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Nexstage turns 5!

D2N and
Airspeeder

Lighting Harry's
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WARNING

REGIONAL PRODUCTION COMPANY EXPLOITING FREELANCERS

by Jason Allen

It has come to this masthead's attention that a regional production company is exploiting freelance technicians through non-payment of their invoices. After speaking with three anonymous sources, we can confirm that their exploitation tends to follow the same pattern, and we are advising any freelancer to do their due diligence on any company they agree to work for, especially interstate.

The company generally targets technicians who are based in other states, flying them in for fixed projects or contracts, typically over two weeks or more. On their return home, their invoices go past due, and the company goes silent. Repeated calls for payment or references to legal proceedings are met with bullying. While most victims are interstate, some are local.

Our sources say the company has indulged in this behaviour in the past, but the pandemic has worsened the situation. "We're all desperate for work," says one of our sources. "Like everyone else, I've lost 90% of my gigs. The amount this company owes me is not devastating, but I know others who are owed much more. I don't want this to happen to anyone else, especially those who are more

financially vulnerable than I am."

Another source confirms that the exploitation is across all technical disciplines, with video, audio, lighting, staging, and rigging all affected. "The pattern's been the same with everyone I've talked to," confirms the source. "It first came to my attention through people on the job I worked on who also hadn't been paid. They're not discriminating in who they're not paying."

Another source confirms that the company is operating normally while not paying its freelancers, continuing to take on new contracts and buying new gear from suppliers, who it is paying.

Exploiting desperate technicians during this pandemic is unconscionable. While Australia's completely unbalanced defamation laws prevent publication of any details of the company involved for the moment, the second any action is brought before a court in relation to this matter, we will be free to publish with impunity, and will.

NOVATECH TURNS 20!

The events industry is known for its excitement, fast pace, and variety of challenges, but 2021 has redefined this altogether.

For Adelaide's Novatech Creative Event Technology, 2021 also marks a momentous milestone, with 20 years in business.

Brothers Leko and Menk Novakovic could not have foreseen 2021 and the current state of their beloved industry, or the success their family-owned business would achieve when they set out to bring an innovative approach to event technology, creating engaging customer experiences across the concert and touring, corporate, and special events space across Australia.



Leko and Menk Novakovic. Photo by David Solm

As a South Australian business started by two brothers from Elizabeth, Novatech have come a long way and grown to become one of Australia's most trusted full-service corporate

event production companies. It's all thanks to their people, who have continued to build and strengthen Novatech over the years. Events delivered have included the Netball World Cup Sydney 2015, Gold Coast Commonwealth

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bringing technology together

Games 2018, multiple Vivid Sydney, and a raft of music festivals, arts festivals, corporate events, and sporting events, including the Santos Tour Down Under.

The last 18 months has severely impacted the entire events industry and Novatech's thoughts are extended to all their clients, colleagues, competitors, and like-minded event professionals across the globe.

Novatech's soul is in live events, with a clear passion to ensure they return around the country. In the meantime, a series of high profile virtual and hybrid events have been staged successfully with a focus on flexibility, scenario planning and a collaborative approach, to ensure the event has every possibility to proceed and remains engaging.

Novatech's managing director, Leko Novakovic remarks; "We never thought we would be celebrating our 20th year while facing such challenging circumstances and an uncertain future, with lockdowns across the country. But we're extremely thankful to be able to gather the team (while socially distanced) to celebrate a milestone such as this."

Leko continues; "We don't know what the future holds, but we're determined to fight through it and come out the other end stronger, to celebrate future milestones in a bigger fashion. There's no doubt it will be difficult, but we're putting all of our support behind our team who continually push the boundaries of technical innovation working on Australia's leading events."

Fresh from delivering several large installations as part of the inaugural Illuminate Adelaide, Novatech are looking to the future with a firm focus on live events. Novatech understands the challenges facing the industry and are working collaboratively on a range of scenarios for all their future events from live to virtual and hybrid, with flexibility remaining the key factor for survival. The future is far from certain but, with a passion for exceptional experiences and backed by a dedicated team of skilled event professionals, Novatech is determined to fight for the re-emergence and survival of the Australian event industry for the next 20 years.



Illuminate - City Lights by pixel Ninjas and Rising Sun Pictures. Photo by David Solm



Illuminate - City Lights by Filip Roca. Photo by David Solm

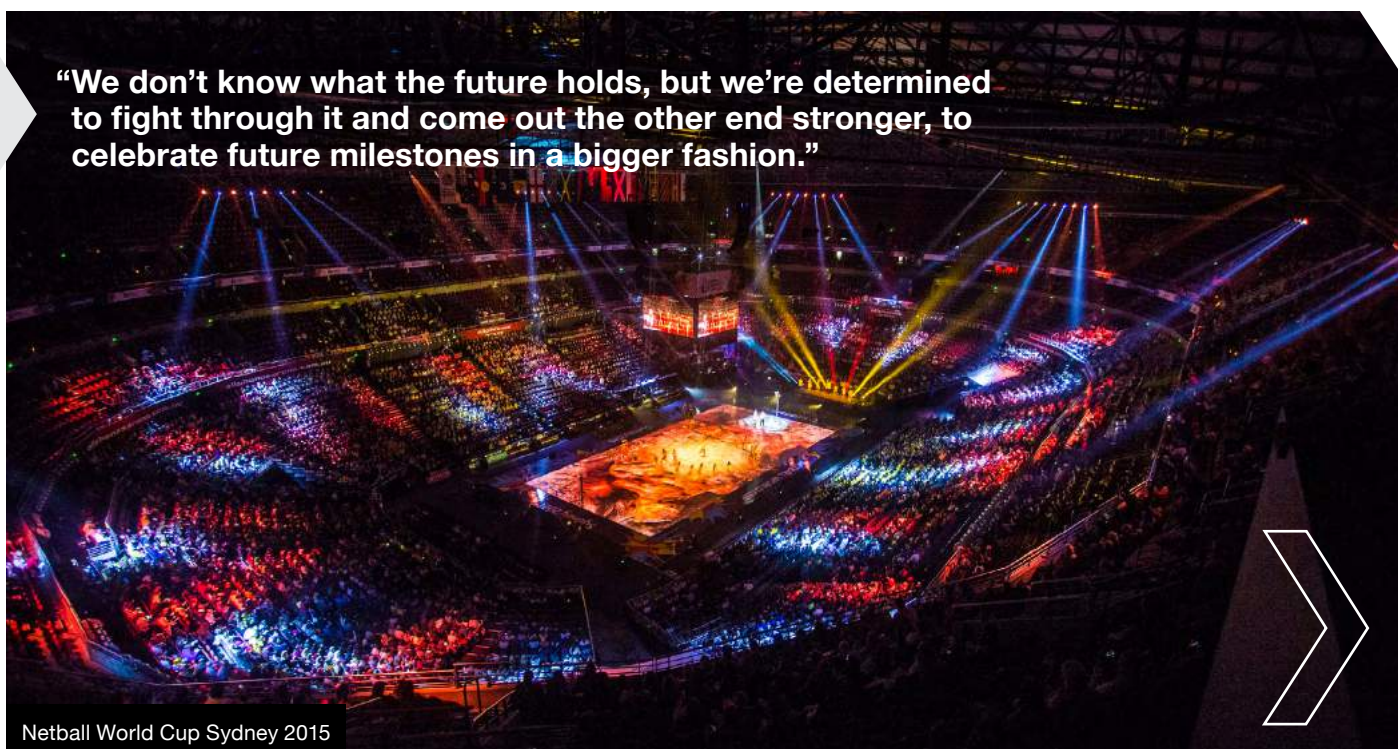


NCETs 20th Birthday. Photo by David Solm



Penfolds online launch of Californian Collection, partnered with 57 Films

"We don't know what the future holds, but we're determined to fight through it and come out the other end stronger, to celebrate future milestones in a bigger fashion."



