Duane decides to bring the RHS to Bali again remains to be seen but he is keen to take it to New Zealand and maybe a winter run through TNQ.

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How to: **Configure an Acoustic Echo Cancellation reference with ClearOne ConvergePro2**

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ClearOne ConvergePro2 units are devices and software designed specifically for premium auto-mixing, microphone management and AEC for the conferencing professional. The environment is optimised for the 99% of use cases where microphone systems are used in conjunction with native Skype for Business, VOIP, Video Codecs or another form of conferencing to the far end, and the software is configured in a matter of minutes due to its closed architecture layout.

However, when the microphones are required to be both broadcast to the far end, and used in the room for local speech reinforcement, this produces a conundrum for the AEC engine

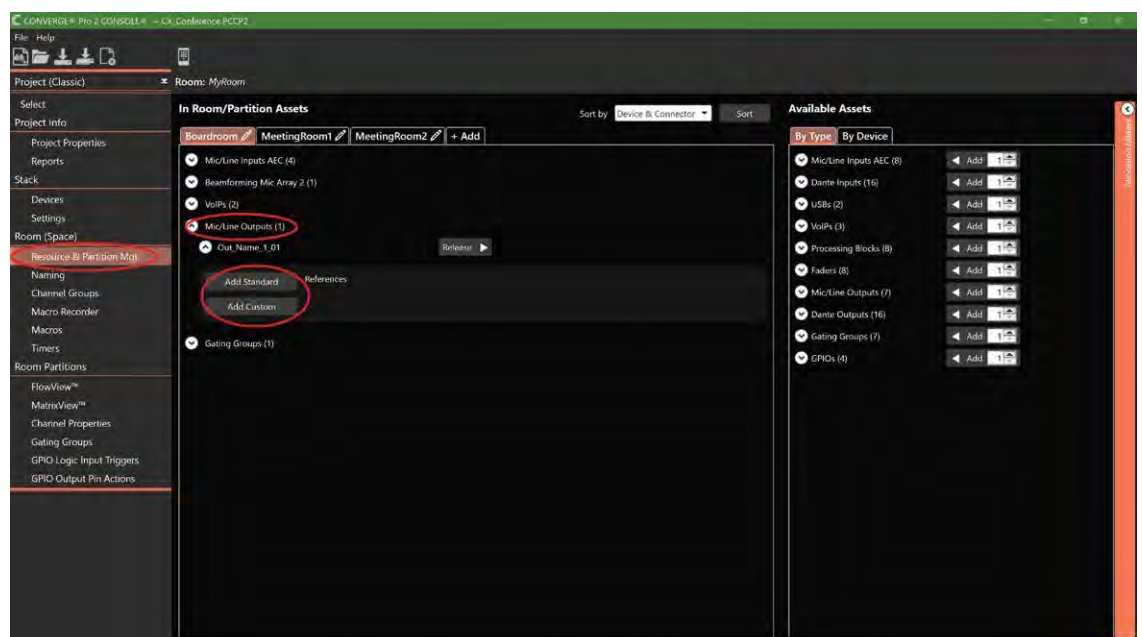
– which is designed specifically to eliminate audio from certain paths. In the ClearOne Converge Architecture, this is easily dealt with by using a “Custom AEC Reference”

Here are the basic guidelines for configuring a simple Acoustic Echo Cancellation (AEC) reference for ClearOne ConvergePro2, when the in-room Beamformer microphone is used in conjunction with Table Microphones – but these table microphones are required to be used for both Far End conference calls and in-room sound reinforcement. This scenario causes real problems for effective AEC, but dealt with very easily in the ClearOne Converge.

Creating an AEC Reference

On a ConvergePro2 unit, you must first create either a standard reference or a custom reference as a network resource.

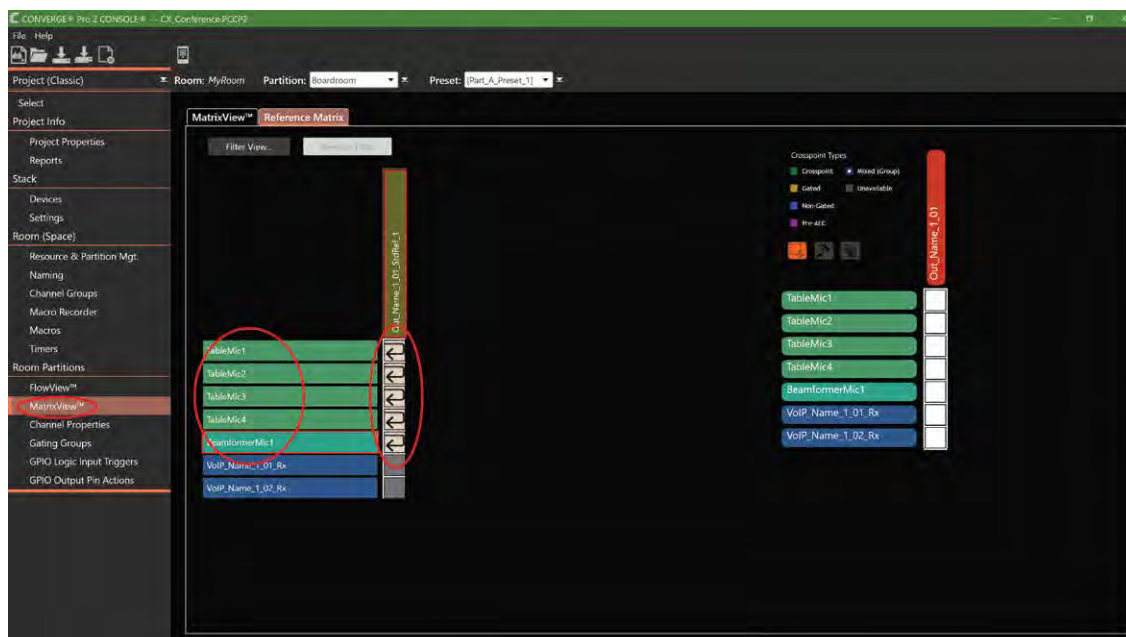
1. Load or create a site file offline. If you are currently connected to the stack you must first disconnect, and then load the site file into the Converge Console software.
 2. Go to Resource & Partition Mgt.
 3. Make certain you have added a Line Output or a Speaker Output as a resource.
 4. Click the arrow beside your main amplifier/speaker output to open it.
 5. Click either the Add Standard button or the Add Custom button.
- Please see Figure 1.



Configure a Standard Reference

A microphone can use a Standard Reference when its audio is not routed to this output, i.e. when the mic is not being reinforced into the same room for voice lift.

