



THE VIDEO ISSUE

ROADSKILLS

THE PRESETS

Plus the PBR Global Cup and 20 Questions with Tony Bryan.

> MCEC CHOOSES ROLAND

Hands-on with the V-800HD MK II.

> IKONIX UTILISE AVOLITES AI

"NDI is the future for media servers."

> TEDX SYDNEY

Innovative Production Services live up to their name.

NEWS

VuePix and Infiled merge.
Steve Devine to shake up sales.
Helpmann Awards step-change.
Vale Warren, Mark, and Harry.

REGULARS

Andy Stewart.
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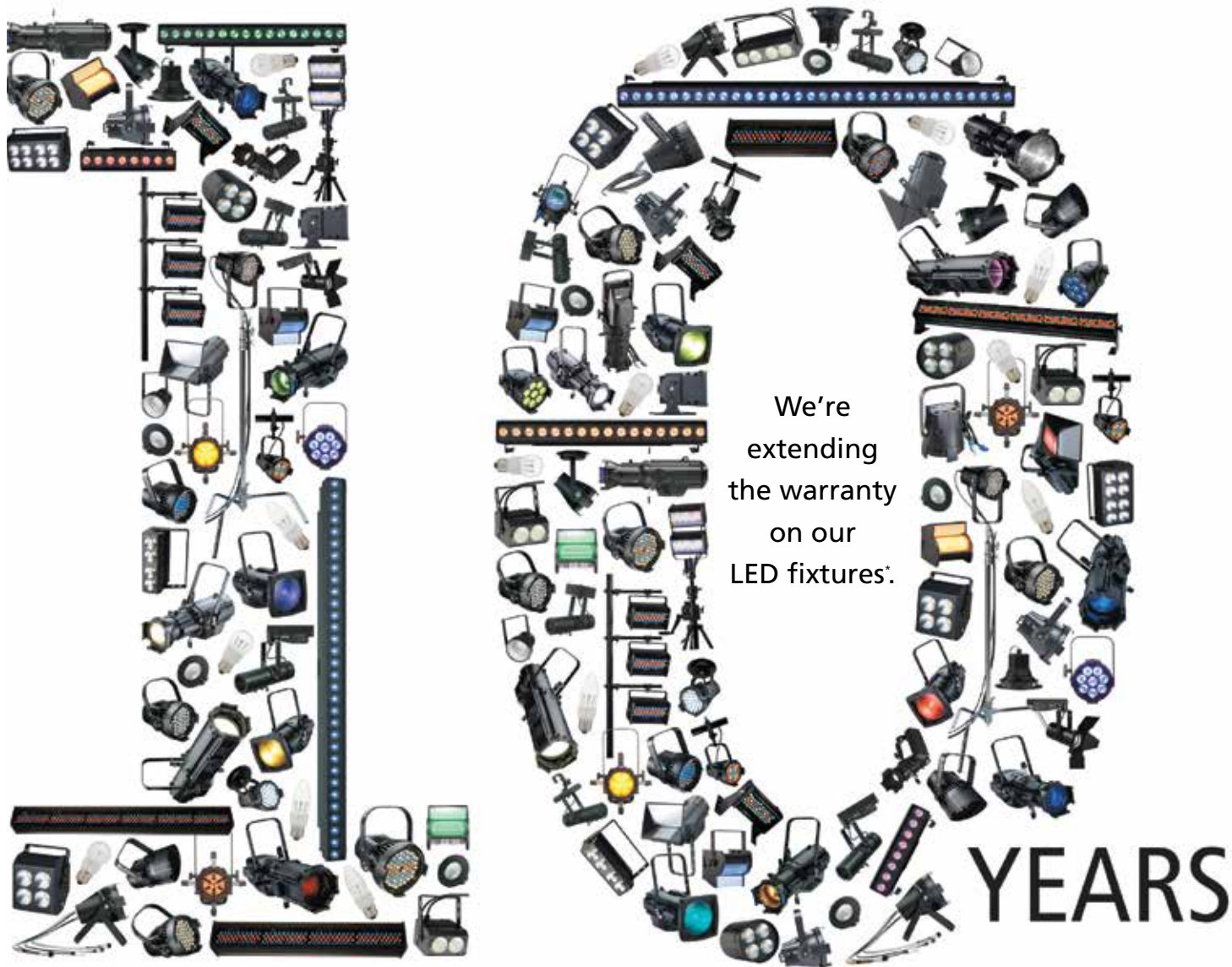
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* Cover Photo - The Presets (Credit - Kane Hibberd)

Published by Juliusmedia Group Pty Ltd ACN 134170460
under licence from CX Network Pty Ltd ACN 153165167.
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Phone: +61 2 408 498 180
Email: mail@juliusmedia.com

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Editor: Jason Allen

WELCOME TO THE NEW CX MAGAZINE

Since I took over as editor of CX back in March, I've been slowly changing the content and direction of the magazine. This August 2018 edition sees our new layout team, mark wood design, come on board to provide a completely new look and feel. I had the privilege of working with director Mark Underwood in a previous job, and I know he's going to produce a great end product. I can now say that CX Magazine is 100% made in Australia, from creation to printing, with most of that happening here in Victoria.

Road Test

One of the first changes I've made was to our gear review process. In the past, a piece of gear would be delivered to the CX office, and myself, Jimmy Den Ouden and/or Julius Grafton would use, interrogate, try to break, and generally bother said gear until we formed an opinion. While entertaining, I wanted the reviews to be more robust and useful for those parting with their hard-earned.

That's why our new 'Road Test' reviews are all written by industry professionals who have used the gear they're reviewing in real-world circumstances. Often they've invested in the product for their business. We get to that heart of why a piece of gear is or is not a good buy, how they use it, anything that could be improved, and the quality of the distributor's support.

How To

On the education side, our new 'How To' features are designed to teach a technician a particular technique or workflow on a given piece of gear, and as such are created by the manufacturers themselves. They're like a little piece of the manual re-written in an easy-to-follow, conversational tone, with pictures.

I'm running as much of this kind of content as I can muster because I want to turn CX Magazine into a valuable resource for technicians. I want the time anyone takes to read it to be repaid by teaching them new skills, inspiring them with creative ideas, and showing them what's possible with new tools and tech. I also want the magazine to be a reference library that builds over time, and is useful to revisit as readers enter new technical areas and start using new gear.

Theming

The third big change I've made is giving each edition an editorial theme. You're currently reading 'The Video Issue', with a strong emphasis on the creation, display, and handling of video in both live production and installation. These themes help our content creators get inspired, and our advertisers to target their markets. Upcoming themes include 'Integration', 'Projection', 'Communications' and 'The Great Outdoors'.

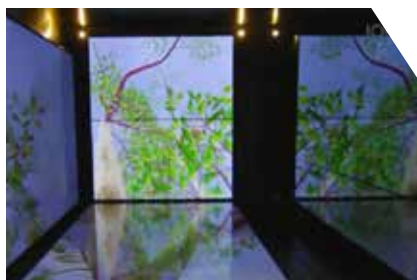
We Want Writers and Content!

As CX is expanding, we're always after new content and new voices. If you have an idea for a story, and can send us an example of your writing, please email me at jason@juliusmedia.com and pitch your idea. We'd be particularly interested in interviews with inspiring people, profiles of exceptional productions, or technical insights from out in the field. If you're not inclined to write yourself, we're always happy to get tips about exciting work that's being done, people who should be celebrated, gigs that blew you away, or anything else newsworthy. Tip us off with an email to jason@juliusmedia.com

Duncan Fry – Get Well Soon!

For the first time in what I believe is the entire history of CX, regular contributor Duncan Fry is absent from the magazine this month. Just before deadline I received the following text message: *"I'm not going to be able to finish off my story for this month as I'm in hospital with pneumonia and a drip in my arm! Sorry for the late notice but I came down with this at a gig on Friday night and woke up in hospital. Today's the first day I've opened my eyes. It'll make a good story for the next issue though!"*

So, there's still just a little bit of Dunk's World in this issue, and he even managed to collapse in the line of duty. Stay tuned for the full story next month!



disguise Powers Panoramic ION Sky Multimedia Show in Singapore.

Visitors and Singapore residents alike are flocking to the ION Sky multimedia show atop the tallest building on Orchard Road. Driven by disguise 4x4pro and 2x4pro media servers, the latest attraction on the city skyline offers a glimpse of the history and heritage of Singapore and Orchard Road when the area was little more than fruit and nutmeg plantations.

Installed by system integrator Mosaic Solution, the immersive video projections begin during the elevator ride to Level 55 of ION Sky. Trees climb up the elevator walls blossoming as visitors exit onto a ramp leading to the Level 56 observation deck. Seasonal interactive projections map the floor and walls of the ramp: the current spring/summer theme features flowers and butterflies. The observation deck window panels are covered with roller blinds onto which a four-minute historical show commissioned by Singaporean singer/songwriter Dick Lee is projected. At the conclusion of the show the blinds lift to reveal the stunning 21st century panorama of the city.

Malcom Foo, the disguise operator from Acoustic & Lighting System, which provides technical support to the show, uses a disguise 4x4pro with Quad-DVI cards as the master media server and a disguise 2x4pro to drive the extensive video projections. "disguise was chosen for its ability to handle 20 Sony video projectors with a minimal number of

servers," he says. "disguise also provides seamless integration with the Crestron master show control system."

During prepro the media servers allowed the content development team at VividThree Production to have a visual reference before the actual start of the set up, Malcolm explains. "The simulation allowed the team to see how their content looked and to determine the canvas size. Dick Lee provided ideas and the storyboard, and VividThree made them a reality."

The disguise Multi Transports feature enabled the team to have three different computer inputs displayed at three locations independently with Crestron control via Telnet. "Telnet was very useful as it permitted third-party applications or control software to trigger the disguise timeline," says Malcolm.

He also cites disguise's QuickCal feature for fast projector calibration. "Calibration and set up time was quick as we had planned and executed everything correctly. With disguise the on-site calibration was a breeze. It took me about two days to calibrate and blend the 20 projectors nicely."

He adds that, "support from disguise quickly resolved any issues that appeared and everything is working well."



CMI Audio's New Team - Breadth, Depth, and Coverage

CMI Audio's pro team has expanded dramatically, enhancing their ability to service the Australian pro audio community and their brands, including Adamson, Fohhn, and the Harman stable. New appointments include dedicated staff in Sydney and on the Gold Coast, and an industry veteran with international experience heading up the team.

Pro Audio Technical Sales Manager Andrew Rawlinson has joined the team to cover NSW and the ACT. Based in Sydney, his industry experience includes running his own business as a web developer and demo producer, building a studio in his house, running his own PA hire company, graduating from the Australian Institute of Music with a Bachelor of Music (Music Production), and working as Encore Event Technologies (ex Staging Connections) ANZPAC Purchasing Officer.

Queensland and the Northern Territory will now be serviced by well-known audio pro Brian Vayler, based on the Gold Coast. Brian was the inaugural National Sales Manager of Yamaha's then newly formed Commercial Audio Division, before working at Planetshakers Church as their production manager, which involved a great deal of Australian and international touring. He then went on to join wholesaler National Audio Systems as a technical sales specialist, before heading to Singapore to work for d&b audiotechnik. Brian will be delivering product training, design assistance, and technical support to the entirety of his territory.

Leading the audio team and acting as Consultant Liaison is Richard Hulston. Richard comes to CMI with a solid 40 years' experience under his belt, and a history covering most roles in the world of audio.

After many years of Australian and international touring, Richard moved into installation and integration, with notable achievements including his work on 2004's largest Harman sound system installation globally at Qatar's Khalifa Stadium, the setting for the Asian Games in 2006. He followed this up with two years as Meyer Sound's Middle East Sales Manager.

Richard has worked with respected international engineering consultants Hewshott in South East Asia, and boutique AV and ICT consultants CHW Consulting in Melbourne. He has handled international sales for Australian Monitor, worked with major audio manufacturers including Clair, and for wholesalers in Australia including Madison Technologies and National Audio Systems. His breadth of experience in the different parts of the audio supply chain means he has a unique perspective on both client's needs and the manufacturer's capabilities.

Richard, Brian and Andrew join the existing team of Retail Audio Products Specialist Andy Lloyd-Russell, Pro Audio Sales Manager Garry Farmer, Pro Audio Products Specialist Lee Stevens and Pro Audio Products Manager Mark Wayte, all under the auspices of Director of Audio and CEO Peter Trojkovic.

"These new appointments ensure that our entire market will get the professional support they need and deserve," says Peter Trojkovic. "With our recent expansion to include the Harman Professional audio range, and the depth of our existing offering and staff experience, there is no job in the professional audio world we can't cover."



Brian Vayler.



Richard Hulston.



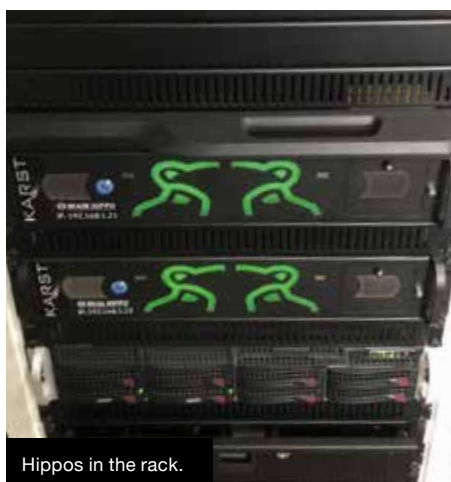
Andrew Rawlinson.

GREEN HIPPO MAPS VECTOR LIGHTS ON THE AUCKLAND HARBOUR BRIDGE

Auckland's Waitematā Harbour has been transformed by a unique, decade-long artistic project, 'Vector Lights on the Auckland Harbour Bridge'. Powered by a mix of solar, battery, and peer-to-peer systems, over 90,000 mappable LED pixels and other fixtures provide a vast, animated canvas for traditional Maori designs, and special celebrations. Green Hippo Karst media servers supplied by Lexair were engaged by Mandylights, who designed, installed and programmed the Vector Lights project on the Auckland Harbour Bridge. The installation is part of a ten-year smart energy partnership between Vector and Auckland Council.

"This project is one of the physically largest, and of the longest duration, that we've done," said Richard Neville, Lighting Designer and Managing Director of Mandylights. "Any media server solution we chose for this project needed to house and present content for a decade, support constant dynamic changes to keep it interesting, and be energy efficient. We also knew that an ongoing relationship with the supplier over 10 years would be critical, so the support network behind it is extremely important."