Netball World Cup Sydney 2015



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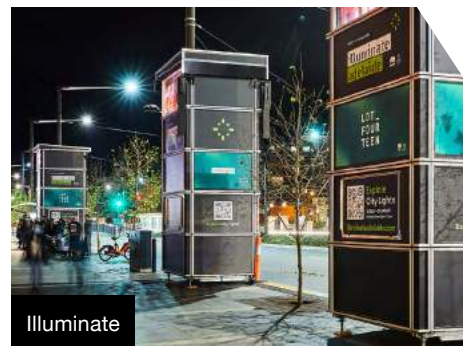
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NEXSTAGE TURNS 5!

South Australian rigging and staging company Nexstage has celebrated a milestone, with its birthday landing on 30th September. Back in 2016, a small team of 11 started the company with three small concert roof systems and very little staging. They now have 15 different roof offerings, more than 2000 square metres of staging, 200 tonnes of scaffolding from Layher Australia, and a further 100 tonnes of other scaffolding brands. In its first couple of years of operation, Nexstage was averaging 40 gigs a year. That number is now well north of 200.



Illuminate



Johnnie Walker Bar



Primary Schools' Music Festival



Santos Tour Down Under

Jimmy Hewton-Lamph is the Operations Manager at Nexstage. He's been working in the event industry for over 15 years and is one of South Australia's most well-known and respected event riggers. Jimmy leads the team on design and safety and works closely with their independent engineers to ensure all stages are designed to meet the event's needs and safety standards. His extensive product knowledge and experience means Nexstage is at the forefront of creative stage design, bringing world-leading brands and technology to Adelaide's event industry.

"We've brought together some of Adelaide's most experienced and creative event staging and rigging experts," says Jimmy. "We're here to deliver unique and innovative stage solutions for your next event. After seeing too many event managers frustrated by the limited event stage options in Adelaide, Nexstage was born to offer better, more creative options. Our high-quality, versatile stage pieces and extensive expertise gives



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you the chance to push the boundaries of creative and imaginative event stage design.”

Nexstage have delivered services to SA's most iconic venues, including the Adelaide Entertainment Centre, Adelaide Oval, Elder Park, Botanic Park, Bonython Park, Victoria Square, and Glenelg Beach. While they're Adelaide's experts, their experience spans from regional South Australia to Darwin,

across to Sydney, and further. They can take any stage or rigging system on the road for any multi-city roadshow or tour.

Through the disruption of the pandemic, Nexstage have navigated their way through the difficulties and have helped deliver the Santos Tour Down Under's replacement event (Santos Festival of Cycling), Summer Sounds Festival, Tasting Australia, Illuminate Adelaide,

RCC Fringe, The Adelaide Festival, Primary Schools' Music Festival – Stars in the Arena, and the AFLW Grand Final presentation stage.

Delivering creative custom stages for events of any size, Nexstage have become Adelaide's most trusted staging and event rigging company.



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D2N reaches for the skies with Airspeeder and Alauda Aeronautics

by Jason Allen



What Formula 1 brings to track-based racing cars, Airspeeder brings to the ultimate performance flying car. It's hard not to read that sentence twice, but Airspeeder is the newest, most exciting sport to hit the skies and yes, it involves flying cars. Its comms requirements are taken care of by sports industry comms specialists, D2N.

D2N MD, Jason Owen, explained, "Airspeeder and the engineering team at sister-company Alauda Aeronautics reached out to us as they knew of our reputation in the sports industry and were looking for a comms solution for their new race program. They were developing a flying racing car series and were in the test and development stage. This in turn called for a communication system between the pilot, who flies the aircraft remotely, the engineers and the flight test director."

Airspeeder and Alauda Aeronautics are truly global operations. The sport's technical HQ is in Adelaide, in direct proximity to the perfect testing grounds for a new form of aerial mobility. The company's commercial, communications and administrative HQ is in London, England and is led by CCO, Jack Withinshaw. This provides Airspeeder

direct proximity to leaders in motor sport, rights management and regulation. Alauda Aeronautics designs, engineers and builds the racing craft that participate in all Airspeeder racing events.

Airspeeder EXA Series is Airspeeder's first racing series. It is where remote pilots take control of the world's first full-scale electric flying cars. It will serve as the technical and pilot proving ground for the world's first crewed electric flying car races. Airspeeder is the forthcoming EXA remotely piloted race across the globe in 2022.

Alauda's engineers initially wanted a comms system to cover two applications for the forthcoming EXA remotely piloted racing series and the Airspeeder crewed electric flying cars races. These were, firstly

the R&D of the vehicles with a pilot and secondly a number of engineers who all communicate as a group.

The second application was also required to take care of a race management team that would ultimately manage the actual running of the races.

Owen continued, "Race Management need the ability to communicate with each team as a group to dynamically respond to racing condition changes. To meet all of their requirements we suggested they invest in a high-end radio system as this would take care of the teams' needs and form the foundation of the race management solution moving forward."

The comms solution proposed and supplied by D2N consists of Hytera PD662 radios and Raytalk noise-cancelling headsets.

Owen added, "We also built some custom wiring setups for the pilots so they could key up the radio whilst flying the vehicle. The headset we provided for the pilots allows for the connection of multiple radios and a race control channel. The evolution of these clever pieces of kit comes from our long history of developing and supplying specialist headsets for motorsport."

Looking to the future Airspeeder and Alauda will also require future



communications post testing for racing, much like an F1 team has comms with their driver, as their prototype aircraft in turn develop into manned aircraft.

Owen said, "This second, comms post testing, stage is a longer-term solution but needs to be implemented in the near future for testing. The maximum distance for this part of the solution at this stage would be 1-2km and this would grow to over 5km in time."

Considering Airspeeder is a relatively new sport with incredibly unique and specific requirements, the technology partnership with D2N has been seamless thus far.