1. Go to the MatrixView. Select the tab Reference Matrix.
2. Add an arrow for each microphone that will need to use this AEC reference. *Please see Figure 2.*



Configure a Custom Reference

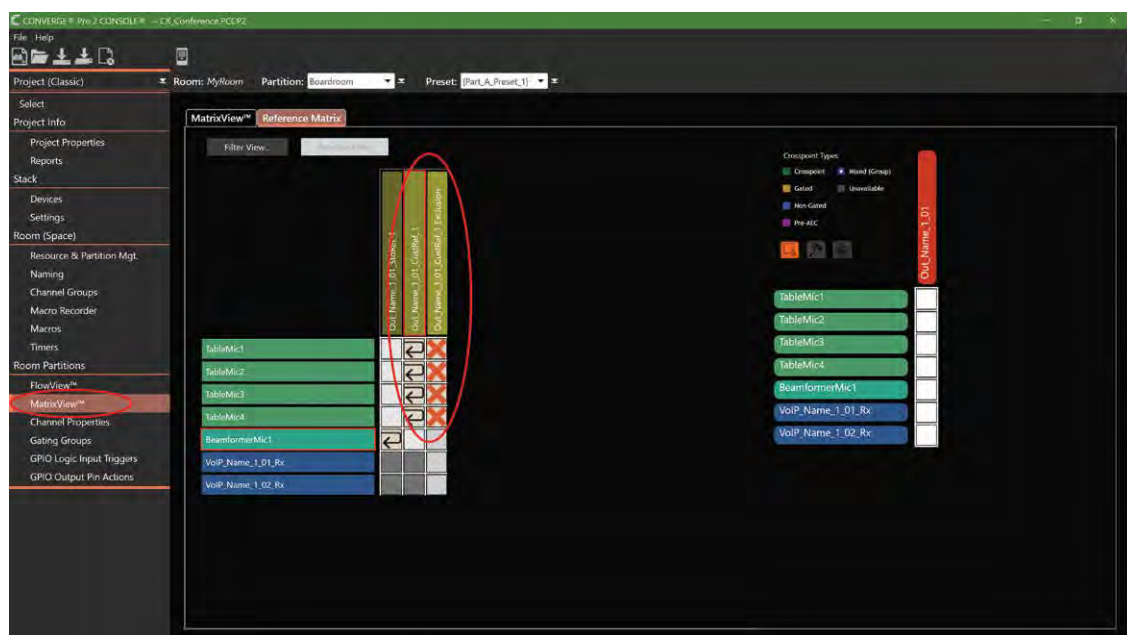
A microphone must use a Custom Reference when its audio is routed to this output, i.e. when the mic is being reinforced into the same room for voice lift.

1. Go to the MatrixView. Select the tab Reference Matrix.
2. Add an arrow for each microphone that will need to use this AEC reference.
3. Add an X on each mic input who's audio must be excluded from the reference. For any mic whose audio is routed to this output that mic's audio must be excluded from the reference. Otherwise there will be self-referencing, where the AEC will try to suppress all of the mic's audio.

Any mic that is not reinforced can use a separate Standard Reference. Or that mic can use this same Custom Reference.

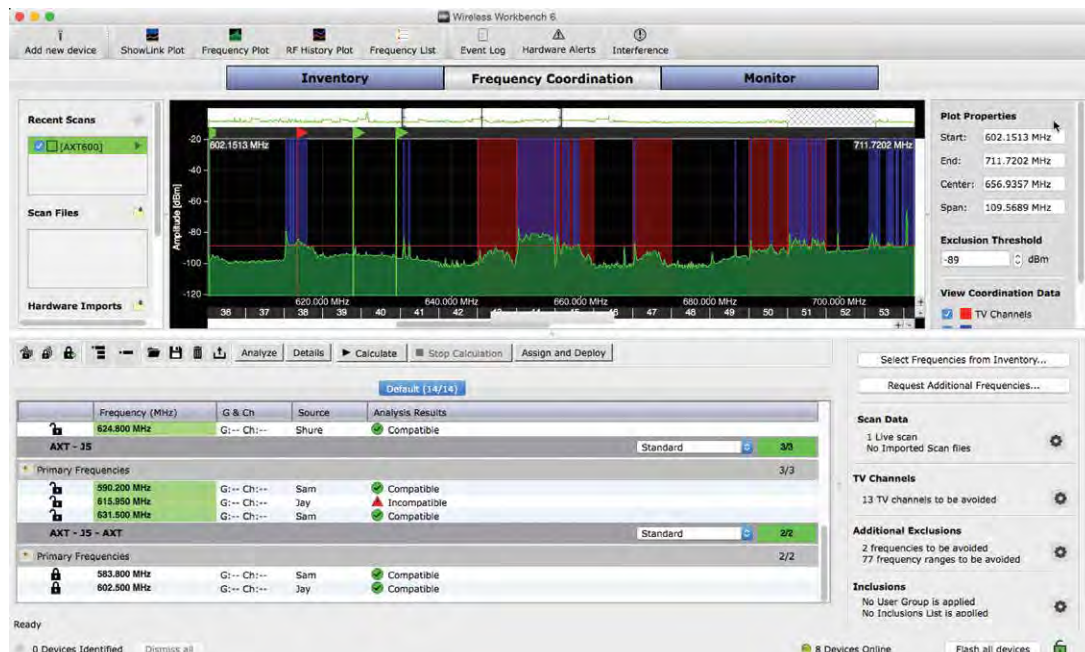
EXAMPLE 1

In this example all mic inputs are routed directly to the line output. For this reason, the audio from all mic inputs must be excluded from this reference. *Please see Figure 3 below*



How to: **Fix frequency problems in wireless mics**

by **Jeff MacKenzie**, Manager, Applications Engineering and Training, Jands Pty Ltd



Having problems with your wireless microphone system? Symptoms such as drop-outs and reduced range are often assumed to be caused by faulty hardware. However often issues such as these are caused by poor frequency selection. In this article we will explain why frequency selection is so important, and provide step-by-step instructions specific to individual Shure wireless microphone models to assist with optimal setup and helpfully avoid the expense and inconvenience of those dreaded “No Fault Found” service reports.

Drop-outs and/or reduced range are often caused by interference from another service operating on the same frequency as your wireless microphone system. Such issues can be avoided by choosing clear frequencies for all of your wireless microphone systems before each use.

But how do we find clear frequencies? The exact process will vary between models, but most incorporate a user initiated scan process to listen to the available spectrum and choose the “best” frequencies for your systems. This may sound complicated, but the process is pretty simple.

Once considered a luxury item, modern wireless microphone systems have managed to pack professional features into more cost effective packages, making them more attainable to a wider range of users. The freedom afforded by wireless microphones is highly desired as they provide freedom of movement and expression not possible when tethered by a cable. However this new found freedom does come at a cost, not just a financial cost, but a resource allocation cost. Wireless microphones operate using shared radio spectrum. As the number of wireless microphones increases, so does the demand for this shared

radio spectrum, to the point that careful coordination is required to avoid frequency conflicts. Radio frequency conflicts tend to be the root cause of many issues encountered by wireless microphone users. Experience has shown that a significant percentage of product returned to our service department assumed faulty was actually due to radio frequency conflicts, which generally could have been resolved on site.

So why is frequency coordination so important?

In Australia most wireless microphone systems operate in radio frequency spectrum shared with digital TV broadcast services. The digital TV allocations vary from location to location, so it is not possible to pre-set a wireless microphone system to a universally clear frequency. If you tour your wireless microphone system, you really should check and possibly select a new frequency for each new location. We operate under a secondary user basis. Meaning we are not permitted to cause interference to the primary user (TV) and have no protection from interference from the primary user or from other secondary users (other wireless microphone systems). In other words it's all on us. It is our responsibility to find clear frequencies and if we suffer interference from anything, it is our responsibility to change frequency.