Thousands of individual LED pixels cover the bridge's steel lattice work and its main arch and spread below its road deck. Dedicated wash fixtures are fitted to the underside of the bridge and reflect off the water. All illuminations are controlled via PC and fed by content held and processed by a main and back-up Green Hippo Karst.



"The main technical reason we chose the Green Hippo Karst was its video mapping functionality," explained Clint Dulieu, Technical Designer for Mandylights. "We had to take the 4K map of the bridge and condense it to something that could fit into 1080 pixels to go to the LED processors. The Green Hippo is the only product I'm aware of that does that well. The canvas is about 25,000 pixels wide in reality, which we're compressing into a 4,000 wide video image. The Karsts are giving us the ability to scale pixels to different sizes, and not necessarily in divisible numbers. We worked with Green Hippo in London directly to customise that feature for us."

"We're even pixel mapping the wash lights, but not in the usual fashion," Clint expanded. "We're controlling them with the video file. When we're supplied video content that might not be from lighting experts, they can integrate the DMX fixtures into the show by manipulating certain regions of the video file. The Green Hippo Karsts convert that data to DMX, which then goes out via the PC to the fixtures."

All content is maintained, uploaded, and synced remotely by Mandylights. Green Hippo's media management system and sync functions ensure consistency between main and back-up. "The Karst is one of the only media servers that could deal with the physical size of the install," observed Clint, "and there's still a lot of room to expand if we want to add search lights, more pixels, or light up other parts of the architecture in the future."

"We had great support throughout the project, and we're confident the product will last for 10 years," confirmed Richard Neville. "We have a great relationship with Australia and New Zealand Green Hippo distributor Lexair, and with Green Hippo staff. The support is fantastic."

"The support and response time out of Green Hippo in the UK was second-to-none," concurred Clint. "We'd have a challenge that required a solution during the day, they'd come in overnight, and in the morning I'd have a new patch written. They were very much more of a partner than a supplier."



VuePix and Infiled are merging brands for Oceania region.

VuePix and Infiled co-founders Cuono Biviano and Michael Hao are excited to announce the merger of the two brands to consolidate their nine year partnership, strengthen their position in the Oceania region, and reflect their global reputation.

"We are extremely excited to combine the brands and grow our proven formula in technology and service delivery. Merging the two brands offers greater value and ROI opportunities to the global VuePix and Infiled network," says Cuono Biviano.

Michael Hao comments: "I am delighted with the co-branding, which is another step towards our commitment to the network and will continue to strengthen our market position in the region."

Joining forces will combine the best of both brands, with teams of specialists and their expertise, and a strong base of high-profile clientele.

VuePix, founded 12 years ago in 2006, is committed to providing the highest quality, most reliable and competitive LED display systems to fit the vision of their clients, exceed their expectations, and secure their return on investment. VuePix's reputation for professionalism and innovation has resulted in working with some of the most influential production companies and media agencies as well as the most iconic LED digital installations in the APAC region, including Melbourne Convention & Exhibition Centre, Australian Open, Channel 7 Rio Olympic Studio, Topgolf Gold Coast, QMS New Zealand, Rebel Sports, X Factor Australia, Twin Towns Clubs & Resorts, Okada Integrated Resort Manila and many more.

Infiled's dedication to the industry is reflected through their major investment in R&D, manufacturing processes and facilities, including high-level engineering and, most importantly, their people. With over 80 innovative patents, exports to 78 countries, and the capacity to produce more than 72,000sqm of LED display per annum, Infiled are one of the largest progressive LED display manufacturers in the world.

Devine set to shake up speaker sales.

The professional audio trade at the top end is a wonderful fusion of the latest technology, acoustic theory, and psychology because – and it's a big because – the top brands are all quite close in specification. And you can't 'see' sound. A top brand is a best choice because these manufacturers work to tight tolerances, they are strict with quality, and their performance matches or beats specification.

That's a lot of the reason why you see the major brands at the major events more often. People know they can bank on the brand, so why take a risk on a lesser known brand in a high stakes environment?

Which brings me to the three factors: technology, acoustic theory, and psychology. This is where this story is headed because Steve Devine (former partner in Meyer Sound Australia) is now working at National Audio Systems where he will sell d&b audiotechnik. Along the way he almost ended up at Jands, who now sell L-Acoustics.

Devine is in part a genius and in another part slightly insane. He has spent decades marshalling the many parts of his own brain, and when it all comes together he is an invincible brand

ambassador because he gets how people think and he bats hard for the client. His early decades in lighting suited the crazy because the 1970s and 1980s were crazy. His insane was more comical, never particularly dangerous (not counting the Mexico drug bust).

In the 1990s he learnt what he needed to know about audio – which isn't as much as many – and went out there and won business because he would say 'I don't know some of what you are asking, but I'll find out and get back to you'. To do that, he had stellar backend support and again at NAS he'll have that too.

Knowing some of the actors in all of the major audio firms, I think Steve will cut through because he's the kind of person who wouldn't attempt to sell something if he didn't believe in it. There's an inherent caution in younger professional audio sales people because they are nervous about being wrong and feel they have no choice but to trust the specifications. Devine won't have the caution, he'll just play the game his own way.

NAS and Steve Devine. Who knew? It'll be interesting.

by Julius Grafton.



Steve Devine.

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Helpmann Awards step-change. David Atkins takes charge.

Julius Grafton puts on the suit.

It was a different Helpmann Awards for 2018, with a two-night split trimming the main Capitol Theatre awards night show into a more manageable performance for ABC TV. CX walked the red carpet, assiduously ignored by the media pack who were all over Esther Hanaford (Best female actor in a musical / Beautiful: The Carole King Musical) instead.

A full house comprising the young and beautiful (on-stage) and the rest of us (patrons of the Arts, industry workers, sponsors, friends, and CX) were mixed together in a heady aroma of hope, desperation and inebriation after the foyer bar was flogged beyond design. Sydney's stunning Capitol Theatre and Michael Cassel with the producers of Priscilla Queen of the Desert graciously allowed the Helpmanns on to the set, a big ask for any dark Monday in theatre.

The previous night (Sunday 15 July) saw half the awards delivered in the Lower Sydney Town Hall, where technical winners included Michael Waters who won best sound design for Muriel's Wedding The Musical and Nick Schlieper won Best Lighting Design for Bennelong. Jacob Nash took out Best Scenic Design, again for Bennelong, which was a Bangarra Dance Theatre production.

On Monday night the Capitol Theatre event looked and sounded fabulous, however a two minute period of nothing after the curtain rose was either a TV hold or a glitch. This was immediately forgotten when the first performance kicked off: a vivacious stampede of sass with the cast of Priscilla Queen of the Desert The Musical.

Then followed a cluster of awards delivered and this time the nominees were named on a video roll instead of by a presenter (thank you Director!) so the delivery was very slick. With one exception: the 30 second speech limit where the orchestra strikes up to exit the waffler, was NOT universally enforced. This was wrong wrongness.

Next performance was an evocative duet from Sydney Dance Company dancers Davide Di Giovanni and Charmene Yap, followed by the stars of Muriel's Wedding the Musical singing the Juliusmedia theme song: 'You're f—ing amazing!' Actually, it is just called 'Amazing'. But it contains the said lyric, and I can't fail you by not including it!

I wasn't following the programme as I prefer to be surprised by whatever performance comes next and I sure was: the Brisbane-born international indie pop sensation Sheppard materialised on stage and

looked shocked themselves as the curtain opened and they faced 2,000 seated theatre types. They delivered their song 'Coming Home' brilliantly. It must have been weird for them, and I'm not sure why they were there either!

The commanding Maggie Dence delivered a moving poem to colleagues past, preceding the In Memoriam, a sobering segment that this year honoured 84 lost and fallen comrades. I was sad for a minute or so, especially remembering that the Helpmann Awards in 2015 is the last place I saw a very frail Eric Robinson, one of Australia's production industry legends.

The show closed with the biggest line up of Australia's leading vocalists from the Sydney Symphony Orchestra's concert production of Funny Girl. Divas and funny girls themselves Trevor Ashley (Hairspray), Michaela Banas (Upper Middle Bogan), Natalie Bassingthwaite (The X Factor), Casey Donovan (Australian Idol), Virginia Gay (First Tuesday Book Club), Verity Hunt-Ballard (Mary Poppins) Dami Im (Eurovision), Maggie McKenna (Muriel's Wedding), Zahra Newman (Book of Mormon) and West End and Broadway star Caroline O'Connor had the audience standing in their seats and cheering for more.

Then it was a cold walk up George Street to The Sydney Town Hall for The After Party which showcased the classic Centennial Hall brilliantly. The booze was flowing, a DJ perched like God up high was fiddling with his Mac (sending emails, checking his profile) while pressing play on some dance tunes, and an organist materialised to play the overture from Phantom of the Opera on the Grand Organ. When it was installed in 1890, the Grand Organ was the largest in the world and described as the 'finest organ ever built by an English organ builder'.

Watching the dance floor at the Helpmanns reminds me: never dance where there are professional dancers dancing. You. Cannot. Ever. Look. Good.

Sydney has been good to the Helpmanns. Stephen Found's Foundation Theatres (Lyric and Capitol) have always made room, and the state and city have chipped in. But the theatre and events powerhouse of Australia has snagged the show next year, and we look forward to catching up with what will probably be the largest awards show so far in Melbourne.



Funny Girl.



In Memoriam.



Priscilla.



Sheppard.

Footnote: a sombre topic overheard was the future of Sydney's Theatre Royal – dark for several years and currently in the hands of a developer who may, it is mooted, transform the essential theatre (Sydney only has a few) into a freaking shopping arcade.

Another sad footnote. CX and ENTECH co-founder Caroline Fitzmaurice-Grafton passed away three years ago on the very same night as the Helpmann's. We will always remember her.



Muriel's Wedding

Vale Warren, Mark, and Harry.

CX offers condolences and respects to the family and loved ones of Warren Peryman, Mark 'Noddy' O'Donnell, and Harry M. Miller who all passed away in recent weeks.

Warren and Noddy were road crew from the 1970s era who worked their way up the slippery road and maintained universal respect. Harry M. is the entrepreneur who staged shows and managed artists at the highest levels of the Australian entertainment industry while driving very hard deals.

CX knew Warren during his days with Jands Concert Productions and also from random 1970s gigs. He was a friendly, strong, reliable guy. Noddy started at Phil Cullen's lighting company Mac Enterprises and worked alongside Ashley Swinfield, who became a lifelong friend. Harry M was Harry everywhere across the 1970s until early 2000s when he retired. He created events that created a lot of employment.

Rest in peace.

NEW GEAR

LIGHT



Robe Tarrantula

The Tarrantula is powered by 36x 30W and 1x 60W high powered emitters providing 20,000 lumens of output. The optical system offers an adjustable beam angle, from a 4° spot to a 50° wash. The LEDWash 800 inspired Beam Shaper accessory creates a traditional oval beam that can be indexed to precisely cover the desired stage or performance area. Central to the effects capabilities of this fixture is the exclusive Robe 'Flower Effect'. Driven by the 60W RGBW multichip, this creates the sharpest spikes of light, rotating in either direction with controlled speed. Fully saturated and intense colours as well as subtle pastel tones are created with smooth transitions thanks to the integrated internal 18bit LED dimming system. Dynamic video effects are easily achieved by mapping individual pixels controlled by a DMX desk or media servers via sACN with internal HTP merging, DMX or by Kling-Net protocol.

Australian Distributor: Jands
www.jands.com.au or (02) 9582 0909

High End Systems Sola3000

The High End Systems Sola3000 features a 1000W Bright White LED Engine producing 38,000 field lumens with a 7°-55° zoom, and can be fitted with an optional Hi-Fidelity engine with 95+ CRI, Rf 90, and Rg 100. It includes a CMY / CTO - Linear colour mixing system, 6 position replaceable colour wheel plus open, and a framing system for total control of beam shaping. In addition, it is fitted with an Iris, Light Frost, and Prism, seven position plus open interchangeable gobo wheel, seven position plus open rotating gobo wheel, and a continuously rotating animation wheel.

Australian Distributor: Lexair Entertainment
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ShowPro LED ColorDoq

The ColorDoq is a wireless battery washlight in a super slim foldable housing. It offers nine hours continuous battery-powered operation at full output, 20 hours at a single colour. Features include on-board wireless DMX, three channel Hue Saturation Value and Hue Saturation Intensity modes and ultra-linear dimming technology for flawless colour mixing.

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Barco OpSpace

Barco's patent-pending OpSpace is the first personal workspace that creates a single workspace consisting of a number of displays on the operator's desk for viewing, monitoring and interacting with multiple clients that reside on multiple networks with different security clearances or liability concerns. All relevant information can be consulted and manipulated within a single pixel space, with just one mouse and keyboard. In this way, the operator is at the centre of the information and has all data within easy reach.

Australian Distributor: Barco Systems
www.barco.com or (03) 9646 5833



NovaStar J6

The J6 is a high-performance multi-screen video unit designed for stage screen management. Various function buttons on the front panel simplify the operation. The J6 comes with new smart management software, which allows a variety of splicing effects and more flexible screen layouts to fully satisfy users' needs. The J6 offers up to 6 windows and 1 OSD output. Each window supports resolutions up to 4K x 2K. The 4 outputs of a single J6 unit accept free splicing to meet the requirements of extra-large screens. More than 20 transition effects are supported for seamless switching between the input sources.

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



RGBlink Venus X7

RGBlink Venus X7 is an HDCP compliant, scalable and extendable routing and video wall processor configurable to support a variety of inputs and outputs and windowing capabilities. Venues X7 features RGBlink 3rd generation high performance video scaling technology for excellent image reproduction.

Australian Distributor: ULA Group
www.ulagroup.com or 1300 852 476



VuePix DB Series

VuePix DB Series features deep black LEDs and ultra-black mask for superior image quality, ultra-small LED chips with high luminous intensity and wide colour gamut, brightness up to 1,500nits, high contrast ratio and refresh rate, edge and feet protectors, and cable-free power and data connection for an elegant and clutter-free look.