Owen continued, "We tried to deliver over and above as we not only solved their initial comms challenge but also put them on a path where systems can be repeated and scaled to suit their operation as more teams come on board and the governance of race management requirements grow."

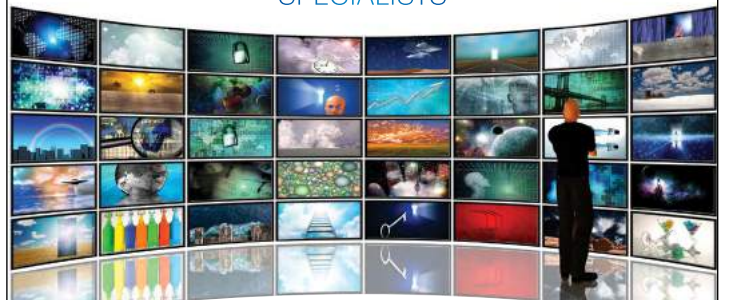
As Airspeeder grows in stature and popularity the awareness around the sport has also been growing at an astonishing pace, as has its technical and comms requirements.

Jason Owen concluded, "For most of this year, it has all been about R&D and test flights of the actual vehicles. D2N is already an integral part of this amazing sport as we have supplied them with super reliable communications and a solution built to suit and futureproof their operations. Airspeeder and Alauda have the advantage of our many years' experience providing comms to motorsport and they appreciate that this is a big plus for them. Also, many comms suppliers get wedded to one comms manufacturer brand, whereas the D2N approach is to think about the application before any brand is discussed. As a result, we have always delivered on every requirement and every promise for this amazing new flying motorsport."



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LIGHTING A MULTIPURPOSE STUDIO

by Marcus Pugh

Recently I had the opportunity to design a lighting rig for a new purpose-built studio within the Harry the hirer Productions headquarters in Melbourne, and like all passionate lighting boffins, I embraced the opportunity to research, play and test fixtures to meet the design brief, and have some fun.

The Harry's Productions Studio is designed for multiple uses, ranging from broadcast TV studio productions to a hybrid broadcast event space with room for a seated audience. The Studio design also includes spaces for clients to pre-visualise their event, test concepts and content pre-show, and stage rehearsals prior to bumping in at venues without the deadlines of showtime looming. An Infinity Wall set for product shoots (including cars!) with a clean background has also been included.

My starting point was to light the stage and studio area using an LED studio soft panel of some sort, and there is a plethora of options available when it comes to these panels. I had to look past the shiny blue logo of the stalwart companies that have dominated this market segment, and our friends at ShowTools had told me about a new offering that was soon to enter the market, designed in collaboration with Davey Taylor.

Once I tested out the TourPro Soft Panel 300TW and shot it out against some of the

other options available, I was convinced that I'd found the fixture for the job. The 300TW has full colour mixing from the Red, Green, Blue, White, Lime and Cyan LED Array with a CRI of 95+ (and a CCT between 2,000K – 10,000K). The output is beautifully soft and wide (64° with on-board diffuser) and of course can hit all the whites you could need between 2,000K – 6,000K. The form factor at 505mm H x 385mm W x 151mm D suited a lightweight stand mount for my side fill, as well as being hung from truss for key light and back light positions.

The TourPro 300TW also has studio mode to modulate fan noise, has full on-board control via the OLED menu and chunky encoders with haptic feedback, 5 and 3 pin XLR, TrueCON power in and through, along with etherCON RJ45 and USB ports. The controllability is top notch with DMX, Artnet, RDM, sACN, with a handy virtual gel library and green shift adjustment. After spending some time with the TourPro Soft Panel 300TW it is obvious that this unit hasn't been rushed to market and has had a lot of thought put into it, especially noticeable with the solid body

construction, robust yoke and reinforced connection point at the spigot. The 4pin XLR to power off V Lock batteries is nice, and small touches like the handle placement and the locking system on the tilt handles once the Panel is focused have definitely come from an experienced LD. We have been so impressed with these LED Soft Panels that extra units have been added into our hire stock as well.

The Studio needed a small factor moving light that could be flexible in filling the space with movement, colour and mid-air beams, and be able to fill-in on studio shoots as eye candy. I considered the standard brand offerings available in Australia and settled on a little fixture I'd first been introduced to at a Jands product launch a couple of years back, the Robe LEDBeam 150.

The LEDBeam 150 has a good pedigree sitting alongside its big sisters in the Spiider and Tarrantula with the same 40W RGBW LED chip set. It is able to push out an amazing array of full saturated colours but more surprising is it's ability to bring pastel colours to the party as well. Important for this studio environment is that the LEDBeam is able to dial up whites between 2700 K – 8000 K and the tungsten emulation mode even red-shifts with thermal delay in the dimming. The zoom range is 3.8° - 60°. Fully zoomed in the LEDBeam creates super-fast sweeping beams

and snap into a wide wash instantly. At 60° the unit does lose output across such a wide spread, but at the 30-40° range the LEDBeam works beautifully with a homogenised field and even light coverage and no hot-spotting due to the egg crate design on the lens face.

Its small size of only 337mm H x 244mm W x 149mm D (lens at only 420mm from the

bar with a trigger clamp) and 5.7kg was an advantage in choosing the LEDBeam 150, as we were able to create a rigging solution with the units completely hidden by our LED screen truss borders. The 150 is small, but packs a punch. I've been getting readings of 17,000+ lux on a medium focus (20,000+ lux fully zoomed in) from our trim height, and it draws a conservative 220w. The LEDBeam



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has an exceptional build quality and whips through the 460° pan and 228° tilt at lightning pace and almost silently. The tiny base manages to fit cabling and screen onto the one side so it can be positioned away from discerning eyes, with powerCON in and through with the 5 pin DMX, and the lack of 3 pin connectors will make any lighting purist happy. Overall, the Robe LEDBeam 150 is a great little mover and although we've all seen them used en-masse in large concert rigs, they will also deliver the same quality output that Robe is getting known for in this type of fixture, which of course, is supplied by Jands.

The addition of the infinity wall set behind the main staging area gave me a chance to work with traditional film/TV lighting techniques and I've added some touches using new technology. We've built a huge 6m long soft box with a custom aluminium frame above the infinity set, and the HTH Productions rigging

boffins have also devised a pulley system to tilt the soft box from straight overhead to an angled front light. We have put ten warm/cool LED soft panels internally, so the lighting colour temperature can be tuned to suit the application. One side of the infinity wall is built with casters and easily swings out of the way to reveal the double access doors, which made bump-in very simple, and no doubt will benefit many shows.

Lighting the actual infinity wall, I wanted to add some flexibility to colour the background using light. I tested quite a few options to achieve a short and high throw and we eventually took a leaf from the theatre lighting playbook using cyc fixtures to create an even wash. Given the nature of what would be shot on the infinity set, I knew I couldn't compromise on output or evenness of the wash.