OK, but what does “interference” sound like? – I’m glad you asked. Once upon a time radio interference did have a sound, and it wasn’t pleasant. However newer generation wireless microphone systems have come a long way, and go to great lengths to protect you from those unpleasant sounds, particularly if you are running digital systems. Most systems will mute (insert

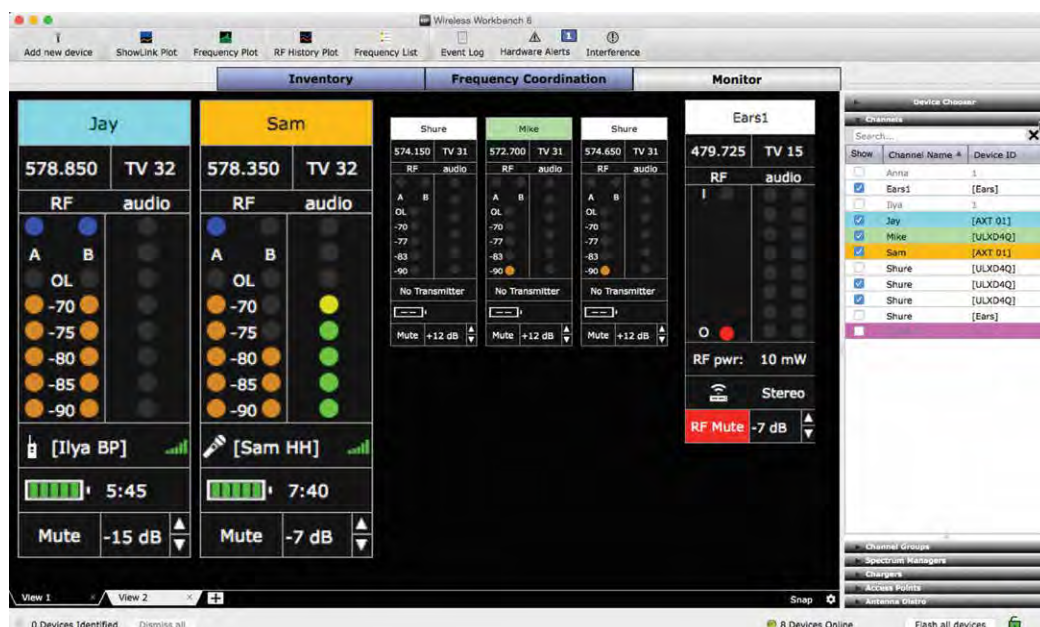
silence) rather than play loud static bursts or hums, pops, or other general nastiness. This is certainly more pleasing to the ear. However these deliberate “muted for your protection” actions can easily be confused with radio drop outs. We often hear stories of systems that previously covered extensive useable range, then one day, for no apparent reason, that range is greatly reduced. This is often perceived as a fault with the product resulting in the system being returned to service as “faulty”. However this is not a product issue, it’s a frequency coordination issue.

Modern wireless microphone systems usually feature some form of “scan and set” functionality enabling quick and efficient selection of clear frequencies. Better systems will not simply select the first clear frequency they find, they will analyse all available frequencies and select and deploy the best available frequency based on scan results. It is critical that operators utilise these features, particularly if operating in urban areas with high likelihood of spectrum contention from TV broadcasters, other wireless microphone systems and possibly sources of manmade noise such as LED walls etc.

Running wireless microphone systems without first scanning is equivalent to pulling out of your driveway and merging onto a main road without looking. Sure, you may be lucky and not collide with oncoming traffic THIS time, but one thing is certain; the more often you do this the higher the probability of a collision.

Best practise for wireless microphone operation is to scan for clear frequencies before each operation. There is no guarantee that a frequency you used successfully last night / week will be still clear the next time you return to the same location.

The exact process to scan and select frequencies varies from product to product, but the general process is as follows, and shouldn’t take more than a minute or two;



1. Ensure all of your wireless microphone transmitters are switched off
2. Setup receivers and receiver antennas in final position
3. Initiate the scan process on ONE receiver only
4. Set the linked transmitter to the frequency (channel) indicated on the receiver. This may require manual settings on the transmitter, or depending on the product you may be able to transfer the setting at the push of a button via Infrared (IR) transfer
5. Ensure audio transfer from transmitter to receiver
6. If additional systems are in use, repeat the above, but keep the transmitter for the first system ON. The additional systems need to be aware of each other to coordinate compatible frequencies
7. Repeat for all additional systems, one at a time, until all have been set to compatible frequencies

The above process should be repeated each time the system is used, especially if changing locations as encountered on touring systems.

We trust this article has been helpful. Please remember, if you get stuck you can contact our product support specialists for help. Email support@jands.com.au or phone (02) 9582-0909

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Squeeze

squeeze in an Australian tour

By Cat Strom

Touring is not as glamorous as some people think. Even if you work for a legendary band such as Squeeze, the hours are long, the budgets are tight and, well, you just have to make do.....

South London new-wave legends Squeeze headed back to Australia for the first time since 1980 with their *Join The Dots* tour. They took to the stage at a jam-packed Metro in Sydney, armed with an enviable collection of hits along with some newer and well received tunes.

Squeeze have been through numerous line-ups since they first formed in 1974 but its beating heart has always been the brilliant song writing partnership of Chris Difford and Glenn Tilbrook, who turn out classics with ease.

To be fair, they only had one hit in Australia; *Cool For Cats* reached

no.5 in 1979, but songs like *Tempted* and *Up The Junction* were massive in the UK, and the band have a cult following in Europe.

The tour was very budget-driven and although the gigs were a sell-out, the venues were small and the itinerary was unforgiving. In fact when we turned up at The Metro to talk to Production Manager and FOH Engineer Des Jabir just prior to doors, he was catching a cheeky forty winks. "It's not the worst schedule I've ever done in Australia but it's certainly tough," he admitted. "We arrived Wednesday morning, first show Thursday in Brisbane, Friday in Sydney, Saturday in Melbourne and

then finally a day off to travel to Adelaide, followed by an overnigher to Perth."

Des has been working in the industry since 1982 or as he says 'before the days of university courses in sound engineering'. If you wanted to work as a sound engineer you had to find your own way into the industry, which could be very tough.

"I hung around with bands in my local pub, worked with them and kind of fell into it that way," he explained.

Most of Des' work in the past couple of decades has come from his association with ML Executives, a production company that used to be

owned by The Who, where he tended to combine his production managing and FOH mixing skills.

"I've really only recently returned to FOH work, from a sizable stint doing mainly production in the comedy world, but I soon realized I had to get back to my first love of mixing rock'n'roll," said Des. "I first toured with Squeeze in 1985 when I was working for their support band The Tempest. Fast forward to three summers ago, I stood in for their FOH guy for a few shows and then started properly with them last year. We did six weeks in the UK followed by four weeks in the US. We share a lot of geographic history as I grew up where they did – in fact one of their early gigs was at my school disco. They are lovely people and it is a real privilege to work for them."

Des has somehow found himself working with quite a repertoire of 80s bands, including Holly Johnson and OMD, leading him to remark that his 80s CV is pretty impressive!

According to Des, this Australian tour is down the bottom end of the budget as traveling to Australia is expensive and the venues they are playing are quite small. Basically everyone is 'making do'. The crew consisted of Des, two backline guys and the tour manager who doubles as merchandiser and general dog's body. At each venue someone was picked up locally to run the lighting.