Australian Distributor: ULA Group
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VISUAL

NEW GEAR



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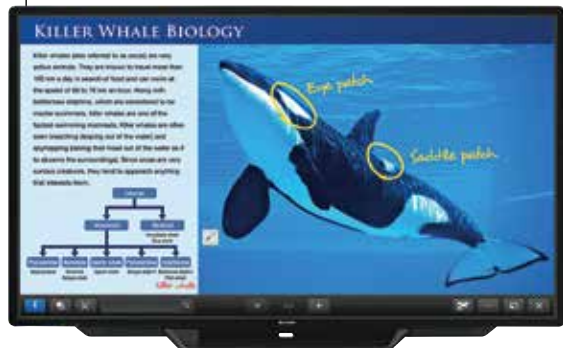
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NEW GEAR



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THE PRESETS

by Cat Strom

The electro duo played to packed houses with Matt Hansen back behind the lighting console.

In support of their long-awaited fourth studio album, **HI VIZ**, Aussie legends **The Presets** embarked on a headline tour of Australia taking in gigs in Perth, Adelaide, Melbourne, Canberra, Wollongong, Sydney, Brisbane and Gold Coast.

Supplying both the lighting design and the gear for the electro duo was Matt Hansen and his company MPH Australia. Matt has worked for The Presets for many years in a variety of forms including operator, designer, tech, and supplier.

For this tour the act decided to have a scaled down lighting and video show, something quite unusual for them. Their last tour had a massive LED element including LED tape that proved to be expensive and problematic, as it was still early days for that technology.

This time around a selection of different video artists were engaged to produce unique clips for every song and Matt's brief was to basically keep up with the videos!

"With all the different styles it was very tricky to design the lighting around the videos," said Matt. "The LED screen is so dominant and so bright, finding the correct balance took some time. Obviously I saw the clips before I designed the lighting, but it didn't really make my life any easier as it was difficult to get a theme running through the set. Having said that, I think we have achieved it!"

One of the main reasons the band went down the path of having a video show was that if they were doing festivals in daylight, they had a constant element that could simply be played through Catalyst whether the lighting rig was theirs or not.

The lighting design was conceived to be scalable with addition or subtraction to the floor package. If a venue did not have rigging facilities, the towers alone could be used.

At Sydney's Enmore Theatre, the band performed on a super-sleek and clean stage, using IEMs with minimal audio clutter on stage and all of their control equipment out of view. The lighting flanked the video screen, again keeping the overall stage look clean with no lights silhouetted by the video screen.

To combat the brightness of the screen, Matt straight away turned to the Robe Robin Pointe.

"I specify it on every job I design and not just because I own some!" he said. "Compared to a Claypaky Sharpy, they have a lot more features; they have a zoom, you can have rotating gobos and when there's 40 of them in the rig, it's hard to mess up."

The screen was surrounded by Robe Robin Pointes with eight located above it, another eight positioned on the floor, and the four floor towers each held a further six. At the top of each tower a Robe Spiider was positioned with more on the front and back truss plus a couple on the floor.

"The Robe Spiider is my wash light of choice at the moment," commented Matt. "I have 18 in the rig and although I have dabbled with their centre flower effect, they are mainly for wash on this show. They're super bright, have a nice form factor, and are a good size. The zoom is very nice and they're really quick."

The band are not keen on front light so it was kept fairly minimal with four Spiiders, some 4-way molefays and a couple of SGM P-5 strobes. Another eight SGM P-5s were scattered through the rig with Matt describing them as not only a good strobe but a great wash fixture too.

The main spot fixtures were 12 Robe BMFLs which are super bright, especially in a theatre venue, and very, very fast for a big light.

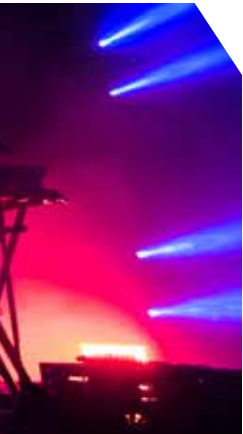
FOH Matt was running a High End Hog4 having never found the time to learn an MA console.

"I was very tempted to do this tour on an MA2 but I got scared!" he admitted. "I decided to stick with what I know. It's pretty well all time coded with a couple of songs still a work in progress. The guys have a track the whole way through, just for consistency and to make life easier as there are a lot of cues that would physically be tough to playback that quick every night."

The time code came from the band's Ableton Live with a Catalyst media server onstage to handle the video.



Matt Hansen



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MCEC CHOOSES ROLAND

Melbourne's Factory Sound were recently chosen by the Melbourne Conference and Exhibition Centre (MCEC) to supply and consult on equipment for their major audio visual upgrade. Marc Allen, from Roland Pro AV in Australia, visited the MCEC to discuss their recent installation of fifteen Roland V-800HD MK II video switchers.



Greg Cavanagh, the Manager for Technology Specialist Services, Justin Hampell, Vision Specialist, and Jamie Girling, Vision Services Coordinator, generously spent the day talking about the MCEC's production vision and how they have integrated the V-800HD MK II into their evolving infrastructure.

MA: Hi Greg, thanks for your time today. Can you tell us a bit about what you do here at the MCEC?

GC: As the Manager for Technology Specialist Services, my role is new and I started in September last year. I spent the previous four years managing the operations of the team and this new Product Development and Specialist Services role came through and I have transitioned into that.

My first focus was to re-scope the product mix that we could offer our clients. With our old infrastructure, we weren't able to deliver proper digital signal paths with HDCP compliance. It was important to get our entry and mid-level offerings to a stage where they could tick almost every box, and then create another tier up that will do the slightly more complex productions for our clients.

We have over 52 meeting spaces here at the MCEC and we spent three million dollars on our fibre upgrade when we switched over from SDI, and that infrastructure allows us to send signal throughout the complex.

MA: Was there much involved in your decision to incorporate the V-800HD MK II?

GC: For two years we had been searching for a new video mixer that would meet the requirements that we had set out at the beginning of the project. We were looking to replace our fleet of analogue switchers with a fleet of switchers that have digital capabilities, HDCP compliance, and the ability to send multiple vision sends to different locations.

Everything that we could find that could do all of that was way out of the price range we were looking for, as all of our customers were screaming for something at a lower price point. They were looking for a Barco PDS-902 equivalent, something that could do digital, which was really inexpensive. We couldn't find anything appropriate.

Once the V-800HD MK II got released, we saw the price point and thought that it made a lot of sense. I think we originally considered the MK I, and at the time we thought that we had scoped for this 'Unicorn' that could do absolutely everything including all sorts of matrix switching.

The auxiliary outputs also drew us to the MK II. We needed the capability to send different discreet vision signal elsewhere. Often there will be additional screens in the room that will need separate content or videoconference sends, so now we have the capability of doing that with the new switchers.

MA: Do you get asked to do many webcasts at the MCEC?

GC: Yes, we do a lot of webcasting and we have definitely used the V-800HD MK II for that as well.

We use GoToMeeting for a lot of our streaming, especially if we have presenters who can't make it into the building but they want to be able to interact with the audience. We can also send them an audience shot if we set up the camera for it. With the MK II we have lots of options, which is good.

MA: As part of the process, did you consider IP based solutions?

GC: We did. One of the things that we know that our customers want is the personalised touch and for them to have the security of having someone actually operating their show at the back of the room. The software options and doing everything over IP doesn't have the actual tactile nature of the switcher, which is important to run a show properly. If you've got a mouse, you have to look around at where you're going to press. Hardware is a lot easier and simpler.

The other thing is that it means that there is a lot less training involved. To know the software in and out you have to get people really trained up on it, whereas for a switcher like the V-800HD MK II, we can get people in front of it, spend two hours with them to get them across the ins and outs of the switcher and the rest of the infrastructure we have built around it, and they are ready to go!

Interestingly, there is a touch panel built into the lectern in each of the rooms so that the presenters can switch inputs and manage the event themselves. The overwhelming feedback that we keep getting is that it doesn't have the human touch that people need. They want someone in the room to look after them and provide them with that service. So, that's where we decided to invest more and more into vision switchers and I suppose the evolution of that is that now we are here with fifteen of the Roland V-800HD MK II switchers.

MA: I see that the V-800HD MK IIs are built into portable frames. Can you tell us about these?

GC: With a venue as large as ours it's really important that we have the ability to deploy our vision services as quickly and easily as possible.

Jamie: What we've done with the switcher is we have incorporated it into a custom designed, custom built module that has a front plate with a patch panel, the Midas DL16 which is an audio breakout box, and two integrated PCs, including three monitors for multi-view, preview and program, that all roll with the module as well as the switcher.

What it means to us is that it reduces setup time, reduces strike time and it means that the amount of gear that we have to prepare when we are actually setting up for an event, especially when the turn-around times are very tight, is minimal. This also allows our customers to come along with laptops and devices at the last minute and we can easily plug them into the front panel.



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by Cat Strom

PORSCHE CAYENNE LAUNCH



IKONIX utilise Avolites Ai for prestigious car launch; “NDI is the future for media servers.”

Based on the Gold Coast, IKONIX are highly skilled and experienced across multiple facets of any event or installation, including design and operation of audio, video, lighting, rigging, automation, power management, staging, and customised special effects. They are fast gaining a reputation for innovative content delivery, including projection mapping and pixel mapping, hologram and holographic projection, and for their work with media servers.

In June, IKONIX worked with Porsche Centre Gold Coast to launch the new Porsche Cayenne at Palazzo Versace. In a time-coded sequence, they used their new Ray Technologies RTI NEO SIX RGB laser bars and their new ROE Strips with Brompton Technology Processors. They also used the new NDI (Network Device Interface by NewTek) output feature in Avolites Ai media server to pre-visualise the entire sequence.

“We were engaged to produce an opening sequence that would wow everyone in the room,” explained Richard Saunders, Director at IKONIX. “We were in pre-vis for a week programming lasers, lights and ROE Strips in Capture with Avolites Ai feeding Capture the three NDI feeds.”

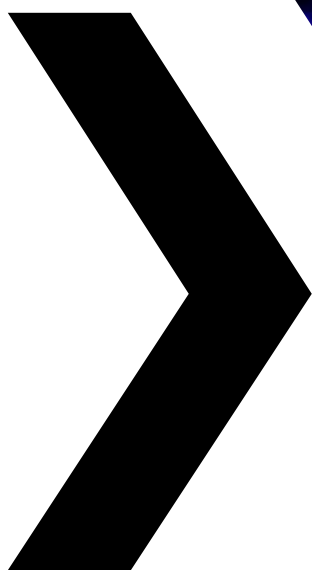
NDI allows you to send video data over Ethernet, providing a robust way to send large video data quickly and accurately. Currently Ai supports up to 8 inputs of NDI which do not require any additional hardware.

In the initial pre-vis it was decided early on that they would be using NDI out of Avolites Ai into Capture. IKONIX have a pre-vis suite setup upstairs and their media servers downstairs, linked via fibre. The NDI output is patched in Ai and it appears as a source in Capture, this is then applied to their 3D model of the setup.

“With NDI being so simple to setup, as long as we are on the same network, we can see the source everywhere,” commented Richard. “This is all controlled via an MA Lighting grandMa2. The programming itself for the show took about five days, with timing being the biggest key point.”

The show itself was run completely via timecode with a Brainstorm Destripalyzer generating the time code which is then fed into the MA2 and Ai.

Richard commented that when working with video, gigabit Ethernet with quality Cat6 or even fibre is the key, and a stable, robust switch is paramount for the very heavy network traffic.



"NDI is the future," he added. "It has an extremely low latency, is IP based and an SDK that a lot of the big media server manufacturers and integrators are picking up."

Render quality is a key element for IKONIX, and they believe that Capture generate the best quality renders on the market. Being able to integrate NDI, lasers, flames and water acts perfectly fits their design workflow.

"Avolites Ai gave us maximum flexibility on this, being able to output NDI on all fixtures in pre-vis plus being able to see the 3D model inside Ai in 3D is a huge advantage for us and the client," said Richard.

The crew only had 4 1/2 hours to build the set, so it was designed for a quick install, allowing the client plenty of time for a rehearsal. The extreme time constraints meant that all the equipment was ground supported. The end result was two rear projection 20m x 11m screens with 20K projectors, 52 Roe Strips with Brompton processing, and two Ai servers (main and a backup) running the two projection screens and the Roe Strips. "The Roe Strips are actually an LED video product as opposed to a lighting product so they don't run ArtNet, rather a traditional video signal," said Richard. "Their colour depth is far greater and the refresh rate is much higher so we can get a lot more gradient out of them. We particularly wanted that for this project as there was a lot of fast moving video."

IKONIX also implemented their new Ray Technologies RTI NEO SIX lasers which are DMX controllable, with each of the six lasers in the bar individually controlled with their own scanning heads.

"Basically they're a 3 Watt RGB laser run like a moving light," added Richard. "They pan and tilt and have gobos in them with RGB control."

The video lasted 90 seconds and was a mixture of supplied content from Porsche and custom made graphic animations created by IKONIX.

"We made content to suit the Roe Strips, and there were bits in between the video itself that were cut up with animation," explained Richard. "That animation went from the projection screen, out to the lasers, and the Roe Strips as well."

Also in the room were Robe Robin Pointes, ShowPro LED Profiles, GLP impression X4 Bars and TourPro Storm LED strobes.



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THE PBR GLOBAL CUP

by Cat Strom

No bull**** from Michael 'Simmo' Simpson, on the ride of his life with Pro Bull Riders!

In June, some of the best bull riders on the planet journeyed to Australia in an attempt to win the Professional Bull Riders (PBR) Global Cup. The two-day event held at Sydney's Qudos Arena was the second stop on Global Cup's international tour.

Led by fourteen of Australia's top cowboys, the Australians set their sights on world domination as they battled against Brazil, Mexico, Canada, and the United States for bragging rights and the honour of being named the world's best.



Michael 'Simmo' Simpson & Jim White.

Unfortunately the Australians were pipped at the post by the Brazilians.

Making sure the production ran smoothly was Michael 'Simmo' Simpson, who many know from

his years working with Chameleon and some of Australia's biggest acts. Nowadays Simmo resides in sunny Townsville where he happily works full time as Production Manager for PBR Australia.

"I now work a generally 9-to-5 job looking after anything from transport to merchandise," commented Simmo. "With this show I've not just designed and organised the production, I've arranged all the transport and looked after all the logistics."