In recent years a slew of LED based cyc lights have hit the market and it was the Robert Juliat Dalis Access 863 that stood head and shoulders above the rest. I know Robert Juliat as the first and last name when it comes to quality followspots, but I didn't have a lot of experience with the rest of their range, so Paul Nicolaou at Show Technology was kind enough to run me through it.

The Dalis is a 1 metre long batten with 24 LED emitters (Red, Green, Royal Blue, Warm White 2200k) and the most detailed asymmetric reflectors I've ever seen. It is these reflectors 'where the magic happens' and enable the Dalis to throw light evenly up and forward with a 90° vertical beam angle. The output is exceptional, and the colour rendering is second to none. With its theatrical pedigree, the Dalis can dial up just about any coloured gel you would put into a traditional cyc unit. Each of the Dalis can be controlled with up



“Given the nature of what would be shot on the infinity set, I knew I couldn't compromise on output or evenness of the wash.”

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“We’ve built a huge 6m long soft box with a custom aluminium frame above the infinity set.”



to four segments allowing a colour fade or rainbow effect across your cyc or infinity wall. The Dalis has DMX, Art-Net, RDM, sACN, 5pin XLRs PowerCON in and through, and etherCON RJ45 connectors. With all these connectors, you’d expect a big old panel on the back/side but not on the Dalis and this is where the beauty and design of the unit comes into its own.

The Dalis 860 has a low profile (only 117mm) and a super clean look from the back. This overall look was the deciding aspect that clinched the Dalis as the unit of choice, as presentation is super important to my colleagues at HTH Productions. The rubber feet on the front are also adjustable to allow some tilt when focusing. My only criticism of this unit for our particular application has been the lack of horizontal spread on the beam (which stands to reason when lighting a straight cyc) which makes washing around corners challenging. We have even tested the Dalis 860 as a foot light, which seems to work quite well, and as we’ve been so impressed



overall with the Dalis, they too have been added to the rental inventory in addition to the Studio.

For the lighting control system I needed a small footprint desk with parameters to drive four universes for everyday use, and simple operation, as the desk would be operated by a variety of Harry’s staff as well as being expandable for larger shows. I went with an MA Lighting Dot2 XL-F from Show Technology. Craig McPherson, the local Harry the hirer networking guru, came up with an ingenious cabling and DMX distribution system using Cat5 patch panels which makes the whole system very flexible and expandable.

To finish the studio with a traditional broadcast studio look, a modular high-shine floor supplied by Harlequin Flooring has been installed. This set floor creates a double up of the lighting when viewed through the camera lens creating huge looks.

It’s been a fun project during the down

time we’re all experiencing, and fantastic to engage with the industry suppliers again. Let’s hope we’re not too far away from designing rigs regularly again!

The Studio lighting rig is completed with the following list

- 12 x Robe LEDBeam 150
- 10 x TourPro Soft Panel
- 10 x Robert Juliat Dalis 860
- 20 x EK Mini Wash
- 10 x Warm/Cool LED Studio Panels (In Soft Box)
- 4 x TourPro Corona Retro
- 19 x ShowPro Truss Mate
- 24 x Elation OctoStrips
- 4 x Robe Robin Tetra Bar 2
- 8 x DMX LED House Lights
- 4 x Robe Robin Spot
- 1 x MA Lighting Dot2 XL-F

NEW GEAR

d&b audiotechnik XSL System

The new d&b XSL System scales the industry-leading features of the SL-Series into a smaller, lighter weight, more energy efficient package. XSL encompasses all the comprehensive features of its SL bloodline, from outstanding broadband directivity control and extended low frequency performance, to comprehensive rigging, cabling and transportation.

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Continuing d&b's fixation with directivity, XSL delivers cardioid performance across the full frequency spectrum, resulting in reduced audio spill onto open mics on stage, improved clarity and impact of individual instruments, and less coloration of mid range build up



in venues and on broadcast and recording feeds. Less spill from the main PA to the stage and backstage improves the creative experience for performers, while giving more control to monitor engineers, particularly in the mid to low frequencies.

XSL loudspeakers achieve broadband directivity using patented SL-Series cardioid techniques to control low frequency

dispersion. The XSL System's excellent sonic performance and clarity is achieved with this unique pattern control and enhanced further with d&b enabling technologies including d&b ArrayProcessing.

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Australia: Epson www.epson.com.au or (02) 8899 3666
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With its innovative moving core combined with the renowned 8 tilt system (2 sides by tilt, mirror and frost), the IVL Photon has three main outputs; immersive (mirror), decorative (frost) and the creative punch (moving core). A standard DMX control provides endless possibilities to customise the outputs for each moment. 9 gobos create from 1, 2, 4, 8, 16, 32, 64, 128 through to 256 beams. There are dimmer and RGB controls for each of the 8 mirror tilts, and an electronic shutter. IVL Photon can be incorporated into any kind of show or event thanks to its compact design and extreme versatility. Classified as Class 3R, IVL Photon is a laser-based light as safe as LED. It can be used in unsupervised areas according to the international standard (IEC 60825-3), without permit or specific training.

Australia and New Zealand: Showtools
www.showtools.com.au or (02) 4646 1199



NEW

AKG Ara

The AKG Ara dual-mode USB microphone captures audio at up to 24-bit, 96kHz resolution. Ara's dual pickup patterns let you focus on a single voice or instrument or everyone in the room. Choose the directional Front (cardioid) pattern to focus on sound directly in front of the mic while rejecting sound from other sides; use the Front + Back (omni) pattern to pick up sounds all around the mic, such as multiple speakers or a group of performers. Use Ara with the integrated base stand (included), on a desktop boom arm, or with a common microphone stand. On the go? Take an OTG adapter or Apple Camera Adapter with you, and use Ara when away from your desktop computer. It's plug-and-play simple, thanks to USB connectivity and class-compliant drivers.

Australia: CMI Music & Audio
cmi.com.au or (03) 9315 2244
New Zealand: JPRO jpro.co.nz or (09) 275 8710



KLANG:konductor

Designed with monitor engineers and fixed installations in mind, KLANG:konductor is a high-end mixing system that can deliver 16 immersive mixes and process 128 input signals at up to 96kHz, with an astonishing processing latency of less than 0.25ms. KLANG:konductor offers three DMI slots on its rear to provide I/O freedom and guarantees flawless integration into any existing setup. For example, two DMI-MADI cards allow 128 input channels and mixes to be returned to a console, and one DMI-Dante card can connect the mixes to KLANG:kontrollers. Paired with integral single channel routing capabilities, it also allows the user to freely route between the immersive mix engine and convert between different DMI formats, e.g. Optocore, Dante or MADI, with each DMI card offering up to 64 input and output channels at both 48kHz and 96kHz.