"We've been very lucky picking up local monitor engineers," added Des. "We have a good guy tonight and we had a great one yesterday but in fairness, it's always been my experience in Australia. The audio crews are very hard working and very skilled."

At The Metro Des was running an Avid SC48 console because when he looked at the specs for the five Australian shows, two venues had them in house, and he happened to have a show file for an SC48.

"Our last gig in Perth has an in house DiGiCo SD9 so I'll have to build a file for that but that's fine because I can then convert it for when we go to Singapore where I'll have an SD8," said Des. "The SC48 is getting a bit old now but I'm very comfortable with it because of my love for the Avid Profile."

Des comments that mixing audio is a very personal thing, and with Squeeze there are two key areas to consider. Firstly, there are songs with layers and structures built around very intense keyboard sounds. Secondly, it's the way Glenn and Chris' vocals interact, although Chris could not make the Australian tour as he's unable to travel.

"That alone brings a whole new dimension to the mix," stated Des. "Chris has an amazing tone to his voice and it's the balance between the two voices that actually makes the Squeeze sound."

Des uses everything on the console and travels with two USB sticks; one containing his show files and the



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other his Waves licenses. He always asks for an Avid with Waves 9 enabled and there are a couple of plugins he uses generally in his show files.

"The SC48 only has two engines so you're extremely limited in the number of plugins you can use," said Des. "So what I did when I switched to the SC48 was totally wipe out all channel plugins that I was using and just bring in the effects. I have a couple of reverbs, a delay I use in one song, and a doubler for the backing vocal."

At The Metro Des had to tackle the in-house Nexo Alpha PA, a system he says is not seen too often in the UK clubs he normally works in. He further commented that it was surprising and interesting to be using a point source PA again.

"They're so rare now – even when I did a small theatre tour with Squeeze I toured a mini line array," he added. "Having said that, it works, it's well set-up and tonally it's as nice as the room allows it to be. It's a bit of a rattley old metal room empty but I'm sure it will be fine when the room is full."

The band uses Sennheiser G3 IEMs and tour their own in-ear rack. The

drummer uses a hard wired pack fed from a mixer to adjust his own click levels. If he can't get them exactly right, it throws him. He takes the click and the loops straight into the mixer and then takes a stereo mix from the monitor engineer and combines all four.

As to microphones, Des always says 'if you can't do a gig with Shure SM57s and SM58s you shouldn't be doing the job' and he admits that a couple of times that has put him to the test!

"The line list is DI heavy with sixteen channels, but the rest of it is drums, percussion and the usual stuff," he added. "Apart from a couple of condensers for overheads, you can do it with SM57s and SM58s. Yes, it would be nice to have lovely Sennheiser 900 Series for your toms and Beta 98A for your percussion but when they are not available you make do with what you have."





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ENTECH



Use it... or LOSE IT!

By Simon Byrne

If you are a small to medium profitable production company thinking of buying some new gear, this month is a great time to do it.

The May Federal Budget extended the simplified depreciation rules allowing the instant write off threshold for assets up to \$20,000 to 30th June 2019. But to take advantage in this financial year, you must act quickly.

As part of the 2015 Federal Budget, the government announced this significant change to the simplified depreciation rules which have great benefits for the production industry. The reason that it is so attractive is because it can be applied to every individual asset up to \$20,000 each.

So 20 moving lights might add up to, say, \$140,000, but each individual light is less than \$20,000, so they can be

written off completely. That means the \$140,000 is deducted from your taxable income and you've 20 new, income producing lights. See where this is heading?

We buy lots of speakers to make a PA system, lots of lights to make a lighting rig, and lots of panels go together to make a LED screen. As long as each individual asset within a system is less than \$20,000, they can be fully deducted this financial year.

Assets that cost \$20,000 or more cannot be immediately deducted, and will continue to be deducted over time using the general small business pool (typically 30% per year). You can however write-off the balance of this pool if the balance (before applying any other depreciation deduction) is less than \$20,000 at the end of the financial year.

BUT... each asset needs to be a standalone useable asset even though they are a component of a system.

Your business is eligible if you have a turnover of less than \$10 million (increased from \$2 million on 1 July 2016), and the assets are first used or installed ready for use in this financial year.

As always with tax stuff, get your own professional independent advice. This article is only of a general nature and might be and might be wrong for your particular circumstances.

Direct from The ATO: Simplified depreciation – rules and calculations

You can choose to use the simplified depreciation rules if you have a small business with an aggregated turnover of less than:

- \$10 million from 1 July 2016 onwards
- \$2 million for previous income years.

Under these rules you:

- immediately write-off – that is, claim their full cost in the year you buy them, most depreciating assets costing less than \$20,000 (the current instant asset write-off threshold), that were bought and used, or installed ready for use from 7.30pm (AEST) on 12 May 2015 until 30 June 2018 (*ATO have not yet updated this date on their website: Ed.*)
- pool most higher cost assets (those with a cost equal to or more than the current instant asset write-off threshold) and claim
 - a 15% deduction in the year you buy them
 - a 30% deduction each year after the first year
- deduct the balance of your small business pool at the end of the income year if the balance at that time (before applying the depreciation deductions) is less than the instant asset write-off threshold.

If you choose to use the simplified depreciation rules, you must:

- use them to work out deductions for all your depreciating assets except those specifically excluded
- apply the entire set of rules, not just individual elements (such as the instant asset write-off)
- only claim a deduction for the portion of the asset used for business or other taxable purposes – not for the portion for private use.

If you choose to stop using the simplified depreciation rules or become ineligible to use them, you'll need to use the general depreciation rules.

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The Killers

Wonderful, Wonderful Tour

By Cat Strom

Photos: Rob Loud



Almost 15 years on from their debut, The Killers are as big now as they've ever been and along with pristine production values, they are one of the most exciting live acts on the planet.

Thirteen years ago Steven Douglas was asked to fill in for the house tech at a venue in his native Dublin. It was some band from Las Vegas he'd never heard of and he busked the house rig. The band said they loved what he did and asked for his phone number. Steven never expected to hear from them again, but he did, and that is how he came to work with The Killers. Several concert tours later Steven is at the helm of a grandMA2 for a lighting and video spectacular that is the *Wonderful, Wonderful* Tour. This time around, it was decided to bring in Fireplay, led by Nick Whitehouse who Steven often works alongside, to collaborate on the set design and video content. "We needed an extra set of hands on deck and having worked with Josh Zangen of Fireplay before, I knew he was the right person," commented Steven. "We all work so well together and there's no ego clash."

The video is much grander and larger than ever before with the set backed by a wraparound, forced perspective panoramic LED screen. This large upstage video wall is made up of a ROE 12mm LED screen whilst ROE 8mm product makes up a pyramid shaped screen, placed in front on the upstage wall. Added to that is a third automated triangle screen on Kinesys motors, affectionately referred to as the 'Flying-V' by the crew. These video screens travel with custom built frames so they don't require a fascia to hide the square lines on the sides.

Set elements include a six metre water tower and giant arrows; the glitz of Vegas is represented by neon and lightbulbs juxtaposing with the water tower of small town America.

"When Josh showed me the first sketch I was rather skeptical about the water tower and then every window I looked out of after that in America, I could see a water tower," said Steven. "They always have the town name on them so we do the same, changing it to every city we play in."