It's been an exciting year for Simmo; not only has he designed this show, he has also been instrumental in PBR Australia investing in its own portable stadium. This year the new stadium will visit eight stops across Victoria, NSW and QLD, with plans to grow to 12 tour stops in 2019.

The new stadium has a 3,500-capacity, which includes seating for 2,500 and 18 arena-side corporate boxes. The seating is expected to reach



a capacity of up to 6,500 by 2020. It features a custom-built mega screen to take the audience behind-the-scenes inside the bucking chutes and to give slow motion replays for each ride.

It also provides a rock concert backdrop, with Australian country music star Casey Barnes confirmed as the headline act for every leg of the 2018 national tour.

The stadium came from Pakar Seating in Malaysia, the same company that provides for F1 and V8 events.

"We can now go to any block of land and set up our own venue," said Simmo. "We've only put it up three times so far, so it's still a work in progress. At the moment it takes us about three days to erect, two days to put the arena together and then two days to pack it up. It's great for the patrons because no one is more than 14 metres away from the arena floor."

It was a few years back whilst working at Chameleon that Simmo first lit the PBR in Australia using a rock'n'roll inspired lighting rig, a world first for any PBR show. Since taking up working for PBR fulltime, he has been on a mission to persuade the PBR's American partners to switch to the rock'n'roll lighting format.



"They're used to just switching the room lights on which is very sparse," said Simmo. "I'm trying to create a little bit of a mood and so far the response from the US guys has been very promising."

The two shows at Qudos Arena were live streamed to millions of people in the US and the feedback has resulted in the possibility of the ground-breaking lighting design being taken to the US in an attempt to create a signature model.

Simmo certainly added a little bit of rock'n'roll flair to the night, concentrating on the arena floor

whilst keeping light away from the spectator's eyes, although predominantly the event was lit for broadcast.

"When the bulls are bucking it goes to white, lit evenly for the camera, but if we have an issue like an injured rider I'll turn the arena blue to distract the audience," added Simmo. "It's all about live broadcast so I don't go too berserk and it never goes black. I keep it lit and when there's a good score, I can do a fanfare."

The main grid was a circular truss with four fingers spanning out. The original design was going to be a wagon wheel with eight spokes and Simmo was going to use ShowPro Dreamfest festoon lighting to do the rim but the budget didn't allow it.

"However it's a design in my hat for if I get to go overseas with them!" said a hopeful Simmo. "I think they may incorporate some of this into the Las Vegas National Finals where the budget will definitely be bigger."

The circular truss held Martin MAC Viper AirFX Spots, Claypaky Sharpy Washes and Profiles, MAC101s in bars of four and DTS 200 LED 4 Lites. Three large audience trusses held MAC Viper AirFX Performances, Sharpys and Ayrton Wildsuns in

order to cover the expansive arena especially for broadcast.

The Martin MAC Viper AirFX Spots are predominantly for the flood and spot lighting whilst the MAC Performances and Claypaky Sharpys are to light the front of the shoots.

"I'm only using them at 15% as the AirFX are really just for added punch on the shoots to give them extra pop," added Simmo. "However my favourite fixture is the Ayrton Wildsun. I love them and wish people would buy more of them! They're my saviour, they're so bright. The camera guys say that under the rock'n'roll system with the Wildsuns, they can do double the slow-mo speed than with the arena lights, plus they don't get flicker."

Simmo ran the show on his trusty High End Systems Hog4. "The Hog4's quick for me, and I know the layout very well." Said Simmo. "Every time I see an MA operator, they have a different layout! I'm a bit of an old fashioned lighting guy, I don't need to do all the whizz-bang timecode stuff – I prefer to do manual. I run a cue list but you have to be hands on with this show."

Bulls are difficult to get to work to timecode, even though they are treated as elite athletes and, at an average cost of \$30,000, they are pretty pampered. Whilst the show is on they patiently await their turn backstage and then it's like someone flicks a switch and they become alive. Once the cowboy is ejected they calmly trot back to their pens.

As the bulls are not allowed to travel for more than eight hours at a time, holding pens have to be found for at least eight hours of rest for what is called Camping Cowboy World, and in Sydney they were housed in Camden for five days. The bulls are bred and trained to do what they do.

For the past four years Forefront Productions have taken care of audio for PBR with Simmo singing their praises saying he's always been impressed by them. "They've never let me down and are always ready to help," he said. "It's the same with Chameleon; Tony always helps out."

It's a fairly simple audio gig; background music and video background with MCs over the top.

Occasionally there's a performer with an acoustic guitar.



"Basically we just need to be hitting every seat in the room at 100dB," commented Rob Thorne from Forefront. "We need to deliver good speech coverage and also background music coverage."

Rob achieves this by plotting the venue into the Nexo software they're using for the Nexo STM system. In turn the software tells him how many boxes he needs and where to put them.

"We then overlay that onto where we can rig it in the building and how it all fits with lighting, video and all the rest of it," he said. "It's performed really well and everyone has been very happy with the PA."

Coverage is spot on, we've grown to really trust the software. If you hang it the way that it tells you to, you can hit every point in the room. Sometimes it may not look correct or what you expect, but we've found that it always works."

The result was four hangs with Nexo STM S118 Subs at the top, then the larger Nexo STM M46 Line Arrays with the smaller Nexo STM M28 Line Array full range box at the bottom. These were all powered by Nexo NXAMP4x4 Processor / Amplifiers.

Rob ran a DiGiCo SD9 audio console which covered FOH and monitor duties. Inputs come from the MCs, entertainers, in-room video and broadcast video, plus background and sting music tracks. Outputs are to the MCs and entertainer's IEMs, Sennheiser G3s, plus full mix and mix-minus feeds to both video crews.

Additionally, Rob integrated the comms feed into the SD9 via a customised unit so the show caller can communicate directly to anyone via their IEM System, meaning they do not have to wear comms headsets as well.

Photos: Elise Derwin



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by Andy Stewart

A LETTER WITHOUT AN ENVELOPE

The days of releasing a single without a video are over. They were 30 years ago.

So why are so many people still scrambling to make a last minute video for their latest music release, or worse, shrugging their shoulders and doing nothing? Video-less single releases are a great way to sink your song like a rock.

It's astonishing to think that in 2018, video content is still seen by many as an 'option to attach to their music release', rather than a necessity. In my book, a music release of any kind – be it a single, an EP or an album – is doomed to failure if there's no video content to connect it to the all-dominant visual world.

The video-less release is like a letter without an envelope. You wouldn't post something in the mail with no packaging, address or stamp on it, and expect it to arrive at its destination would you? It's the same with music... has been for the last three decades, probably longer.

But still the paralysis persists. Too many people think they can get away with having zero video content of things like conventional videos, making-of docs, Facebook messaging of upcoming releases, gigs and so on. In one case recently, a band I was mixing even contemplated refusing to provide the media with band shots – stills I mean!

"The music will draw them in," they said. "They won't be able to resist it!" They did. It flopped.

In an age where YouTube rules and access to a global audience has never been cheaper or more streamlined, you'd think people would be all over their video content by now. Many are of course, and there's some absolutely fantastic work done by video artists and musicians alike (often on a shoestring budget). But significant numbers remain resolutely stubborn in their resistance to this now long-established norm. The fact that this issue is even up for debate amongst some of my clients is truly gob smacking. Seriously, is this 2018 or 1978?

Cheaper By The (Several) Dozen

We all know this argument by now, surely. Back in the day when a camera cost tens of thousands to purchase and required a DOP to operate it, video releases were understandably the preserve of big bands and record label releases. But now cameras are in your back pocket requiring no expertise. There's no film stock to buy, no processing required, no physical cutting on layup machines... it's a piece of cake, relatively speaking. The costs are a tiny

fraction of what they once were, and in some cases, they're actually zero.

So there should be no excuses left, not a single one. Anyone interested in growing a fan base should understand by now that without being seen, they won't be heard. It's that simple.

A Song That I Used To Know

For many, this subheading alone should be enough to recognise whose video I'm about to mention. Six years ago now – yep, it's been that long – a friend of mine who goes by the name of Gotyé put out a great song called Somebody I Used to Know. The song was great, the video was too, but what was most fascinating about it was why it became a global phenomenon.

The album we worked on won Grammys, and the hit single was copied and covered, mocked and parodied the world over more times than anyone could count.

What made it so successful is impossible to quantify now with any certainty, but from where I stood back then, it seemed likely that without the now iconic video on board the song couldn't possibly have had such a massive impact. Take the video away and who knows what might have been.

The point is that without this fantastic visual interpretation of Wally's spooky duet, it's possible (or perhaps even probable) that the song wouldn't have gained anywhere near the notoriety it did (and we'd still have our old kitchen). If Wally had, for instance, done a video of him morosely flicking through his record collection looking for all the missing vinyl his girlfriend stole, maybe people wouldn't have even liked the song. We can never know for sure.

Sometime later, a few years ago now, I worked on an album with Paul Kelly, and like Wally, Paul put out a video with a song off the album called New Found Year, which I loved. I was probably biased because I also sang and played drums on the song, as well as mixed it. But putting that aside, it was still a really nice track, from an artist who most people in Australia knew.

The video was terrible; thrown together by a third party who seemed determined that it have no impact at all – malicious damage I called it. Needless to say it was a statistical flop. Good song, but the video did it no favours whatsoever.

There are countless other factors at play here of course, which inevitably impacted on the trajectories of these two otherwise unrelated songs: the age group of the audience, the nature of the music, the age of the artist to name but a handful. Nevertheless, one billion views on YouTube alone

(1,083,347,414 on the day I wrote this article), as opposed to 13,165 is a compelling discrepancy in the figures. Perhaps it's a meaningless contrast, and by some measures it is. But from my perspective they were simply two really good songs by popular Australian artists, only one of which had a good video.

Cheap & Awesome

I don't get involved in making videos for people generally. I'm a record producer, a mix engineer, a mastering engineer, a DIY home designer and builder, a father, a husband, a hobby farmer, a volunteer firefighter... but I don't make videos for people (though perhaps I should – I have so much spare time!). I might throw ideas for a video around during mixing sessions occasionally, but that's about as far as my involvement ever goes.

But I'm a huge advocate for a great video-clip. I know that's easy to say, hard to do, and perhaps it's no different to me saying something stupid like: 'I'm a huge advocate for smash-hit singles'. What I can say with supreme confidence is that those who still hold onto the notion that a video clip is 'optional' are kidding themselves, and doomed to failure as a consequence.

Get out there with whatever technology is within your (typically easy) reach and start rolling film (well, not literally). If you don't have any ideas for a clip, don't let that stop you filming stuff. Just shoot things... try out the iPhone in your pocket, the GoPro in your drawer... stick it on the dog's collar or tape it to your \$50 Aldi drone. Experiment like you would with audio, and stop telling yourself and others that you don't know anything about it. Who cares?

A mate of mine with nothing but an iPhone running in Slow-Mo mode did one of my favourite video clips of recent times. It was one continuous shot of a seagull floating on the water near his boat. The sun was glinting on the surface and it matched the music beautifully. It was mesmerising... and cost two cents (an estimate based on 50% of the phone's battery recharge). A second clip worked off the same basic principle – one shot, no edits – only this one was of the sun and a summer breeze blowing through a lace curtain. It looked so good I thought I should take up filmmaking...

There was just one problem. My Samsung caught fire and now I'm back on the old iPhone, which has no storage capacity!

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

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Ethan Wetzell | Platform Strategist

Ethan works on platform strategy and core technology across EV, Bosch, Dynacord and RTS. He will analyse the current standards landscape and his session will help cut through the fog of standards activities within the industry and their impact on the market. Technical information on standards such as AES67, AES70, ST-2110 and their relationship to solutions such as Dante and OMNEO will be provided.

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mDNS OCA IS-05 AES67 AES70
DNS-SD RSTP
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Amplifier Engineering Excellence

Jonathan Bailey | Global Product Manager

Jono is the Global Product Manager for Dynacord Electronics. He will give an insight into key patented technologies of IPX & TGX DSP amps including Eco-Rail Power Conservation, Junction Temperature Modelling, and how these amps can be driven reliably even below 1 ohm with Cycle by Cycle Current Limiting. An entertaining and impressive power comparison demonstration will close the session.



Introducing EVC for Fixed Installs

Phill Webb | Live & Install Product Specialist

With 30+ years in the industry Phill has an extensive knowledge of live and installation applications. His presentation and live EVC demo will illustrate EV's ASC technology which preserves the low-frequency performance while presenting a stable load to the amplifier, regardless of the number of speakers in parallel. Variable-Intensity technology will also be illustrated and each model will be put through its paces.



Introducing PRAESENSA

Jason Hatswell | Install Audio Specialist

Jason has over 25 years experience in the design, sales and project management of commercial and pro-audio systems. His session will feature the latest addition to the Bosch IP-based Public Address and Voice Alarm Systems. Praesensa's flexible system architecture, intelligent power amplifier management and network redundancy will be outlined. Complementary EV and Bosch loudspeakers will be on show.



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(Photo by Catherine McElhone)

TEDx SYDNEY

by Cat Strom

TEDxSydney is the leading platform for the propagation of Australian ideas, creativity and innovation to the rest of the world.

Over 5,000 people gathered at the ICC Sydney on Friday 15 June 2018 to experience this year's flagship TEDxSydney event.

Innovative Production Services has been a proud technical partner of the event since 2014. Their journey began with TEDx at the Sydney Opera House where they began looking after just the vision component. Now Innovative manage every technical element of the event, from the complex lighting, audio and video systems, to floorplans of seating.

TEDx became a possibility for Innovative once they gained their Barco Encore system, with Managing Director Jeremy Koch stating that this single piece of gear changed the company and the path they would head along for the foreseeable future. In 2014 TEDx was simply a 13.4m rear-project, blended screen with four Barco HDX 20k projectors (double

stacked). Now it's a 48m multifaceted continuous screen with ten 20k HDX projectors punching a total of 10,368,000 pixels with 200,000 lumens of brightness. The screen extended well past the extremities of the entire stage area at the ICC and was visually overwhelming.

At the heart of the vision system was a Barco e2 screen management system. Between all the outputs for the screen along with monitors on stage, broadcast feeds and utility feeds BOH, Innovative came close to using all 12 outputs. All signal was run via 3G-SDI either over copper or fiber.