Australia and New Zealand: Group Technologies
www.gtaust.com or +61 3 9354 9133



DiGiCo SD12T

DiGiCo has released the 'T' software for the SD12. Featuring powerful, refined hardware and Stealth Digital Processing, the SD12T's functionality and work surface are instantly reconfigured to provide the specialist theatre programming tools that deliver the versatility needed for theatre sound design, rehearsal and show operation. The new SD12T has 96 inputs as standard, 48 busses and a 12 x 8 Matrix and features a flexible, expandable I/O structure that includes dual DMI card slots making it perfect for expandability with industry formats such as analogue expansion, Dante and Waves SoundGrid.

Australia and New Zealand: Group Technologies
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Barco XDM and XDX

Designed to enable impactful experiences in the Australian and New Zealand theme park industry, the XDM and XDX feature Rec. 2020 colours and native 4K resolution. The RGB laser light source enables a wider colour gamut, making the latest additions to the Barco portfolio ideally suited to those applications where exceptional image fidelity and extra colour punch is needed to showcase the specialised Rec. 2020 content. In addition, the projectors make full use of evolving standards around High Frame Rate (HFR) and High Dynamic Range (HDR) that have become popular within the content creation community.

Australia and New Zealand: Barco Systems
www.barco.com or +61 (0)3 9646 5833



GEAR

VuePix Infiled TITAN-X

TITAN-X outdoor touring panels feature high-brightness LEDs of 8.3mm pixel pitch. Each LED diode has been treated with an advanced protection shield, providing the ultimate UV, weather and dust protection. The unique design of the TITAN-X cabinets offers transparency of 70%, bringing new dimensions to your creative outdoor stage sets and allowing the sound and lighting to easily cut through the LED wall system. Each cabinet offers extensive load capacity and stability due to its innovative X-frame structure – a rear triangular foldable wind bracing system. Large format TITAN-X video walls can resist wind speeds of up to 20m/sec, with the screen reaching a height of up to 24m, making these panels a perfect choice for outdoor festivals and events.

Australia and New Zealand: ULA Group
www.ulagroup.com or
 AU 1300 852 476 / NZ +64 9 218 6532



Fohhn Media Hybrid-1



Thanks to special waveguides and Fohhn DSP, Hybrid-1 enables natural speech intelligibility throughout any room for video conferencing and amplified speech. The integrated bass reflex system also ensures a rich and room-filling sound when playing media. The active loudspeaker system can easily be combined with other media components to form a standardised system. The active (2x 70W RMS) Hybrid-1 provides even sound dispersion at 100° in both the vertical and horizontal thanks to the coaxial Fohhn high-frequency diffraction waveguide, and flexible sound adjustment and maximum operational reliability with Fohhn DSP.

Australia and New Zealand : CMI Audio
www.cmi.com.au or +61 (0) 3 9315 2244

Roland V-02HD MK II

Ditch the webcam and step up your livestreams with the Roland V-02HD MK II Streaming Video Mixer. Compact, affordable, and simple to use, this desktop device allows you to connect and switch two high-quality HDMI cameras and send them directly to your favourite streaming platform over USB-C. You can also mix in audio sources via dedicated inputs and HDMI, apply video effects and transitions, and more. With the V-02HD MK II, you have the interface you need to bring higher production values to your live video productions.

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FROM THE OCEAN TO THE WINDY CITY



My New Baby

There are times when getting something done requires a monumental effort by a large group of energised people. During statewide lockdowns that degree of difficulty multiplies exponentially. This is the story of a guy who chose Victoria's Stage 6 house arrest (or was it 7?) to move an SSL K-Series analogue console interstate. Oh the fun we've had (so far)!

The other day I woke up to the lingering memory of a dream. In it I was buying an SSL 9000 K-Series analogue console (one of my dream boards it must be said), shipping it interstate through militarised checkpoints, and installing it at The Mill through heavy double doors on the south side of the studio. I knew I'd been dreaming because there are no such doors on that side of the building, only a window.

Then reality struck, like waking to the jarring memory that you still haven't done your tax. "Holy hell, that wasn't a dream, was it? I've actually bought a K-Series! What was I thinking trying to pull this off during a pandemic, and where on earth am I going to find the money to pay for it?"

K-RIKEY

The decision to buy the SSL 9000 K-Series 'Super Analogue' console (as it's known) happened quickly, although, I guess if I'm honest I've been daydreaming about owning something like this for years. I'd been tyre-kicking the idea around in my head mostly, occasionally running the idea past a good mate of mine, Rick O'Neil, who would typically say something encouraging like, "Either shut up about it or go and by one from somewhere, pay good money for it, and move on!"

Rick is so sensitive...

But my daydreaming turned to something a little more public last summer when I started making enquires around the traps to see what was – or might soon be – out there. I've had an SSL before, a 5000 series, and for the last 17 years I've owned a Neve 5104, but lately I've been feeling like it was time for a change... I can't have a holiday after all!

But as the last couple of weeks have unequivocally proven, it's a damned sight easier (not to mention cheaper!) to dream about something than it is to live the reality. Hitting the 'Go' button on a purchase like this has been a whole other matter, complicated no end by the fact that I haven't been able to travel from Victoria to NSW to organise any of it. Indeed, the console was literally bought sight unseen!

My involvement at the shipping end of this saga has been limited to a thousand tedious phone calls to everyone from the guys co-ordinating the shipment, Chilli Chillcot from Byron Sound Lounge Studios and Jan Muths from Byron Bay SAE (where the console has lived for the last 18 years), to Bruce Sheaffe the forklift driver in Lismore and Simon Lynch from Cape Byron Removals. To those guys specifically, I am forever grateful.

These guys took care of the console like it was their own, and it made all the difference in the world knowing that it was safe in their expert hands.

Rewind The Tape

But to back up for a moment and frame this story a little wider, I should mention how this purchase came about. The option to buy the SSL came almost completely out of left field only a month ago, proving that although I'd been daydreaming about it for years, I hadn't really prepared myself mentally (or financially) for a decision if one came up.

So there I was in the studio one day in August, minding my own business, hiding from the world during yet another lockdown when I got a message from a mate of mine, Simon Stavenuiter, telling me that an SSL console was coming up for sale and did I want it? He knew I'd been tyre-kicking the idea for a while now, and although it wasn't the model I'd been talking about, he thought I should know.

"Wow, that's pretty amazing news, man," I said to him, choking on my morning coffee. "I actually remember mixing on that board up in Byron when it was about three weeks old."

How could I have forgotten that day! Tom Misner, who had just taken delivery of only the third 9000 K-Series SSL to arrive in Australia (no-one knew at that stage it would also be the last) had invited me up to the SAE Byron to show off his new pride and joy, and while I was there, play me a mix he'd just pulled together on it.