The rig is slightly different in Australia due to fixture availability and shipping constraints. Most noticeably the absence of the custom made rectangular and square lighting pods lined with GLP X4 Bar 20s. The shipping schedule from Mexico became too much and so it was decided to ship the automated triangular screen and use local lighting. The flown screen is outlined with GLP X4 Bar 20s, as is the pyramid, cutting through the lighting and video effectively. The X4 Bar 20s are particularly effective on the upstage triangle when they cross over at 45 degrees to create a triangular light curtain.

"I knew I didn't want a lot of wash lights as there would be so much ambient light coming off the video, and although the GLP X4 Bar 20s do that a bit, we primarily use them as a light curtain



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ENTECH





effect,” explained Steven. “I knew I needed high-power spot and beam fixtures so I went with the Claypaky Scenius Unico and Martin Axiom Hybrids – however here I have had to substitute them with Claypaky Mythos and Scenius Profiles for key lighting. The flat beam on the Unico is what really attracted me to the fixture, it’s a very pure white light once you put the beam flattener into it but you can still zoom it down to get an almost beam effect without having to go into a beam mode.”

When Steven has his Claypaky Scenius Unico fixtures they are usually used in conjunction with a Follow-Me automated spotlight system that is rented from Neg Earth in the U.K. There are three roaming musicians downstage, and each gets

a dedicated spot operator positioned back by the dimmers that follows them with a mouse while viewing an overhead camera.

In Australia Steven also has twenty-seven GLP JDC1 strobes with six of them downstage left and right side lighting the band, some more on the front truss and a couple overhead.

“All the ones on the floor are able to envelop the band in ambient wash,” he said. “It’s great that the strobe feature cuts through, and then you can still strobe the actual wash fixture as well. They were a little funky getting my head around first time programming but I got it together pretty good.”

Claypaky Sharpy washes are mounted on the front truss to wash

the stage, and 4-Lite moles are used in abundance to light the crowd. Martin Viper Performances are all around for main spot fixture.

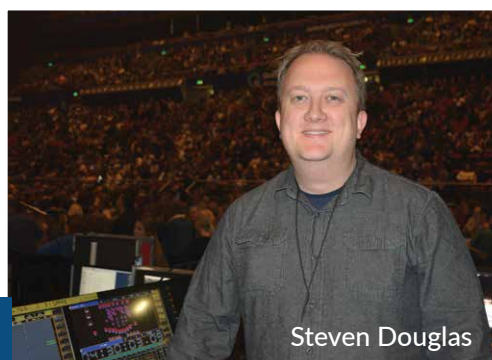
Lightwave International supplied the lasers including seven 35 watt full-coloured DMX lasers upstage and 1 Phenom moving head lasers, which also utilised the Follow-Me system in the US and UK.

Production manager for The Killers is Australian Michael Oberg, who the band pinched from Frontier Touring a few years back. It was Michael who suggested Sydney-based Big Picture as the video vendors for the entire world tour.

Big Picture’s David Horscroft is out on the road as video director saying that he has found in the past that



David Horscroft



Steven Douglas





people tend to choose Big Picture because they know the company will put their best resources and their best people on the tour.

David runs the Sony HXC-300R broadcast cameras with his Grass Valley Kayak switcher, whilst disguise 2x4pro (one active, one understudy) media servers run all of the video content. The disguise media servers sit backstage with David but are controlled by Steven at FOH who likes to cue all the content from the MA2. 2x4pro media sever maps the dynamic set and facilitate Notch real-time generative effects.

All the feeds come through to the designer with Notch FX already treating the image. This is managed backstage by the disguise operator, Dan Gentile who says, "A number of the disguise features were seen as

advantageous to the show. It's mapping features have definitely been a huge advantage, as are its ability to change surfaces, as we bounce between our own show with a complete rig and festival setting shows, and coming ready to run Notch blocks."

David added that the disguise servers are running flat out, as even when running camera images through them, they are using Notch effects.

The screens display custom content designed in collaboration between the band, Fireplay and Steven. The content was then produced for the screens by Blink TV and Moment Factory. Overall the resolution is around 2,500 pixels wide by 1,100 pixels high with over 1,000GB of content.



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By Adam Biggs

Allen & Heath SQ Series



Adam is the proprietor of Biggsounds Productions. Servicing New South Wales and southeast Queensland for 15 years, Biggsounds have a dedicated team of live engineers and also provide quality audio, visual, and lighting equipment to the pro audio, education, community, and worship markets.



SQ-5

The SQ-5 and SQ-6 are 48 channel, 36 bus digital mixers with 16+1 and 24+1 faders respectively. The SQ-6 has an additional eight assignable soft buttons, and four assignable encoders with soft buttons. It's incredibly quick and easy to teach someone how to run this console. If you're getting a lot of walk-ups, you can get any competent tech up and running on their show in five minutes. There's not a lot of menu-based workflow to deal with, which is one of my bugbears with some other consoles.

A lot of our younger techs have been using Allen & Heath Qus or GLDs, and the SQs take the best parts of both. We love everything being on one layer in the Qus, because it's very easy to get to things. But then, that's a limitation. With SQ, you've

got six layers as per a GLD or a dLive. The ability to custom configure your layers, setting up your work flow to suit you, is the thing that's really sold us on Allen & Heath.

NEW FEATURES, NEW EFFECTS

We love the new 'CH to All Mix' button. The ability to hit one button and see where a channel's going across all of the busses is a brilliant feature. It's like a backwards 'sends on fader'. You can grab your main vocal channel, for example, and at a glance, see its level in all your auxiliaries.

We're now starting to see a lot of the effects and hardware emulations from dLive come into the SQ firmware. We use the Tube Stage Pre-amp model a lot on things like bass amp mics and snare bottoms to give a channel some 'crunch'. Allen & Heath have also just updated the SQs to run Automatic Mic Mixing, which is great for corporate work. In terms of processing on-board, the SQs are extremely usable, and we assume that there will be features that won't come across from the dLive, simply from a processing perspective. Considering the price point we think that's reasonable.

CHANNEL EQ AND COMPRESSION

Having the touchscreen to work with in addition to the EQ encoders on the surface makes the SQ workflow very fast. While they don't have



SQ-5 rear

dedicated encoders for all controls of each band, it's still very quick to access, and having a separate encoder for the high pass is really handy. Operating the SQs is very 'analogue-y' in the sense that you've got all of the essential channel controls in front of you and along the side of the screen, as opposed to 'touch and scroll' operation. You can get quite aggressive with the channel compressors, but I tend to use compression subtly. Happily, they're also great for that, and very transparent.

SOFT BUTTONS AND ENCODERS

Once you get used to having a certain number of assignable buttons and encoders, you can never have enough. You can pretty much run the entire console from soft keys. One of the big differences between the SQ-5 and the SQ-6 is that the SQ-6 has four assignable encoders with their own assignable buttons on the left-hand side of the screen. For example, you can set up the encoders as effects sends, grab a channel and then just wind up your reverb without having to leave your master bank. If you're busking a mix, and you've got to get things up very quickly, you can.

But, if you don't have them, you probably won't miss them. This does mean a slight change of speed when you move from an SQ-6 to an SQ-5. Realistically, in terms of the physical space available on an SQ-5, I think it was one of the obvious things to lose, rather than soft keys. I'm more attached to the soft keys than I am to the encoders.