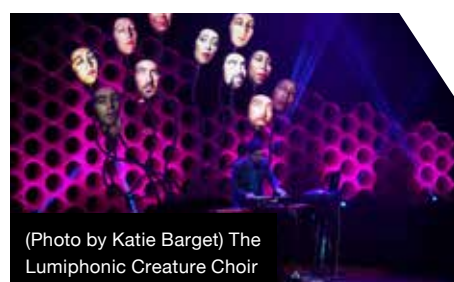
The event featured screens everywhere; besides the spectacular main screen, there were two small LCD screens on stage for notes and slides. There was an additional feed for an eleventh HDX projector that was used for a performance. Numerous BOH



(Photo by Catherine McElhone)



(Photo by Vincenzo Amato) Odette



(Photo by Katie Barget) The Lumiphonic Creature Choir



(Photo by Sarb Jonali)



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monitors were all fed with the 'TX Feed' from the broadcast truck.

On the input side of things, it was just as busy. Laying down the base looks and all the super-wide video rolls was a d3 system. Eight MacBook Pros delivered all the presentations along with speaker notes, speaker timers and any 'on the fly' videos that got handed to Innovative. Even at this level sometimes there were still last-minute requests and changes. Innovative also had the IMAG input from their own camera switcher running into e2.

There was plenty of camera action on TEDx with 12 cameras around the site all running back to the NEP HD broadcast truck in the dock of the ICC Theatre. Innovative took splits off four of these broadcast cameras for their IMAG mix. The IMAG was mixed on its own so that they could make sure the broadcast shot is never the same as the shot on

screen. Every camera was also recorded on its own so that the entire event is archived and can also be remixed at a later date.

The vision system action of TEDx Sydney does not stop in the main space. 'The Hub' is where you go to find your tribe, a space specifically designed to incite conversation on common ground. So besides the place for lunch, there were many activities and activations here. Innovative had a large double-sided LED screen flown in the middle of the space showing the live stream. This was their new ROE Black Onyx 2.8mm LED screen, which looked stunning. One of the main activations in 'The Hub' was the St George stage ; a mini presentation stage that was constantly packed during the day. Live crosses to the main stage, mini TEDx Talks and business idea pitches were a few of the activities held there.



by Marcus Pugh

Establish a good relationship with your lighting hire company

So you've just landed your first lighting design and the venue doesn't have everything (or anything) you need to make your design a reality, what are you going to do? You're going to need to hire some or all of your gear in. This can be a daunting proposal and where do you start? Well I'm here to help. You need to establish a few things before you go bashing off emails to every hire company in town.

Who?

Who are you going to hire from? This is going to be the company that offers you the best deal and that deal isn't just about money it's also about the gear and the service they're offering.

What?

What gear do you want?
And what gear do you need?

Where?

Where is your venue? Or maybe it's a tour with multiple venues but you also need to establish what that venue/s are like to get in and out of and what time do you have access from? Which brings us to our next question.

When?

When do you need the gear? Not just when the show/s are on but when do you need that gear?

Why?

Why do you need/want each piece of equipment?
I'll explain why this is important later.

Which?

Which companies should you be contacting? A bit of research goes a long way; asking what company have you used in the past and were they any good? Also checking online to see what companies have the type of gear you're looking for.

How?

How much budget do you have to play with?
Is the production company paying for the hire or are you paying and billing on the cost of the hire to your client? Now you don't need to give up this piece of info straight away, there'll be time for negotiating (if you've gotten in early enough).

Once you have all this info established it's time to contact your potential hirers for a quote. Email is the best way forward but sometimes a phone call up front can help to establish who the best person or email address is to send your request off to. I've established a few pointers to help establish and keep a good relationship with your hire company/s.

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Establish a good relationship with your lighting hire company

1 Plan ahead

Get your equipment 'wish list' into the hire company as early as possible, even if your design or show hasn't fully been realised yet. Most times you will know weeks out what the main pieces of gear needed or the overall look that the show will require. Nothing pointlessly soaks up more budget than someone trying desperately to pull together a show at the last minute. It erodes discount and good will if the hire company has to rush around to get the equipment ready for a disorganised client.

2 Be flexible

While I know that everyone hates to read that section of the quotation titled 'Substitutions', there are reasons that most every quote will contain it. Either the company doesn't have the piece of requested equipment available or your budget won't cover the requested pieces of equipment. Take these substitutions into consideration and don't just write them off as "This isn't what I asked for!" These substitutions, if acceptable, can be a good bargaining tool in the negotiation process. But more about that later.

3 Ask for and take the advice

Just because hire companies don't always come off as the friendliest lot, this doesn't mean they aren't trying to help you achieve the best possible show. If the first quote based on your 'wish list' is out of your budget, don't hesitate in asking what equipment might be available that could achieve a similar effect. You should be able to prioritise your elements; for example, the beam angle or colour mix might be more important than the number of gobos or shaping shutters on a fixture, or can you compromise on your back light fixtures for a better quality front light fixture? A few small compromises which a hire manager will usually suggest could save you a bucket-load when it comes to final bottom line cost of a production.

5 Communicate well

The key to any good relationship is good communication and honesty. Taking a bit of extra time to make sure you've explained the list or the times and dates correctly can save you a lot of confusion in the long run. Don't be afraid to give your contact at the hire company a loose budget figure and you'll find that most companies will prefer this because it helps in the quoting process and spec'ing the right

equipment. Communication is a two-way street, remember to always read the terms and conditions of the hire especially when it comes to payment terms; nothing sends a relationship sour like someone who doesn't pay within the agreed timeframe. Chances are on any complex production you are going to need to communicate with your hire company multiple times - compile your changes and questions and send them in one hit. This helps to save the hire company time which brings us nicely to number 6.

6 Time and resources equal money

Just like any other business hire companies have overheads to cover and if you're willing to elevate some of these overheads, like transport, this will help with the overall cost of the hire. If you are able to help reduce the prep or return costs by ensuring that the gear is clean and cables are rolled may also help your overall hire figure on this and the next hire. Wherever possible pick-up and drop off the equipment yourself. This also helps to establish a face-to-face relationship with your contact at the hire company.

7 Do your research

We all have the amazing research tool of the internet at our fingertips. It is good to know which brands or particular models of equipment your hire company carries because this assists in tailoring your gear list to get a better price. If you've done your research you should also be aware of what alternatives might be available and suitable in your particular market place.

8 The latest technology isn't the best thing for your budget

While all of us love to have the latest and greatest piece of equipment to play with in our rig. These are usually going to attract higher hire cost too. This is due to demand and the cost of purchases associated with being an early adopter. In most cases you will find an industry 'workhorse' in all categories of equipment and chances are that most companies will have this 'workhorse' in greater numbers. Through supply and demand this will mean that the 'workhorse' can be priced more competitively.

9 Don't be afraid to negotiate

The first price may not be the best price, so don't be afraid to go back to your hire company to ask for better price or where substitutions could be made to better suit the budget. While there is an art to negotiation don't play games because no one likes having their time wasted. You are looking to establish a good ongoing relationship, not just to get a great deal on one job to the detriment of future work.

10 Bring it back the way you got it

Nobody likes to lose stuff, least of all hire companies. Keep track of your cables and those small accessories like power connectors and rigging pins. If you're not exactly sure of what you hired, request a full list, which will usually be provided. If necessary contact the hire manager and request a list of what you have on hire before the load out (they will respect the forethought). Another important note is damage to equipment; treat the gear like it's your own. If damage does occur (and we all know it's inevitable in our industry) own up to it and let the hire company know, this can be as simple as marking up damaged units or the case they're in with some tape or making a phone call or email to let them know before the gear gets back. If you think they won't notice the damage you're wrong.

11 Establish a good ongoing relationship

While all the points I've made here will help to establish a good relationship, if you are able to keep the relationship positive it will mean the next time you need equipment you will get an equal or better discount. If you've had a better than average experience with your hire company don't hesitate to mention it in an email, or drop off a slab of brews or a bottle of plonk when you return the equipment, you will find that the money you spend on the beer, spirit, or wine will be far outweighed by the advantages of maintaining a good relationship.

Remember your contact at the hire company is the gatekeeper to the gear you want. At the end of the day your hire company wants your show to look and sound good, as it reflects well on them too.



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Reamp for a Perfect Tone

Getting a good guitar tone is easy; settling on the perfect tone is impossible until you can hear it in the context of the mix. A popular adage with recording is “garbage in – garbage out”, implying that you’re doomed if you mess up the tracking process - but what if there’s a way around this?

The solution: Reamping.

As the name implies, it’s where you take a pre-recorded track and “re-amplify” it back through a speaker to achieve a tone that properly suits the song. It sounds arduous and time-consuming, but bear with me here: this process will actually save you tons of time and revolutionise the sound of your music.

We’ve all been there: you get the inspiration to record a riff or song idea, but end up spending unnecessary time tweaking your amp, setting up mics etc. By the time you’re ready to record you’re more focused on the tone than the music itself. Worst of all, the sounds you capture don’t work in the context of the final mix!

By simply placing a DI Box between your guitar and your pedals or amp, you can preserve an unaffected guitar performance that might end up saving you having to re-record the part over again.

Reamping lets you:

- Not worry about recording a bad tone.
- Focus on performing.
- Open up a world of creativity.

Best of all, reamping isn’t just for guitarists. It was first used by bassists and the concept can apply to any audio clip you might have. Let’s get started!

Step 1: Capturing a track for reamping.

To get the best results when reamping, you need a crystal-clear recording of the instrument. The best way to do this is to use an active direct box such as the Radial J48.

Rather than plugging directly into your interface, using an active DI has many benefits. The J48 tends to add more “air” to the sound of direct instruments by preserving high frequencies that sometimes get lost when using low-quality circuitry. Instead of your interface receiving an instrument-level signal, a DI will send the signal at mic-level, allowing your interface’s preamp to do all of the heavy lifting.

By using a DI box such as the J48, you can also still connect to your favourite pedals, amps and microphones using the “thru” output. Thus, you will record two tracks simultaneously: one clean DI track and one effected guitar track. This lets you record with the tone you’re used to while also giving yourself options in the future.





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Step 2: Reamp the track and capture it again.

So now you've finished tracking all the instruments and you're mixing, you notice somewhere along the way your heavily distorted amp stopped sounding good in this song. No worries! It's time to put that nice clean DI track to use. In your DAW, set the output of the DI track to a separate output (i.e. Output 3 if your monitors are connected to Output 1 & 2).

Now connect this separate output into a Reamp box. This step is often missed when people are reamping, but is crucial to getting professional results. A Reamp box converts the balanced line level signal of your interface into an unbalanced instrument level signal with the proper impedance to be sent through guitar effects. Now send the signal from the Reamper into whatever gear you have laying around the house and record it as you would have originally. A helpful tip is to loop the track as you're reamping – allowing you to adjust tone knobs, effect pedals and mic placement to get that "sweet spot" before hitting record.



Reamping Vocals

Not just for guitars either, try sending a vocal track into an amp or a Tonebone Classic-V9 to add tube warmth and grit. Take it a step further by sending your kick drum to a wah pedal. There are no limits! Remember, the reamping process takes practice and you're not going to be a reamping God overnight!

Note: If you only have a 2x2 (2 inputs, 2 outputs) interface, Reamping is still possible. You will need to record, listen back, tweak, and record again. We recommend using an interface with more than 2 outputs so you can monitor the reamped track in real-time.

For introductory reamping, the ProRMP is a passive solution with a simple gain knob and ground lift switch. The original John Cuniberti

design is preserved in the Reamp JCR with a custom wound transformer. Our most popular reamper, the active X-Amp allows users to send two reamp tracks at once for extreme experimentation. If you are a 500 series user, the X-Amp 500 module is available.



Conclusion.

So, there you have it! Reamping not only saves you (and other musicians') time, it reduces stress and makes it possible to dial in the perfect tones when it matters most. Additional benefits of Reamping are:

- Improving sounds – Do you have a boring vocal track that needs some energy, or a software instrument that isn't fooling anyone? Give them some dirt by sending the sounds through a distortion pedal, or give them life by reamping into an actual acoustic space.
- Unique sounds – With all of the plugin presets available today, reamping lets you shape tones in ways that will be completely unique to your gear, microphones and the room you record in! All of these small factors add up to give your music personality.
- Easier to edit – Compare the transients of a distorted audio track to that of the DI track. While the distorted track turns into a compressed sausage that makes it impossible to see when notes start and end, a DI track lets you see the Attack, Decay, Sustain and Release of every note.
- Bleeding Audio – Recording a band live off the floor? Then you probably don't want noisy guitar amps bleeding into your drum mics. Keep the guitarists and bassist happy with a DI such as the JDX Direct-Drive that simulates a real amp's tone.

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NDI PROFESSIONAL VIDEO OVER IP

by Simon Byrne

Unlike professional audio, pro video has stubbornly resisted the transition to IP (Internet Protocol) for a few reasons. Firstly, video over IP continues to evolve and, up until now, has had issues such as the lack of adequate bandwidth and too much latency. As the investment in SDI equipment is significant, moving from SDI to IP represents a fundamental and expensive change.

Enter NDI or Network Device Interface, which is an open IP protocol developed in 2015 by NewTek (the Tricaster people) to enable compatible products to share video over a LAN (local area network) using standard gigabit switches and cabling.

Now in version 3, NDI allows multiple video systems to identify and communicate with one another over IP, and to encode, transmit and receive many streams of high quality, low latency, frame-accurate video and audio in real time. This protocol can benefit any network-connected video device, including video mixers, graphics systems, capture cards, and many other production devices.

NDI is probably to video what Dante is to audio. Once an NDI stream is on a LAN, it can be picked up anywhere else on that LAN. This opens up lots of possibilities because SDI is one-way and point-to-point. A physical connection has to be made between point A and point B, and if you want it at point C, you have to run another separate cable.

Whereas with NDI, it is put onto the network at point A, and can be picked up anywhere else on the network. So as well as at point B, it could be picked up by the producer on her laptop (point C), perhaps at the foldback desk sidestage (point D), the Green Room would like a feed (point E), can Front Office get a feed (point F)?

Suddenly it is easy to distribute vision anywhere across an existing network with many video streams on a shared connection.