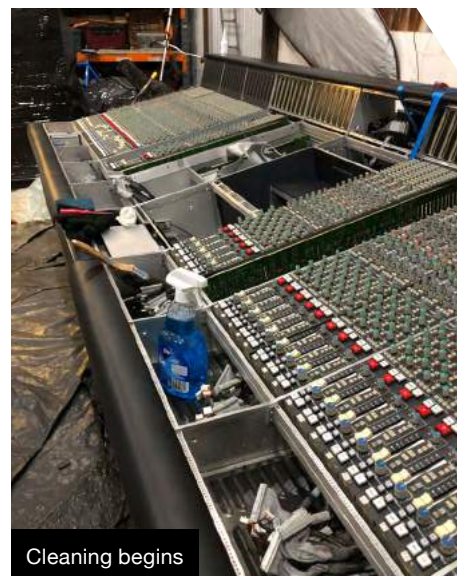
"A mix you've just done?" I asked, somewhat astonished. "I didn't know you mixed music. I thought you were just a rich guy who liked boasting about owning all this stuff!" I added, in a friendly sarcastic tone.

I then sat in front of the most amazing, brand-spankingly new SSL, and listened politely to the most unremarkable mix I'd ever heard summing off a console.

And what a console it was. The SSL was a sea of perfectly arranged switches and knobs, myriad solo and mute controls and endless channel strip options all glowing red, white and green in the soft studio light. I love a good outdoor environment, believe me; a deserted beach, a walk through the bush, but there's



Console exits the building in Byron



Cleaning begins



The Crew in Woolamai
(Left to Right) - Dean Roberts, Mark Finsterer, Marcus Satchell, James Wilkinson, Paul Kent



In Byron (Left to Right) - Jan Muths, Kerabangara Whewell, Carl Weir, Ben Funnell, Chilli Chillcot, Kristian Gifkins-Webb, Toby Smyth, Zane Keighran

something about a big console in a control room with the lights down that really makes me feel at home. After all these years I still get a kick out of it.

Winding the clock forward too many years from that day, suddenly I'm the owner of the very same console, and today it arrives here at the Mill to begin its second life as the centrepiece of my mixing room. Initially it's going into an adjoining building while I work out how to get the beast into the studio. Currently it doesn't even fit through the door! And before it can go in the Neve 5104 needs to be sold and shipped to its next home.

To help unload the behemoth I've enlisted the help of friends and neighbours; a dairy farmer, a couple of wine makers, a saxophonist, a trombonist, and a jazz guitarist. It's a motley crew but they come with a smile and some decent tools that will aid in the delivery no end. Both winemakers have pallet jacks, and the dairy farmer, my neighbour Paul Kent, has a 7-tonne four-wheel drive tractor that will make extremely light work of the enormously heavy console. Even with 10 people at the ready, at 870kgs with the channel modules removed, lifting this beast is basically out of

the question. Anyway, the truck is due shortly, so I'm gonna put my laptop down now and get back to this story in a few hours with hopefully good news to report...

The Eagle Has Landed

We are in! All went incredibly smoothly. The horrible weather backed off, coinciding perfectly with the truck's arrival. Ten minutes earlier we had been enjoying 80km/h winds and hail!

Rather than employing the use of Paul Kent's giant tractor, we instead decided to back the truck right to the entrance of my big shed, put the dollies from Bunnings that we'd used in Byron to load the console onto the truck in the first place under the console's feet, roll it very slowly out onto the 2.5m long hydraulic tailgate, swing it very carefully 60 degrees, and lower it to the ground! Simple.

James Wilkinson, who was on the downward side of the console while it was still high on the tailgate had a few slightly nervous moments, thinking the board was going to roll onto him and squash him flat, but thankfully we held it safely and lowered it to the ground without incident.

Now the big task begins of cleaning the console (for possibly the first time in almost two decades), reconnecting all the fader cassettes, centre section and belly box, and starting the long-haul process of making sure it all works well and has any repairs done to it that need attending to.

Oh, and I have to add a 40 Amp circuit to the studio's sub-board, to accommodate the power-hungry SSL supplies. I'm also going to add another 5.5 kilowatts of solar power to the studio's roof, to help pay for the running of the console, and save the environment from a mountain of burning coal at the same time.

I'll let you know how it all works out next issue...

'Til then.

Andy Stewart owns and operates The Mill studio in Victoria, a world-class production, mixing and mastering facility. He's happy to respond to any pleas for pro audio help... contact him at: andy@themillstudio.com.au or visit: www.themillstudio.com.au

Celebrating a lifelong educator and a perpetual student

by Jenny Barrett

Richard Wiltshire, Operations Manager at Burnside High School Christchurch, has nurtured students interested in entertainment technology for over forty years. Meanwhile Graeme Anderson, Wellington-based freelancer, has transformed with the industry, journeying through video, sound, to the special effects world of pyrotechnics and armoury. Both were due to receive 100+ Production and Event Pins at the recent Entertainment Technology New Zealand (ETNZ) conference, unfortunately impacted by COVID-19.

The Lifelong Educator: Richard Wiltshire

Richard first trod the boards as a child, supporting his parents, both actors and directors at Ranfurly's amateur dramatic society, "I absolutely sucked at acting but I liked flicking the light switches and making pretty colours. Back then it was a lighting board on the wall!" Interest ignited, he joined the backstage crew at Otago Boys and got to play with early editions of moving lights. In 1980 after completing his teacher training, Richard fell on his feet, landing a science teaching role and picking up the technician mantle at Burnside High, where he still works today.

In 1983 another door opened. Volunteering on Gilbert and Sullivan's Gondoliers in the James Hay Theatre, he met Alistair Cameron, then a Lighting Technician, "I did a good job and he asked me to follow spot at an Eartha Kitt gig, getting me on the Town Hall pay roll. That got me back into the theatre scene outside of the high school." For the next few decades, Richard spent his weekends working as a lighting and event technician across Christchurch, including for the Christchurch Symphony Orchestra, at the Court Theatre and on the Summer Shakespeare Festival.

Meanwhile Burnside High built the drawcard that has meant Richard has never left, the

seven hundred seater Aurora Theatre, "The school has a really strong tradition in music and the performing arts and in the late 90s proposed to build a 'proper' theatre for the school and Christchurch community organisations." Richard was one of three on the design committee, "Me, the Property Manager and the Head of Music. I wanted wings, they wanted a box and no curtains or wings. We compromised and have shallow wings. We have on occasion had to put mattresses against the winch handles to avoid dancers flying into them, but we manage!" Initially the technician, in 2006 when Burnside High took over from the founding Community Trust, Richard assumed the role of Operations Manager.

Five years later and Richard's role was suddenly inflated to Ops Manager of the only theatre still open in the city following the earthquake in February 2011, "Our phones were ringing off the hook and we had people lining the corridor asking to use our facility. In addition, our seniors were doing a production of Godspell." With minimal time, a cast that knew their lines but lacked enthusiasm, and an absent Director, Richard recalls it as one of his greatest challenges, "I was under pressure to transform it from the mundane to worthy of Christchurch audiences, as the only show in town!" With some palm trees and waves left over from a TV ad, a borrowed lighting desk and a lot of hard work, he managed to awake the students' passion. The show's usual three day season doubled, and every show was a sell-out, "It was important for the school and the students with everything that had happened for it to be a success."