PREAMPS AND FADERS

The SQs on-board preamps have lots of head room, and great sensitivity. While we are usually using the SQs with our AR racks, we have had a few situations when we've just gone straight in to

the on-board pres. I'm very interested to see how things change once we can connect our dLive racks to our SQs. The sensitivity on the faders is also great, and everything feels very, very pro. In your small movements, you really get that very 'every dB counts' feeling.

DCAS BUT TO SPILL

As a regular dLive user, I set up my DCAs to spill across the faders with the touch of a soft key. Quite a few dLive users also own SQ consoles, and across the board, they've been saying it would be great to have spill groups on SQ because it will make it a very versatile console. We're all very excited about the SQ because it has so much of the dLive architecture.

MULTITRACKING

We've multitracked several shows with the direct USB out and had really great results. We connected straight into a Mac running ProTools, and it's been rock-solid. We haven't done anything that's mission critical through the onboard USB-based multitracking, simply because I don't think you can rely on the speed of most thumbdrives to make them stable. They might work fine for a 20 minute recording, but if you're trying to track an hour-long set with 30 channels, you're most likely going to run into errors. They are, however, completely fine for stereo recording.

SQ MIXPAD APP

The SQ MixPad app is excellent. It does require a newer iPad or Android device, and we've had to swap iPads between a couple of our venues,





SQ-6



as some of them were three years old. Interestingly, it's not as fully featured as the Qu app, which is because the Qu app needs to run the rack-mounted versions. So, you can't do quite as much with your effects, but in terms of just general gig usability, it's great.

FILE/SCENE MANAGEMENT

I'd like to see Allen & Heath make the SQ's scene and file management a little more flexible. It certainly does what it needs to do at the moment, but it's not flexible enough for a musical theatre production, for example.

Possibly they're not really trying to cater to that market for the sake of product line delineation. It's certainly capable in its current form; it's easy to save shows, and upload shows onto a drive. You don't get the granularity that you get with the more expensive consoles; for example you can recall save an entire channel, but not individual channel processors.



SQ-6 rear with DanteCard



SQ-6 in profile

Brand: Allen & Heath

Model: SQ-5, SQ-6

Pricing: SQ-5 \$5,499, SQ-6 \$6,499 RRP inc GST

Product Info: www.allen-heath.com/key-series/sq/

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Impression X4

By Alex Schwindt

Blackmagic Design Atem Television Studio Pro HD Production Switcher

Alex Schwindt is the Film Team Director at Hope Community Church in Raleigh, NC. He also does freelance media creation and consulting through Alex Schwindt Media. This review was first published in Church Production Magazine.

ACCESSIBLE ENOUGH FOR VOLUNTEER OPERATORS TO USE, THE SWITCHER REPORTEDLY OFFERS PLENTY OF POWER UNDER THE HOOD FOR BROADCAST TEAMS TO GROW INTO.



Atem Television Studio Pro HD

One of the most difficult aspects of creating a solid multi-cam system for live video production is selecting the best switcher to serve at its core. Finding the right balance of features, usability, flexibility and value can sometimes prove a bit overwhelming for tech directors already pressed for time and attention. With the introduction of the new Atem Television Studio Pro HD production switcher, Blackmagic Design have created a device that can boast professional-level features and

tactile controls at a price point accessible to most churches and ministries.

As one of the newest additions to Blackmagic's popular line of Atem switchers, the Television Studio Pro HD is designed for both live broadcast and remote event production. Targeted applications for the switcher include television, houses of worship, sports, conferences, and live streaming applications. While it adheres closely to professional standard control

schemes, Blackmagic have kept this broader user base in mind with its ease-of-use.

UNDER CONTROL

The Atem Television Studio Pro HD is an all-in-one solution that features an M/E (Mix Effects) control scheme, which will be familiar to most broadcast professionals. The switcher can also be setup to utilize a basic A/B control scheme, but beginning users shouldn't be too intimidated by the more sophisticated M/E approach, as it's very intuitive to pick up. The Atem features eight separate video inputs, four SDI and four HDMI, allowing for a mix of professional and consumer cameras to be utilized without the need for additional conversion. The HDMI inputs also allow for sources such as computers, media players, and video game consoles to be easily incorporated into your production. A built-in LCD screen is included to the switcher itself for easy menu navigation or a program preview. Output options on the Atem are robust, including an SDI program output as well as an Aux SDI output for recording a clean signal free of graphics or overlays. Multi-view monitoring is an integral part of M/E switching, and the switcher accordingly features both HDMI and SDI output options to ensure a wider array of monitors can be used. The Atem Television Studio Pro HD also features surprisingly robust audio controls, including two XLR audio inputs and ¼-inch jacks for a talkback mic and headphones. Independent audio inputs from each camera's HDMI and SDI signal can also be mixed independently and routed to the program feed.

TAKING CONTROL

One of the more interesting conversations happening in the broadcast video world today centers around the advantages of hardware-based versus software-based switching, and one of the great strengths of the Atem Television Studio Pro HD is that it allows for the best of both worlds. The switcher itself is a self-contained professional console with dedicated control of primary and advanced video mixing functionality. It can also be connected via Ethernet to a laptop, allowing for even more complex control and customization. The Atem can also be configured for network-based control, allowing for remote switching, theoretically from anywhere in the world. The switcher itself is a relatively small and portable affair, coming in at under 5 kgs. and boasting a surprisingly small frame. While the Atem would easily be at home in a smaller tech booth or control room, it's easily sturdy enough for extensive fieldwork. The console control surface itself boasts dedicated buttons for video sources, transitions, styles and other advanced functions. It includes a dedicated transition slider, source-level audio faders and individual talkback controls. The Atem also includes an extensive library of dedicated buttons for unique Digital Video Effect (DVE) transitions.

ADVANCED FEATURES

While the Atem Television Studio Pro HD can get up and running in a matter of minutes, it's also capable of a number of functions usually reserved for higher-end professional switchers. These



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include dedicated downstream and upstream keying, a media player for stills, camera-specific communications via SDI and programmable macros for complex animations and actions. Producers using the Blackmagic Studio and URSA Mini cameras can also take advantage of remote camera control and color correction directly from the switcher. One important note on the Atem is that an additional monitor for the multi-view is essential for taking advantage of the switcher's advanced features. The ideal setup will also include a laptop running the free Atem software paired directly with the switcher. Another useful feature is the device's ability to utilise up to four Blackmagic HyperDecks, allowing them to function as video servers that can be fired from the switcher's software control. The HyperDecks can also be set from the Atem software to record, too.

HANDS-ON REVIEW

After only a couple of hours with the Atem Television Studio Pro HD it's clear that this is a great time to be in video production. The device itself is built like a tank, packs an impressive punch, is a breeze to use and won't come anywhere near breaking the bank. As one of the newest members of the well-respected Atem line of

switchers, the Television Studio Pro HD certainly feels like a mature product. The controls are rock solid and the device itself is responsive and well laid out.

However, it should be noted that the trackball and transition slider feel a bit lightweight, especially when compared to everything else on the console. And while it didn't feel like such a big deal initially, the built-in LED lighting effect built into the fader is surprisingly effective in gauging transition rates. One of the best aspects of the switcher is its balance of power and flexibility. It would be equally at home in an installation setting as it would in a remote broadcast or desktop application. In fact, ministries considering the Atem for switch-hitting between mid-week and weekend applications could be confident moving forward with the Television Studio Pro HD as a dependable solution.