NDI fully supports all resolutions and frame rates including 4K, with or without alpha channel, as well as 16 channels of audio. In practical terms, resolution and frame rates will be determined by the capabilities of the endpoint devices. The video is compressed using Newtek's proprietary

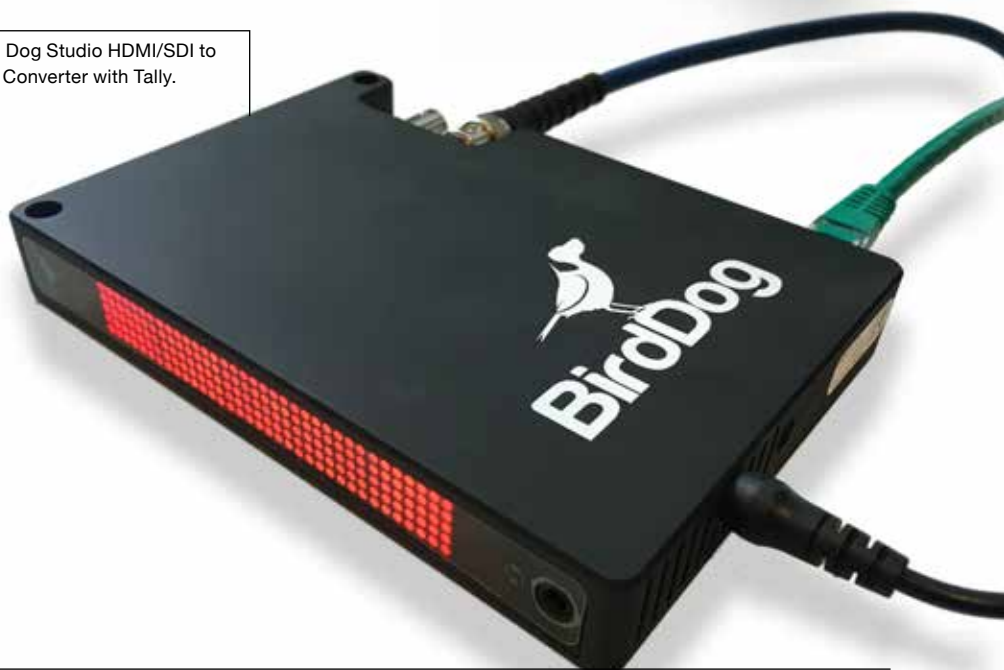
compression and they claim it is "the fastest codec in the world" with very low CPU usage. One 1080P stream at fifty frames consumes up to 100 Mbit of bandwidth, usually less.

The protocol also includes tools that implement video access rights, grouping, bi-directional metadata and IP commands. This means things such as comms, camera control and tally lights can be incorporated in the same streams. All of this over a standard 1 gigabit LAN which keeps cost right down.

So how does the content get onto the network? The hardware and software needs to be NDI capable and because Newtek opened the protocol up to other manufacturers, it is widely adopted. Selected products by Green Hippo, Resolume, Avolites, Matrox, PVP 3, Dataton, Panasonic, and Avid to name just a few implement NDI natively, but as you'd expect, boxes are available to convert from SDI/HDMI to NDI.

Bird Dog Studio HDMI/SDI to NDI Converter with Tally.

Australian product, BirdDog Studio gives you the ability to convert real world camera outputs into NDI.



Did you ever wish there was a quick way to find solutions for WHS questions?

FOUND IT!



WHAT IS IT?

A website set-up with chapters, each addressing a specific area in the entertainment industry.

Each chapter lists all the relevant documents such as legislation, Code of Practice, Australian and International Standards, etc.

It then explains the terminology used and high-lights the important sections of the documents.

It will not tell you how to do your job, it will show you what you need to know about the safety requirements so that you can determine the best way to do the job in your workplace.

WHY A WEBSITE?

The website allows you to have the information with you wherever you are. In the office you look things up on your computer and on-site you can still access the information on your phone or tablet.

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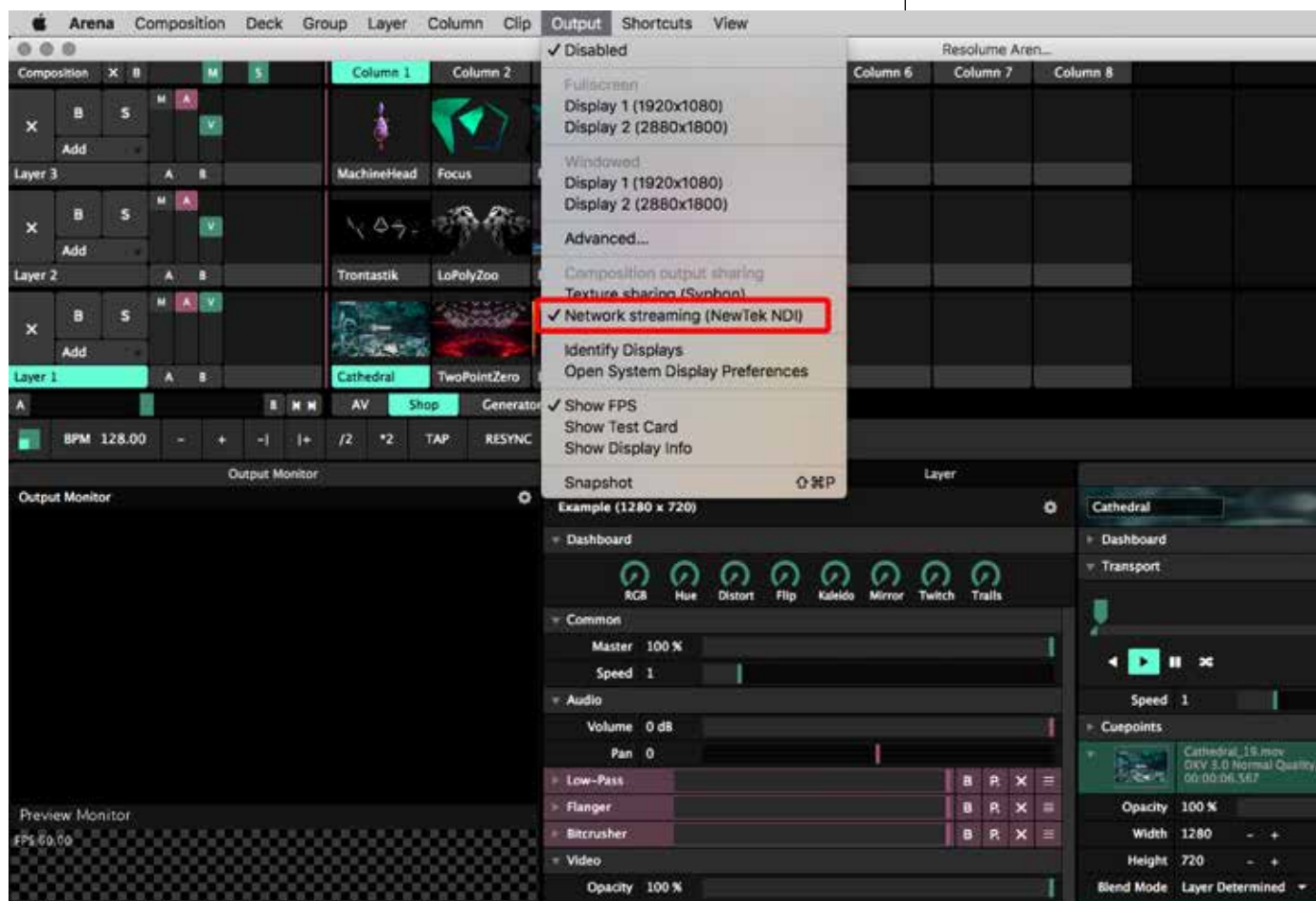
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Resolume Arena

Resolume is one of many software products that supports NDI natively.



Melbourne company BirdDog make a range of world-leading SDI and HDMI to NDI converter boxes which gives you the ability to incorporate 'old school' cameras and devices onto an NDI network. The BirdDog Studio NDI is a nicely built device that is powered over Ethernet, contains full tally, an audio intercom app, and can be used as a cross converter (HDMI to SDI and vice versa). The team at BirdDog are working on firmware which enable their devices to convert from NDI back into SDI and HDMI which means your network output can go to any display device. This is the final link in the production chain which opens up NDI to all types of projectors and screens.

Like Rode microphones and Dante, BirdDog is another example of Australian innovation in the production industry, taking on the world! We love that.

Because NDI is an IP network protocol, you are no longer bound by the usual hardware limitations, and a world of software applications opens up. A primary design requirement is that it works on standard 1 gigabit networks, so assuming you have quality 1 gigabit switches, cabling, and healthy bandwidth available between devices, you can expect good results.

In my test setup, I had a camera connected to a BirdDog Studio via HDMI, which was connected to my office 1 gigabit network with a Cisco switch. The BirdDog Studio broadcasts to all other devices on the network that it is there. Therefore any NDI capable product on the network already knows that the camera is online and it is simply a case of picking up its feed. I ran two copies of Wirecast on separate machines, Resolume Arena on another, and VMIX Desktop on a fourth machine which allows me to route that machine's displays as another NDI Source on the network (useful for Powerpoint or Keynote). It all just worked!

But what about latency? As with all things digital video, there is latency, but it is no more than SDI or HDMI devices. Because the LAN is a controlled environment, Newtek have made their codec highly efficient which means the latency is low. As a consequence, NDI is not a technology that will work on the internet, it is strictly for use on LANs.

Can you do wireless on NDI? Yes, but it is in its infancy. The Newtek Spark range of Wifi, HDMI/SDI to NDI converters use a more compressed version of NDI to get the throughput into the network reliably from Wifi. Yes it works great in a lot of situations, but is no substitute for high end wireless SDI solutions just yet.

Where does NDI fit in when compared to AVB? It is like comparing apples to oranges.

AVB is a collection of open IEEE standards when combined, form the basis that allows time-synchronised low latency streaming through networks. That is great for video and especially audio. At this stage it is not a complete solution and it is not quite plug and play.

This is why the AVNU Alliance (of manufacturers) recently announced Milan, which is an initiative to get their act together so as to make AVB seamless between manufacturers.

NDI however was developed aggressively by a single development team, to be seamless, plug and play, and for a very specific purpose. This, by the way is in part why Dante became so strong in audio. It too is an end-to-end, plug and play solution that was developed aggressively by a single organisation.

In summary, NDI offers a low cost, low latency, professional video network protocol, capable of delivering end to end solutions, ideal for corporate and live show environments. Check it out!

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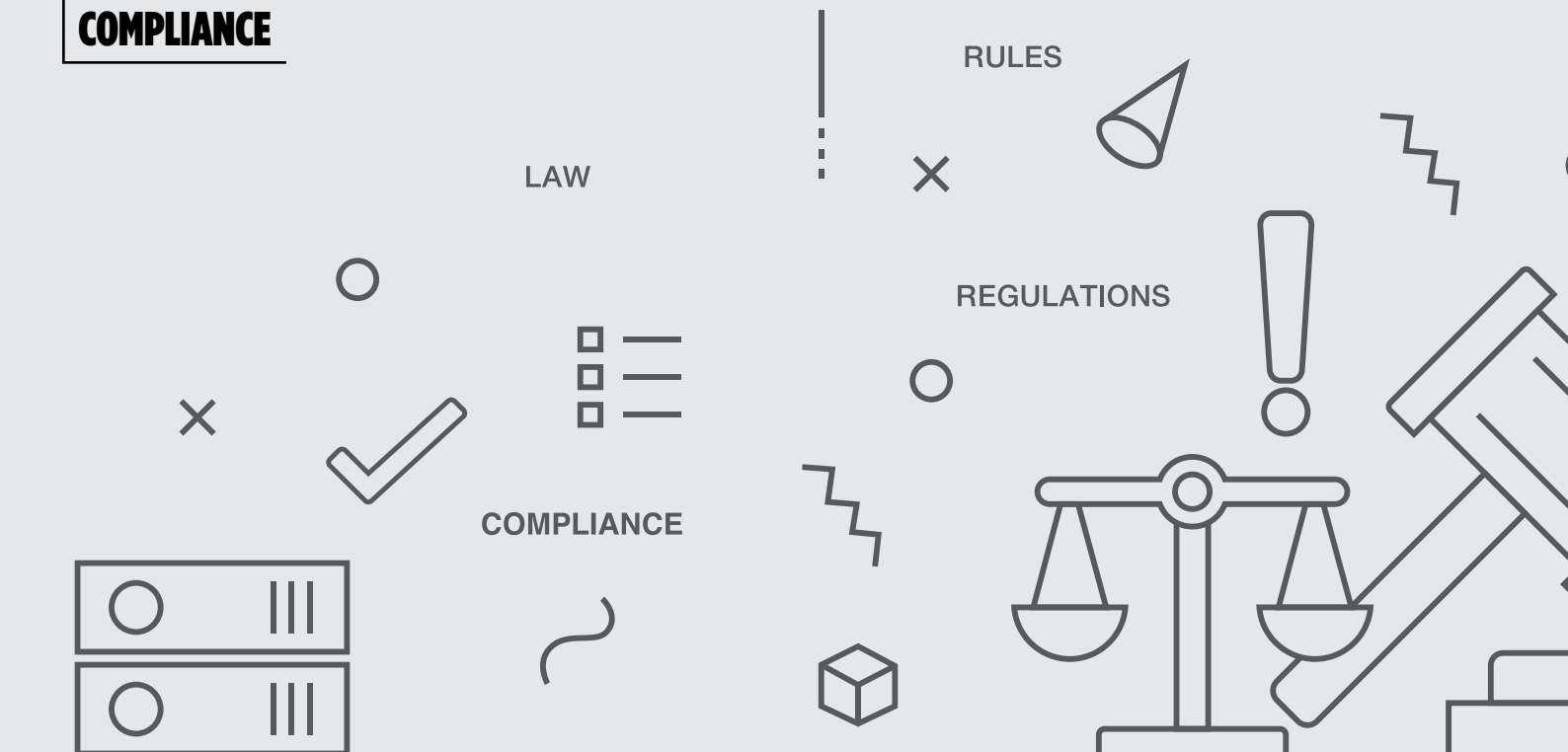


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COMPLIANCE FOR ENTERTAINMENT

I thought I could knock this article off in an afternoon. I have been researching for over a month and frankly it's been doing my head in. I have done my utmost to ensure the information I have provided is correct. Having said that, some of it is bound to be wrong. For that I apologise. I welcome any constructive comments anyone may have on this matter.

This information is intended as a guide only and you should seek professional advice on specific cases.

Let's begin...