Pyrotechnics at the World Masters Games

Richard's commitment has always ultimately been to the students, "I really appreciate the opportunity to help guide young people who are interested in the theatre industry. It is rewarding when you see ex-students go on to have great careers and even set up their own businesses. His former students include Nick Sears and Dave Spark who run Pixel, the Christchurch-based video solutions and production design company. Dave aptly sums up Richard's contribution over the years, "Richard gave me a really good grounding, not only in the technical but in the ethics of hard work, always ensuring we delivered to a high standard." Richard also frequently opened doors for his mentees, "He used his contacts around town to set up work experience for us, giving us a step up. I'm genuinely grateful to Richard for his input. He definitely played a part in where I am today."

And what next for Richard? He is currently on an Entertainment Technology NZ committee looking at how best to support secondary drama and music teachers with the practicalities of putting on a production. He's got the Year 13 assessments to do, "If we get to the other side of this lockdown". And with retirement not far away, he's looking at some traveling, "Again subject to COVID." Until then Richard will continue to support students at Burnside High, "I still have students coming up with new ideas when they've been playing with the lighting rig, and I think we'll have that, and it will become standard. I let them run the ship, no hierarchy. That's the fun of it, letting them loose!"

The Perpetual Student: Graeme Anderson

Graeme Anderson started learning at Wellington High School and he hasn't stopped. Beginning with exploring 16mm projection, sound and lighting for assemblies and productions, he has worked in TV, radio, theatre, events and movies. He has remained in the game because he has never been scared to learn something new, consistently upskilling or morphing as the demands of the entertainment technology business have shifted.

After leaving school, Graeme joined the then New Zealand Broadcasting Company maintaining equipment and film editing just at the time the industry was shifting from 16mm to the early days of tape. After a few years it was time to spread his wings, "I really wanted to learn more about sound, so I transferred to radio, became a studio operator and ran all the controls back when radio announcers really did announce." He cemented his radio experience with a spell at Radio Windy, Wellington's local radio station.

After a few years in the UK, he returned to New Zealand in 1983 and worked as a technician on Wellington Council's fourth Summer City Festival. The six week lavish festival included sport, music, theatre and public art. There followed a spell touring and then came the exciting opportunity presented by the new Michael Fowler Centre, "I was House Tech and



Richard Wiltshire

it was actually pretty challenging. Originally destined to be a concert hall, it had ended up part conference centre, and as a result of the compromise it often didn't satisfy the requirements of either!"

Three years later Graeme took the plunge and went freelance, "I loved the variety of the work and the touring. I supported modern dance and ballet shows, did heaps of corporate work, all over the country." He slowly acquired his own gear, "There was still a bit of good old-fashioned AV and slide projectors. Computer graphics and video projection were just coming in." It wasn't all fun and games. He laughingly recalls three months touring with a circus doing sound with Allan McShane from Grouse Lighting and his brother on rigging, "It was just hard work, physically and mentally. The budget was tight, the tent was falling to bits, everyone was falling out."

The pain and the glory all translated into a wealth of knowledge in event production and planning. "Laptops arrived and the bigger companies geared up and put paid to the little AV hire and tech guy so I evolved again." Graeme moved into event production, subcontracting the technical operation, "I did the big wine and food festivals that were just starting, Wellington Street Race, you name it."

It was whilst doing production work on the Firestone Firepower show, later the Wellington Fire Show, that Graeme discovered a new passion, "I thought pyrotechnics could be interesting and I got my head around the health and safety regulations and the insurance side of things." Once again he got in a few good years, until the environment changed. "It was hard to stay in the game as clients dwindled to council bodies and the regulatory requirements grew and grew." Many would have given up, but not Graeme, "I'd developed an interesting little sideline, armoury, which like pyrotechnics focuses on safety, lots of rules and regulations, special licenses." As a result Graeme has spent the last few years working on TVs and movies,

combining all his years of experience to deliver pyrotechnic and armoury special effects, "Special effects work is very creative. The Director wants something, and you go away and make it happen."

During this period, Graeme's path crossed with Brendon Durey from Filmfx and over the last eight years a close friendship has developed, "We call Graeme the 'walking license'. We pop him on set and we can do pretty much anything under his supervision. You can't match his depth of knowledge." Brendon recalls working with him on the opening of the World Masters Games at Eden Park in 2017, featuring lights, smoke, fireworks, and the biggest laser show New Zealand had ever seen, as the backdrop to a Maori cultural performance, "There was a problem with the wiring for the pyrotechnics and everything needed to be checked. Graeme just took it in his stride, he's done it all before!"

On a personal level too, Brendon cannot speak highly enough of Graeme, "He's a genuine, wonderful person with a great sense of humour. Also at the World Masters, the Maori dancers came out earlier than they should have and we had people in grass skirts heading towards the pyrotechnics. It was a white knuckle moment and I was glad to have Graeme at my side."

Nothing illustrates Graeme's enduring passion for the business more than the fact that his 'proudest moment' happened only a couple of years ago working on The War Horse at the Auckland Civic Theatre, "It was a fantastic show to be involved with, a wonderful opportunity."

And what next for Graeme? "I still do a lot of tech work for Wellington venues and I was supposed to be doing WOW at the TSB Arena but that is cancelled for the second time. Amazon shifting the Lord of the Rings series to the UK has also hit the TV industry, but Sweet Tooth is doing a second series here with Filmfx. Hopefully things pick up soon, and I'll just move with the times."

THE RIVERS SING

by Jason Allen

Photo Credit: Kristoffer Paulsen

The Rivers Sing is monumental environmental sound work created for the inaugural Rising Festival in Melbourne.

Despite the shutdown of Rising due to Lockdown #4 in late May, The Rivers Sing was one of the few works that was allowed to be presented as scheduled. A collaboration between composer Deborah Cheetham AO and sound artists Byron J Scullin and Thomas Supple, with technical contributions from Joe Talia, MORE Studio, and Jason Read's Optical Audio, the work travelled down both the Birrarung and Maribyrnong rivers over six weeks, before converging at Birrarung Marr in Melbourne's CBD.

I had the fortune to experience The Rivers Sing at one of its many stops along the Maribyrnong River, specifically at Lily Reserve in Essendon West, overlooking the derelict Maribyrnong Defence Site. I had not experienced one of Cheetham, Scullin and Supple's large-scale sound works before, which have been presented at Hobart's Dark MOFO and Perth Festival, as well as in London and Dusseldorf. The effect was

extraordinary. At the appointed time, voices came from everywhere. It was like the sky was singing and the landscape was talking. In 30 years in audio, I've never heard anything like it. It felt like it enveloped an entire suburb.