Another strength of the Atem lies in its usefulness in navigating transition seasons. The fact that it allows for both HDMI and SDI cameras and monitoring means that churches can stagger their upgrades from consumer solutions to more professional cameras and signal chains over a longer period of time. The fact that such an affordable device can achieve this is a very big deal. A final thing to be aware

of when considering the Atem Television Studio Pro HD is that while the switcher can operate as an all-in-one solution, users will really need to be running it in tandem with a laptop or desktop computer in order to access many of its advanced features. In our tests it was crucial to first download the latest version of the Atem Control software, adjust the computer's IP address, then update the switcher's firmware to get everything working together. Not the end of the world, but not exactly plug-and-play either.

IN CONCLUSION

The Atem Television Studio Pro HD is a very easy recommend, especially for ministries looking to upgrade to a more professional console, or for churches needing a dependable switcher for location work. It's accessible enough for volunteer operators to use, yet has plenty of power under the hood for broadcast teams to grow into. Just as importantly, it's easily one of the strongest value-to-cost switchers available on the market, one that should be within reach of most churches.



Brand: Blackmagic Design
Model: Atem Television Studio Pro HD
Pricing: RRP inc GST \$3,185
Product Info: www.blackmagicdesign.com
Distributor: www.newmagic.com.au

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By Thomas Cox

Elation Sixbar 1000

Thomas is the Senior Lighting technician at Sydney's Audio Visual Events (AVE) Based in St Leonards, AVE has been providing production and equipment for everything from small boardroom meetings through to large scale events for 16 years. Thomas has over 10 years' experience across multiple disciplines including audio and video, with lighting being his speciality.

I HIGHLY RECOMMEND THE ELATION SIXBAR AS A FLEXIBLE, EASY-TO-USE, HIGH QUALITY FIXTURE THAT COVERS A HUGE VARIETY OF APPLICATIONS



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PHOTOMETRIC DATA

- 8,500 LUX 790 FC @3.3' (1m) (30° Full ON)
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- 2,040 LUX 190 FC @9.8' (3m) (30° Full ON)
- 1,290 LUX 120 FC @13.1' (4m) (30° Full ON)

- 878 LUX 82 FC @16.4' (5m) (30° Full ON)

DIMENSIONS


- Length: 900mm
- Width: 206.4mm with included glare shield
- Vertical Height: 155mm
- Weight: 7.3 kg

AVE recently purchased 60 units of Elation Sixbar 1000s. It was time to make a decent sized investment, and it solved some issues we'd been having. The Elation Sixbar 1000s are a popular product in the market, which is important to us as we do a lot of cross-hiring. But they're also incredibly bright and great for pixel mapping, which we also do a lot of.

APPLICATIONS

As we do a lot of corporate work, we often use the Sixbars for uplighting drapes and wall washing, as they're brilliant in that application. I've used them once or twice as uplighting on the front of stage to illuminate faces, which has come in handy when doing a stage wash was a bit difficult.


I've been using them extensively for band effects, as they make very effective eye candy. Typically I've




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Sixbar 1000



Sixbar 1000 with frost and glare shield

mounted them vertically on truss behind the band. I map every pixel, and run effects that I make myself on our console. I don't tend to use content running on an external media server, I prefer to make my own dimmer and colour effects. On a recent show we ran control via ArtNet to DMX distribution, and we had 24 Sixbar 1000s mounted in the rig. The full pixel map on each fixture uses 72 channels, so the channels really added up. But the effect is so good that it's why I personally choose to use Elation Sixbar 1000s.

RIGGING AND HANDLING

The rigging on the Sixbars makes our job much easier. Our old stock of LED strips was a bit hard to get up on the truss, but the Sixbar's yoke makes them very

easy to use. Attaching clamps is refreshingly easy, no matter if you're working off truss or a lighting bar. You can make them fit where they need to go with very little trouble.

On each end of the Sixbar there's a little magnetic plate, so when you butt them together as a ground row they actually line-up and fit perfectly flush with each other. It's the simplest of things and it makes lining them up a lot easier. It's all about the ease of use, and they are just so versatile.

COLOUR AND ACCESSORIES

The colours we're getting out of the Sixbar's RGBAW+UV LEDs are deep and true. Having the frost filter and glare shield included was of great value to us at AVE, particularly the glare shield, as we'll often set up the

Sixbars under a projection screen. The glare shield really helps us keep unwanted light from bleeding out.

SUGGESTIONS

One thing I would have liked to see included on the Sixbars is powerCON True1, as they ship with standard powerCON. Most of our stock uses it, as do a lot of fixtures on the market. I thought Elation would have implemented it, but it's not a big deal.

I highly recommend the Elation Sixbar as a flexible, easy-to-use, high quality fixture that covers a huge variety of applications.



Sixbar 1000 rear

Brand: Elation
Model: Sixbar 1000
Pricing: Trade price \$990 ex GST
Product Info: www.elationlighting.com
Distributor: www.lexair.com.au

Here is this month's collection of random tech tips to make your life just a bit easier!

By Simon Byrne

Tech Tips

Anytrans - I've been a Mac user for about ten years and appreciate how well they are built and generally speaking, I like how things are thought through. The notable exception is iTunes which I think is a train wreck!

As a professional user, I often have to wrangle audio or video from, or to iPhones or iPads, and using iTunes seems to be a nightmare. Every time I use it, it feels like I am learning a new version of Pro Tools from scratch!

A great alternative for copying files on and off your phones is Anytrans.

<https://www.imobie.com/anytrans/>

It works just like any other file manager which is what you need. Simple.

3:1 Rule - On a head table, try to have the microphones spaced so that any presenter is speaking into a microphone that is three times closer than any other.

Decibels are always a ratio of one thing to another. Therefore if a voice source is three times closer to one microphone than another, it has to be about 10 dB louder in the closer mic. When you add the levels from both mics, the second microphone only adds to at most, 2 dB. That means any comb filtering or phasing can only be a maximum of 2 dB, and rarely is.

USB Connectors and memory sticks - You go to plug your trusty memory stick into the computer but it doesn't fit, so you flip it.

But that doesn't work either. You flip it again, and by some miracle, now the drive slides into the port with ease.

If you're like me, you've been here many times before. Thankfully, there's a simple trick for knowing how to plug in a USB cable or memory stick the right way every time.

On every USB plug, there's a metal seam on the bottom. That side almost always faces down when inserting the cable or drive.

Also, most USB plugs have a small, forked logo emblazoned on one side of the plastic, which faces up. It's not always there, so consider that your Plan B.

If that is not good enough for you, dab a bit of bright nail polish on the "up" side.

Need to hang projection screens or banners? Hanging banners with fishing line or black VB cord is always a huge pain when trying to get them to sit nice and even. A better solution is to use hanging hardware from shop fitters who supply hooks in varying but consistent lengths (up to about 1 metre). Using these hooks which are designed for hanging shop banners from false ceilings mean you get them up and horizontal every time.

For heavier loads such as fast fold projection screens, rock climbing slings are fantastic. Rated at one thousand kilograms breaking strain, they'll safely hang your twenty kilogram screen between two or three of them and it will be perfectly horizontal straight away.