It's the elephant in the room. It's something we run across almost everyday when we are working in the entertainment industry. Its unsafe, illegal equipment and dodgy work practices. Its been going on for years and despite most people's best attempts to stamp it out, it continues.

Several years ago, I started a 'Knockoff' page on Facebook. The response I got from this was unbelievable. It resulted in several companies, notably one in Victoria, ceasing to trade and when I passed the page onto someone else I felt I had achieved a market perception that knockoff gear was not the way to go. In some sectors that perception remains.

Most of us know what a knockoff is. For those that don't, it's when a manufacturer copies someone else's product to save on research and development

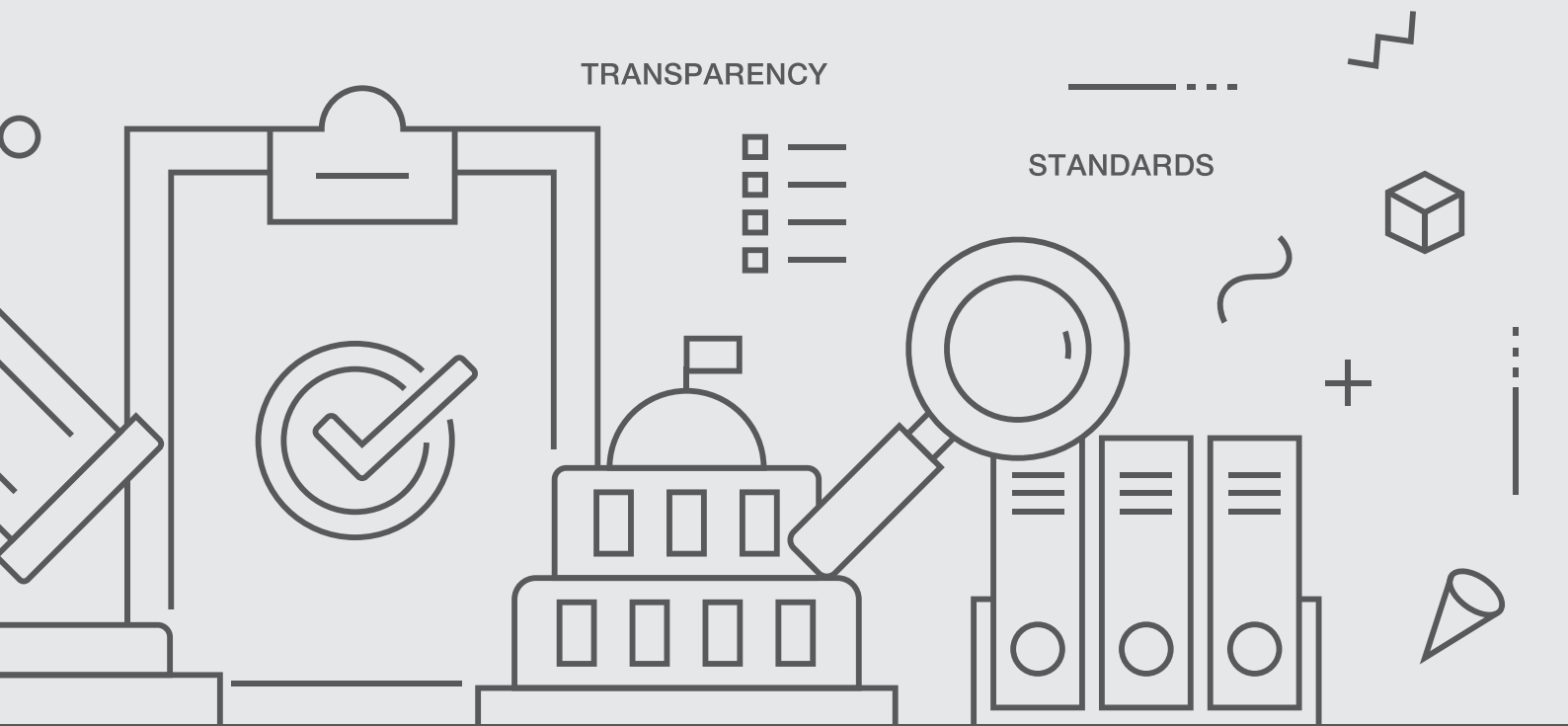
costs and brings a copy product to market at a lower price. In a lot of cases the quality of the copy product is lower than the original and in some cases is downright dangerous. Electrical standards and testing varies in many countries and I am sure we have all seen the poor-quality gear that results in these practices.

There are many arguments both for and against copy gear. The usual one in favour is that the genuine article is too expensive, and I simply cannot afford to buy the good equipment and remain competitive. Therefore, I need to buy from overseas to remain in business.

The other argument is that the Australian or New Zealand distributor is putting huge margins on the genuine article and being greedy because I can buy the same thing overseas much cheaper.

I can see truth in both these arguments. Let's address each one.

By purchasing 'copy' product, you are assisting in theft. Regardless of the situation, it's just wrong. The long term affect of copy product is the dumbing down of our industry. If the original manufacturers are forced to drop prices the first thing to go will be investment in new technology. It won't disappear, but it will slow down.



AUSTRALIAN PRODUCTS

by Steve Devine

The cost of doing business in Australia and New Zealand is more than most other places in the world. We are approximately 1 to 2% of the world market yet our wages, rent, insurance, freight, etc are higher, in some cases much higher than almost all Western countries. Consumers rightly expect to be able to audition systems prior to purchase and demand the technical and warranty support available to most other countries.

One of the better known overseas companies that ship to Australia is Thomann, a German wholesaler. They appear to do a very good job. The purchasing power of Thomann is many times that of the Australian distributor for the same product and their cost per sale is much lower. Invariably a person who buys from overseas turns to local support when something goes wrong. All this comes at a price. Some local distributors are no longer providing support for products they do not import, and I don't blame them.

An ASIC search on the profit of some of our larger distributors shows in several cases earnings before tax of less than 5%. The competitive nature of our tiny market combined with the cost of doing business here means there simply isn't the room to make the profits Australian consumers believe local distributors are making.

The legal ramifications of buying off-shore are many. Human nature has a way of validating most things and the thought that it 'won't happen to me' is a major factor in a lot of our decisions.

Importers generally carry Product Liability Insurance, which offers some protection should the unthinkable happen. This is different from Public Liability Insurance but may be purchased as part of a Business Insurance Package. Many do not realise that if the product you have imported is not approved then any insurance will be voided. If you kill someone you may well get gaol time.

Under Australian and New Zealand Law, the importer of a product is deemed as the manufacturer and as such bears full responsibility for any event resulting from the use of the product. If you import the product yourself, regardless of its quality, the buck stops with you. If you use it anywhere where members of the public are present, you must have the right approvals in place. Ignorance is no excuse. If the overseas supplier provides certification and test reports that are counterfeit the same applies.

If a product is labelled as UL or CE compliant it does not mean that's its approved for the Australian or New Zealand market. We have specific requirements which in some cases are different to UL and CE.

The regulatory framework in Australia applicable to the entertainment industry covers electrical safety and EMC – electromagnetic compatibility - the unintended interference caused by RF emissions from electrical equipment. Unfortunately, two different government authorities cover these two requirements. EMC is a federal responsibility regulated by the Australian Communications and Media Authority (ACMA) whereas electrical safety is regulated by individual states. The Electrical Equipment Safety System (ESSS) is operated by ERAC and this can be quite confusing.

In the next part of this series of articles, I will detail what is required to comply with the regulations. Please note this is a guide only and although a lot of research has gone into the articles, there is no guarantee of accuracy.

I would like to thank Susan and Peter Twartz from Jands, Frank Andrewartha from Quest and Andrew Wood from Digilin for their assistance with creating this series of articles.

20 QUESTIONS WITH TONY BRYAN

by Cat Strom



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For over 20 years, front of house sound engineer Tony Bryan has worked with iconic Australian acts including Grinspoon, Jimmy Barnes, Birds Of Tokyo, and Parkway Drive.

What are the three best things about your job?

I get to operate some fantastic audio equipment.
I get to travel the world working and get paid.
I get to work with some very talented people.

And the three worst things?

Bad load-ins (STAIRS). Early lobby calls.
Travelling all the bands backline on the flights.

What do you never leave home without when working?

USB stick with console files. Headphones. Fresh underwear.

What was the worst nightmare you encountered on the road?

Getting a tooth pulled in Athens without pain relief!

What's been the strangest request from an artist?

Can you make me sound good?

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

There have been a few ... how long have we got?

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

Can I have a bourbon and coke?

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

All my shows are great but the best would have to be Parkway Drive in Germany. Massive venues, awesome stage set, and massive crowds.

What's the most bizarre sight you've seen at a gig?

Courtney Love stage diving into the mosh pit with no underwear on.

Who do you admire in the industry and why?

Pixie Michael for teaching me the skills in the 80s to get me where I am today.

Which venue is your favourite and why?

Perth Arena - great load-in, great sounding room, great catering!

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

The Avid Venue S6L.

What's the most outrageous thing you have ever done on tour?

What happens on tour, stays on tour.

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

Triple J One night stand in Dolby where a torrential downpour washed the gig out.

What would your ideal rig contain?

A d&b GSL PA.

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

I'm already working for most of them.

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

Apples and sparkling water.

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

It seems to be getting healthier.

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

A foldout drink holder on the desk.

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

A racing car driver.

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Writer Bio: Gary Parks has worked in various management positions with Clear-Com Intercom Systems, Electro-Voice, Meyer Sound, and EDX Wireless. Gary is a freelance writer and can be reached at garycparks1@gmail.com. This review was first published in Church Production News



SHURE AXIENT DIGITAL WIRELESS MICROPHONE SYSTEM

by Gary Parks

If you're working in a difficult RF environment with many wireless microphone channels, this system is hard to beat. Axient Digital is not a middle-of-the-road solution. Yet for critical situations, it's the way to go.

Shure has unceasingly pursued the development of wireless microphones over the past three decades. The company has also been one of the leaders in negotiating with the FCC on the importance of wireless microphones to the audio production of live events of all types, helping to carve out spectrum for these devices to work within, and developing technologies to cope with much more limited, crowded, and interference-prone frequency bands.

The company's new Axient Digital combines a comprehensive wireless solution approach with the ability to automatically determine and load backup frequencies to overcome interference (a key feature in the original analogue Axient system introduced in 2011). Other attributes include robust digital transmission technologies with pristine audio quality as seen in the company's professional ULX-D and other wireless mics. This latest generation uses an updated transmission scheme, designed specifically for this product and the potentially difficult and crowded RF environment in which the system must flawlessly function.

This is a high-performance, professional quality wireless system, perfectly at home in concert touring, live theatre, broadcast, house of worship settings with high audio production values, and other applications where excellent performance,

reliability, and audio quality are paramount. Axient Digital is not a middle-of-the-road solution. Yet for critical situations, it's the way to go.

The evaluation system

The evaluation system consisted of an AD4D dual-channel receiver, AD2 handheld transmitter with a KSM9 condenser mic head, and AD1 bodypack transmitter with instrument cable - a fully functional two-channel system that can be used standalone in applications needing several channels of the highest quality wireless. This system is an excellent performer by itself, but that's only the beginning with Axient Digital.

Key features of Axient Digital

The overall Axient Digital wireless solution features two- or four-channel receivers supporting single- or dual-channel handheld and bodypack transmitters, a variety of microphone options, and optional hardware and software to expand its capabilities. A single-rack frequency/spectrum manager can connect with all of the receivers to provide global scanning and analysis, frequency coordination, and backup frequencies for all active channels. Showlink works with the frequency manager, offering two-way communication and control of the transmitters, for instantaneous changes to clean backup channels

in case of major interference, which can be set to happen automatically or at the discretion of the sound engineer. For system monitoring and control, Wireless Workbench 6 software can be connected via Ethernet switching hardware. Axient Digital is supplemented with a sophisticated antenna distribution system, plus rechargeable transmitter batteries and a selection of recharging/docking stations for transmitters or batteries.

The receiver comes standard with XLR and quarter-inch analogue outputs for each channel, plus AES-3 and Dante digital audio outputs. As with the typical wireless mic system, standard operation is one transmitter per channel, but in 'mission critical' situations a dual-channel transmitter can be paired with two receiver channels using different frequencies, with the highest quality output routed to the audio system. In situations where several users might need to use the same receiver channel at different times, up to eight transmitters can be assigned to a particular channel. If desired, 256-bit encryption can be applied to a channel to ensure privacy.

Two digital transmission schemes

Initially introduced in 2012 with the professional ULX-D wireless, the system offers two selectable transmission schemes: Standard and Hi-Density. The standard mode spaces the channel frequencies farther apart, allows each channel a wider frequency band for modulation, and can make use of the higher 10 or 35 mW transmitter RF output power levels. This mode is typically used when operating a moderate number of channels in locations where relatively few other wireless devices are in use in the same frequency bands, when the spectrum is less limited by many close-by digital TV stations or other high-power radio transmissions, and when the

AD4D Receiver



transmitters are being used at a significant distance from the receiver antennas, and maximum range is paramount.

Up to eight transmitters can be assigned to a particular channel; useful for multiple presenters or musical instrument changes. Hi-Density mode allows many channels to operate cleanly within a limited block of spectrum (for example, when only one 6 MHz open television channel is available, up to 47 active transmitters can be used), with much closer spacing of the frequencies. One aspect of this mode utilizes the lowest 2mW transmitter output setting option so that the low transmission output of a particular transmitter is less likely to mix with that of other transmitters, creating lower intermodulation interference and effectively yielding a “cleaner” RF environment for the system to operate in.

Clear frequencies for each channel can be selected by using the receiver to scan the current RF environment, after which it suggests particular pre-coordinated groups of frequencies for each

of the transmitter/receiver pairs within the system. The system also allows the selection of specific frequencies, which can then be stored in ‘custom’ groups in situations where a frequency coordinator assigns them.

New digital modulation scheme

For Axiem Digital, the digital transmission technology was rethought, based on Shure’s deep history with both analogue and digital wireless. With an analogue wireless signal, as the user approaches the range limit of the transmitter or is in a location where its RF signal is blocked by some object, the quality of the audio noticeably degrades as the signal strength at the receiver becomes too low, providing a warning that a dropout is impending. Digital wireless receivers can operate effectively at lower signal levels, and the audio typically remains clean until all of a sudden it’s silent; a relatively rare occurrence in normal situations, but disconcerting. According to Shure, the newly developed RF modulation scheme used with Axiem Digital helps

eliminate the already relatively low probability of signal dropouts in difficult environments, resulting in increased range and reliability without a degradation in audio quality.