Client Power - Seeing we are running a conferencing theme this month, it is worth mentioning that it is common for clients to approach you, just at the wrong time with their phone charger and say "have you got anywhere I can plug this?". You certainly don't want them fiddling around anywhere near your tech power so always run a dedicated client's power board that is completely independent of your gear. Potential disaster averted and happy client.

Have you got any tech tips worthy of publication?

One of next month's reader submitted Tech Tips will win a Shure SM57 courtesy of Jands, so get them in. You've got to be in it to win 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 suicide¹!

Support those around you and register for free mental health training



www.entertainmentassist.org.au

Supporting the mental health of Australian entertainment industry workers

¹Passion, Pride, Pitfalls Dec 2014

By **DUNCAN**
Fry



Fear and Loathing at Overseas exhibitions;

Where the Hell's our stand gone?

When you tell people you're off to Amsterdam, or Los Angeles, or Frankfurt, or Nashville to work at an exhibition, they nearly always say, "Enjoy the holiday!" Hah. Dream on baby! It's as far from a holiday as you can get.

Yes, it can be fun – after all, life is what you make it – but the whole process of getting everything organised and set up is nothing but worry until the stand is ready and the show actually starts.

Up till that time it's ulcer territory. Will the stuff for the stand turn up in time? Undamaged? Will the hotel have lost your booking? Will you have to sleep under one of the bridges?

Up at 6, in bed at 11.30 or later, up again at 6, and repeat as required each day until the show ends.

Out of the hotel at 10 am, then maybe a day wandering around aimlessly until your flight leaves at 11 pm, with all the shops shut because it's Sunday.

Quite a few years ago ARX had a booth at the NSCA exhibition in Nashville. We drew straws at work to see who would go, and, as luck would have it, I lost! The other boys figured that I had the highest tolerance for country music anyway, having once worked for RCA, the musical home of Dolly Parton and other country notables!

So, off I went, stopping at LA to pick up the late (and much missed) Algis Renkus, our US VP of operations, and then zipping over to Nashville.

Either Nashville has a really short runway, or we landed

halfway along it! The plane hit the deck with a bang, the pilot slammed on the anchors and did a sudden 180 degree turn so fast that I thought it was going to flip over! People screamed, luggage burst out of the overhead lockers, crashed to the floor and bounced along the aisle. I nearly spilled my drink! I should have taken this as a warning not to trust the airline.

It was night by the time we arrived, so we checked into our cheap motel.

In the morning we wandered down to the convention centre at the Opryland Hotel where the show would be, to check out our booth. Well, the spot was all laid out but there was no sign of our roadcases containing our display racks. Luckily we were a day early, so we had plenty of time to track things down. Or so I thought.

I rang the airline. I had all the appropriate Air Waybill numbers for the shipment, which had left our LA office a week beforehand, on an overnight delivery to Nashville.

The airline lady was very polite.

"Well, Mr Fry, we do have a record of the shipment leaving, but unfortunately we don't appear to have a record of it arriving anywhere!"

Unbelievable. Here I was, 12,000 km from home at enormous expense, ready to spend 4 days manning a booth with nothing on display except me! Well, I suppose I could hand out business cards!

I asked the lady to check it out, reminded her the show started tomorrow morning, and that there was very little chance of them getting paid if the displays didn't arrive in time. I said I'd call her in a couple of hours.

"OK, Mr Fry. Thank you for using United. Have a nice day."

Yes, it would be a great day, worrying about whether we would have anything to show. I would really enjoy myself!

I collected Algis from his room, and we wandered down the road to have a couple of heart starters and some good ol' down home cookin' at Lard Lad burgers.

Burping away happily, I went back to the motel and called the airline again.

"Oh, Mr Fry, good news" she chortled. "We know where your boxes are. They're in Chicago!"

"Oh, that's great news," I replied, but the sarcasm was lost on her. "Unfortunately the show's in Nashville. When are they going to be here?"

"Well," she says, "There is a slight problem. We know they're in the Chicago warehouse, but we can't find them. And, it's the weekend coming up, and a change of shift, but don't worry, we'll certainly have them for you next week."

I gritted my teeth.

"Lady, the show finishes this Saturday. If they're not here before the show starts tomorrow, you can keep them!"

There was a short silence while she absorbed this. We agreed to speak again in an hour.

I called three more times, but there was still no news. And by now it was night-time.

"Well, Mr Fry, I'm going off my shift now. I'll give the night shift operator your number; can she call you tonight if we have any news?"

"Look, she can call me anytime up till tomorrow morning. I don't care what time, just find the stuff."

I settled down to sleep that night with my favourite jetlag cure – a bottle of Baileys and a bucket of ice. Nature's own remedy!

At 3 am the phone rang. No prize for guessing who it was – the airline night operator.

"Yeth?" I said, my tongue unaccountably furry!

"Mr Fry, we've located your shipment, and it will be on the morning flight from Chicago."

"What time does that get to Nashville?" I croaked.

"At 9.30 am," she replied.

"Thankth." I replied and hung up.

Well, things were going to be tight. The show started at 10 and the airport was a fair distance from town. Still, at least they had found the bloody stuff.

I called the freight desk at the exhibition, since they always work all night before the show, and explained the situation.

"Could they pick up the shipment for me, and if so, how much?"

"Well now, that's 2 guys, and a truck, at special double secret overtime (or something like that!), plus show handling charge of \$150. Let's say \$450 all up."

I choked on my wake-up Baileys.

"And what if I get it myself?" I asked.

"We'd still have to charge you the \$150 handling charge from the doorway to your booth. Union rules, you know."

"Thanks, I'll be in touch" I said, and hung up.

Union rules? In a pig's arse. Union greed would be a more accurate term. I had no intention of paying anything of the kind.

I called Algis, woke him up and we organised a plan.

Bright and early next morning I called a taxi company, told them I needed a station wagon at nine o'clock to go to the airport. After a quick breakfast I looked outside, and there he was, bang on time.

I brushed the crumbs off my Trade Show special suit, and we headed off to the airport freight depot.

After waiting for about 20 minutes (with the meter running!) they finally released the boxes at about a quarter to 10. I offered the driver another \$20 if he could get me to the exhibition before 10 o'clock. I was hardly in the taxi door before he floored it and off we went!

All these exhibition places have emergency exits that can only be opened from the inside, so at 10 o'clock we pulled up outside the exhibition centre, tyres still smoking. I told the driver to blow the horn, an emergency door opened, and Algis leaned out and waved to us. We unloaded the boxes, I paid the driver, and trundled the roadcases in to the show just as the first visitors started to pour in through the main entrance.

By 10.15 we were totally set up and handing out brochures. We had made it.

And people think all we do is just stand there!

There was one souvenir of Nashville that I regret not buying. One day at the Bottle Shop near the motel I saw jars of a colourless liquid not unlike lighter fuel. It was Corn Liquor, a legal (tax paid) version of moonshine. And the sticker on the jar said 'Guaranteed FRESH – less than 14 days old!'

Sounded great, so I thought I'd get some on the day we left.

Unfortunately we left on a Sunday, and the bottle shop was closed. A pity, because I'm sure a few jars of corn liquor would have made the flight back to Australia just one happy blur. Still, maybe next time!

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