The AD4D receiver

At a glance, there’s no mistaking that this receiver is structurally and functionally a highly professional piece of equipment—with clean lines and impeccable fit and finish on both the front and rear panels. It is designed and manufactured to withstand the rigors of touring. Front-panel controls are solid and firm, and rear-panel inputs and outputs are high-quality and well anchored to the chassis.

Each channel has an XLR and quarter-inch analogue output, including mic/line and ground-lift toggle switches. In addition, digital audio outputs are provided, with both an AES3 connector and Dante ports. Accommodating large systems where an external word clock is used to coordinate all of the digital equipment, in and through ports are in place.

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AD2 Handheld transmitter

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AD2 Handheld transmitter

Black



Ethernet ports support networking and control systems, such as Wireless Workbench 6. A locking AC power connector is paired with a power cascade port for additional receivers.

The front panel is well laid out, with headphone connector and volume knob on the left, channel controls and indicators plus the backlit display in the centre, and menu and navigation controls on the right. An infrared window communicates with its mate on the transmitter for pairing, and there is even an ambient light sensor to detect and accommodate display lighting based on the lighting in the room.

Pushbuttons for channels one and two provide a shortcut for viewing and editing channel parameters, and the three LED ladders clearly indicate RF signal strength, interference, and audio level. Menu enter and exit buttons and a rotary controller navigate the many editable parameters, and four programmable function buttons give immediate access to specific configuration options. Menu options are plentiful.

AD1 Bodypack and AD2 Handheld Transmitters

The transmitters continue the professional look and feel of the system. The black matte-finished metal cases fit together precisely, and are solid in the hand. Both feature a small LCD display screen, an infrared sensor, exposed charging connector for recharging batteries in a docking station, and an accessible yet recessed on/off switch. Transmitters will run for eight hours with a pair of AA alkaline batteries, or over 11 hours using the proprietary rechargeable unit (at the 10 mW output level).

The transmitter parameters menu controls are within the battery compartment, so changes can be made there, or via the receiver and IR link or networked with Wireless Workbench software and Showlink. Those parameters allow the controls to be locked, frequencies and channels to be set, selection of RF output level, mic level, a 400 Hz or 1kHz test tone generator (for audio system setup or troubleshooting), transmitter naming, and more. To achieve the most accurate reading of remaining battery life, settings are available for alkaline,

lithium, and NiMH types; when using the Shure battery pack the display is automatically accurate. The handheld transmitter is very quiet in terms of handling noise, due to its dense construction, and is comfortable and balanced in the hand. Rubbing a finger or thumb over the power switch doesn't accidentally move it, but it is easily activated with a fingernail; a very good design and placement. A variety of microphone heads may be threaded onto the handle/electronics, such as the SM58, Beta 58, Beta 87, KSM8, and KSM9.

The bodypack transmitter is slim and compact, with a fairly well recessed on/off toggle switch on the top--located between the threaded whip antenna and the mic input connector (a TA4 mini-XLR type). The switch is the only external control, and locking it to prevent accidental turnoff might be a good practice in critical applications. The battery compartment is a fine compromise between easy one-handed accessibility and security from opening during use.

System performance

The system sounds transparent and virtually noiseless, with a flat frequency response across the 20 Hz to 20kHz audio spectrum. The qualities and response characteristics of the particular microphones, voices, and instruments come through clearly. For example, the handheld transmitter sounded just like a wired KSM9 microphone and the response of an excellent acoustic guitar through the bodypack transmitter matched the wired sound.

The final word

Axient Digital is one of the best, most advanced, and most comprehensive wireless microphone solutions available, building a host of practical professional options onto a clean, reliable, great sounding audio signal. It's not an investment for everyone, and Shure offers many excellent wireless systems at a variety of price points. However, if you're working in a difficult RF environment with many wireless channels, demanding the best results, this system is hard to beat.

AD1 Bodypack

(Top) TQG
(Bottom) LEMO



Brand: Shure

Model: Axient Digital

Pricing: (RRPs inc GST) Dual Receiver \$6,245, Quad Receiver \$12,445, Handheld Transmitter \$3,145, Bodypack Transmitter \$1,595, Jack to TA4F Instrument Cable \$87.99

Product Info: www.shure.com

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Writer Bio: Jeremy Nolan is the director of Melbourne's Above and Beyond Production Services, founded in 2013. Having worked with some of the most iconic bands, events, and festivals nationally and internationally over 20 years, Jeremy drew on this experience to create a company that is rapidly gaining a reputation for creating high-end lighting production events and custom lighting pieces.

Back View



TOURPRO ZOOM PAR JNR by Jeremy Nolan

At Above and Beyond, we work across a lot of different markets; festivals, corporate, sporting events, product launches, and live performance. As such, we need to stock a lot of different brands and types of moving lights, LED fixtures, washes, pars, and FX lights. Our strategy to build the right inventory is to adopt particular products as our 'core' product in that category and build quantity over time.

The TourPro Zoom Par Jnr appealed to us on many levels. Firstly, it's IP65 rated. We stock a lot of IP65 rated fixtures because we cater for a lot of outdoor events in the summer months, including The Australian Open tennis. We've found the Zoom Par Jnr to be very versatile; it has a zoom, it's RGBW, and the seven 20 Watt chips make it very punchy, with really nice colour saturation. Its features and capabilities are typical of the direction the market is headed in terms of the progression of the technology. It's a meat-and-potatoes kind of fixture, which is exactly what we're looking for to build our stocks on. Ideally, we would like to have 100 units in our inventory within the next 12 months.

Application

We did an event a few months ago on a barge in Sydney Harbour. We had to light a sign on the barge that was made of 2.4 metre tall letters, with a throw distance to work with of 1.8 metres. The client wanted a nice, bright, white light. The barge was 20 metres long, and obviously had power restrictions. With their zoom and the short throw distance, the IP65 rating, and low power consumption, the Zoom Par Jnrs were perfect for the job; they were the ideal fixture in that application.



IP65

We've punished the Zoom Par Jnrs in all sorts of outdoor conditions, particularly here in Melbourne with its 'four seasons in one day'. They've been in baking sun and pouring rain, and they've performed beautifully. The fact they don't have a cooling fan means less moving parts, and less dust and dirt being drawn in. It also means they run really quietly, which we appreciate on our indoor corporate gigs. We also appreciate the flicker free management control, as a lot of our work is filmed or broadcast.

Control

In terms of control, we use most major platforms, as we have many different LDs using our equipment who are very specific in their requirements. In-house we stock MA Lighting, Avolites, ChamSys, and Hog, so any fixture we have ends up being operated by everything. In terms of fixture profiles, we've found that most manufacturers have TourPro fixtures in their library. If we have had an issue with fixture profiles not being available, we've contacted TLC Global and they've arranged one for us. We use Capture visualisation software, and that has libraries on-board for TourPro fixtures straight off the bat.

Standout Feature

In a market that is saturated with LED pars, we chose the Zoom Par Jnrs predominantly because of their output to size ratio. The seven 20W LED chips provide a lot of output for the fixture's size. There are a lot of other zoom pars out there, but they are all substantially bigger, and that has an impact on casing, storage, transport, and rigging. We have ours cased in lots of eight. Their double yoke is handy because you don't have to carry a floor stand for them, but that is standard across most fixtures of this type.

Support

The distributor TLC Global have been very responsive to any enquiries, and they're particularly good at following up on inventory, orders, shipping and logistics. We haven't had any technical faults with any of the fixtures, and so haven't had any warranty issues to deal with.

Conclusion

The TourPro Zoom Par Jnr is a workhorse fixture, and we want to continue to build our stock and make it our everyday Par, phasing out our older Pars. It represents a good return on our investment.

Brand: TourPro | **Model:** Zoom Par Jnr | **Pricing:** RRP \$770 inc GST | **Product Info:** www.tlcglobal.com.au | **Distributor:** www.tlcglobal.com.au

The Specs

Colour spectrum: RGBW 4-in1	Output: 12000 lux @ 2m 8 Degrees	Power consumption: 150w
Number of LEDs: 7	Quick electronic strobe 1 ~ 25 Hz	Power connector: IP Rated P/Con
LED type: 20w	51 x Built-In Macro's	Housing material: Aluminium Die Cast
Dispersion: 8°- 50°	10 x Internal Programs	Width: 254mm
Flicker free management for TV Applications	10 x Custom Programs	Height: 192mm
DMX input/Output: with RDM	Natural cooling without fan	Depth: 318mm
DMX mode: 3/7/10/12/14-channel modes	Display: LCD display	Weight: 6.5kg
Output: 1000 lux @ 2m 50 Degrees	Operating voltage: 110 V AC - 240V AC / 50 - 60 Hz	IP Rating: IP65



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TASCAM SS-R250N by John Dinh

The Tascam SS-R250N is a 1U two-channel recorder/player for network applications. Its I/O includes analogue balanced and unbalanced, optional Dante interconnectivity, and microphone preamps with phantom power and ducking. Audio may be recorded to SD Card or USB stick and uploaded automatically to an FTP server. In addition, recording and playback can be controlled via SNTP, network control, the optional RC-SS150 remote control, or the free iOS/Android app.

Other Features:

- The Event List function contains an auto-play feature designed for audio files such as background music and announcements. The Event List can also be used to schedule recordings and file uploads.

- Dual SD memory card slots permit both Backup and Relay recording
- Automatic file closing process to avoid data loss if there is a sudden power loss during recording
- Link Playback function allows two units to operate in tandem
- XLR and RCA analogue I/O as well as AES/EBU and S/PDIF digital inputs/outputs
- RS-232C serial port with a D-sub15pin parallel connector
- Optional RC-SS150 control unit with Flash Play mode
- Playback and recording features similar to industry-standard SS-R200 / SS-CDR200



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Scene Change has eight SS-R250Ns in stock, all mounted in what we call our corporate breakout racks. Each rack has an audio console, radio mics, and the recorder. They are normally out working on corporate events. We've relied on Tascam recorders for years, and we purchased the SS-R250Ns to update our stock to solid state recording, and take advantage of the optional Dante card.

While we could have decided to record audio on a laptop, the reason we decided not to is that you either have to dedicate a laptop for recording only, or take risks when someone then uses that laptop to do other things. That can create a pretty major point of failure. We feel it is far, far safer to have a dedicated hardware recording unit.

Performance of differing brands and sizes of SD cards and USB sticks can vary, so when we first got our SS-R250Ns we went through an extensive testing phase comparing different SD cards and USB drives. There's so much variety in the market, and we didn't know exactly what would work, and what wouldn't. We found our solutions, stuck with them, and all recordings have been totally solid.

Our clients typically want their spoken word content recorded as an mp3 and handed to them on a USB stick at the end of the event. We typically set up a separate stereo record bus to feed the SS-R250N. We use both the analogue and Dante inputs for recording, depending on the gear we have on the job. When we're using our Yamaha CL3 or CL5 consoles, we connect via Dante. When it's our Allen & Heath Qu Series mixers, we're going in analogue.

Using the SS-R250N is extremely straightforward, with easily accessed front panel operation. All of our crew love them because of their simplicity. It's even easy to name your track from the front panel.

Despite us using the SS-R250Ns in live production, as opposed to install, we have managed to use the FTP server connectivity a couple of times. Both instances were for financial events that required all of the material to be uploaded immediately. Like all other aspects of operating the SS-R250N, it was extremely easy to set-up. The files went straight to the client's cloud with no mucking around or waiting.

Another factor in our purchase was our relationship with the Tascam distributor, CMI Audio. We stock one of their flagship products, the Adamson S10 line array, and their sales team provide great service on both that and Tascam products. That relationship just makes things easier; I can order an SS-R250N today and have it in our warehouse tomorrow.

The SS-R250N is rock solid, simple, and reliable, and that's why we have eight of them.

Brand: Tascam

Model: SS-R250N

Pricing: RRP \$1,599 inc GST

Product Info: tascam.com

Distributor: www.cmi.com.au



Writer Bio: John Dinh is the Director of Scene Change, Australia's most awarded AV hire and production company. Scene Change has presences in Adelaide, Brisbane, Hobart, Hunter Valley, Melbourne and Sydney, and is also in-house in a number of venues. Scene Change has won the Meetings and Events Australia (MEA) National Award for Best Technical Production Service for the last six years, and were the first AV company to enter the MEA Awards Hall of Fame.



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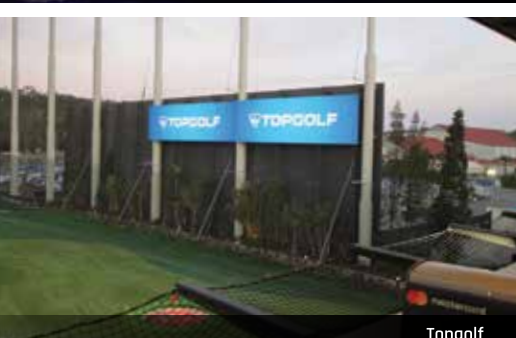
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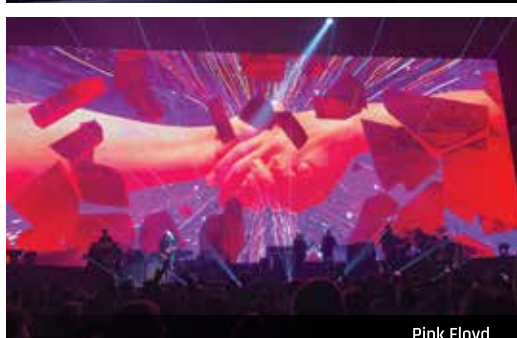
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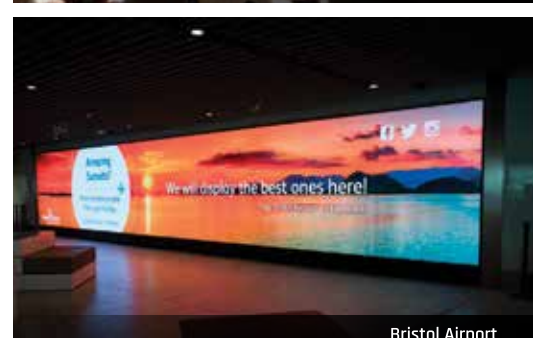
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