After picking up my jaw off the floor, I immediately started looking around trying to figure out how they'd achieved such an extraordinary result. Behind me on the reserve was a portable winch-up system with eight or so small speakers of a design and brand I'd never encountered. Looking down into the river valley, which falls suddenly and steeply away from the reserve, I saw two pontoons in the river, with similar looking arrays of speakers. It was hard to tell though, because each speaker array was several hundred metres away from each other, forming a triangle. No audio product I am familiar with could have done what I had just heard. I had to talk to the creatives...



Thomas Supple and Byron J Scullin



Deborah Cheetham AO

Creation – Connection to Country

"The Rivers Sing seeks to reframe our relationship with the two major rivers that pass through Melbourne," explains Byron J Scullin. "Deborah Cheetham is the source of inspiration. Beginning with her own connection to our waterways, combined with language and knowledge granted by Boonwurrung and Woiwurrung Elders, the work seeks to embody ideas found in the ongoing connection between water, Country and people."

The Rivers Sing follows on from Siren Song, created by Scullin and Supple with fellow collaborator Hannah Fox, a large scale outdoor sonic artwork that fills the sky of a city. It was presented at Perth Festival and Dark MOFO in Hobart, and used hundreds of TOA horns mounted on buildings, and a helicopter which would fly over the city during the performance. Siren Song itself followed on from Bass Bath at an earlier Dark MOFO, which was created with 22 dual 18" d&b audiotechnik subwoofers in a disused cool store. The idea of Bass Bath was to experience sound as a physical force on the body, instead of a heard phenomenon. This

led to the idea of Siren Song; standing outside and being enveloped by a huge field of sound.

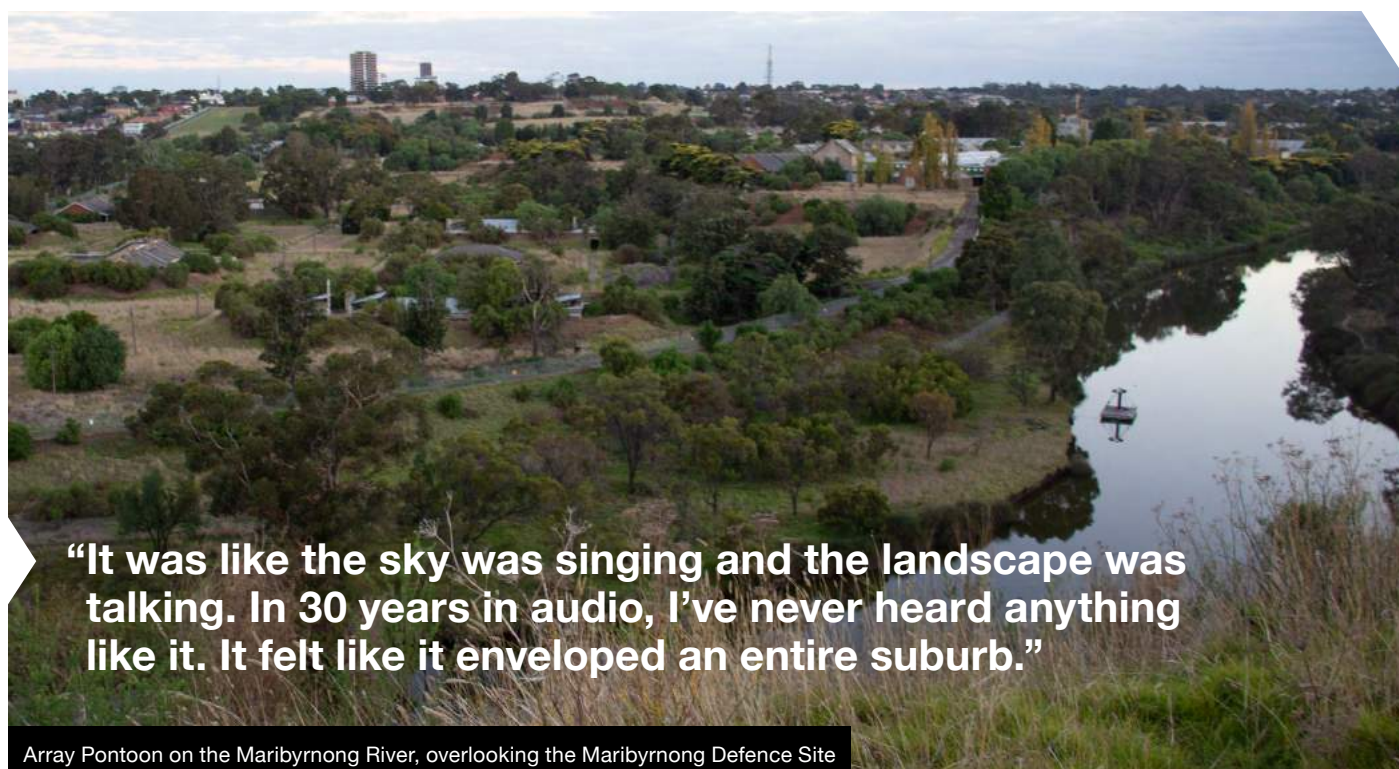
“The Rivers Sing began life when Rising Festival approached us about creating a work,” continues Byron. “Deborah is a Yorta Yorta woman for who the Tongala (Murray) River holds a very important place, both for the community but also personally. Deborah, as a visitor here in Victoria, developed her ideas for The Rivers Sing with permission and advice from the local Woiwurrung and Bowurrung elders, including N’arweet Dr. Carolyn Briggs, whose PhD thesis involved mapping Boonwurrung culture including its relationship to the Birrarung (Yarra). Since colonisation, the Maribyrnong and Birrarung have very different positions in contemporary Melbourne, with the Maribyrnong being the ‘lesser’ of the two waterways. Deborah then explored our connections to the environment

and landscape, allowing the research and her unique relationship to speak through a poetic interpretation.”

Deborah prepared musical themes and material for both the Birrarung and Maribyrnong, through a mixture of improvisation, and compositional work at the piano and in notation. This material was then taken to other artists, who were invited to respond to it, using structured improvisation and their particular musical specialities. Artists recorded included Jess Hitchcock, Lillie Walker, Carolyn Connors, Dhungala Children’s Choir, Nai Palm (Hiatus Kaiyote), Marita Dyson (The Orbweavers), James Henry, Charles Maimarosia, and Don Bemrose as well as Deborah herself. The results were cut-up like a sample library, in a technique very much drawn from musique concrète. The composition is modular;

the parts sit on a hard drive, with different elements chosen to be played back for each performance, running at dawn and dusk. It’s never the same twice.

“When you’re dealing with an amplified work at scales this large, you don’t know what effects you’re going to get,” Byron observes. “You certainly can’t use rhythmic material that’s intended to be in sync; anything rhythmic turns into a texture, so that’s a compositional restraint. Deborah, Tom, and I would make educated guesses about what the sounds would do once out in the environment and allow for that in the composition. We’d then go out and listen to the work on site and determine what worked and what didn’t. It’s an experimental work at heart because we’d have a theory, test it, come back with the information, and decide what to modify. It’s like playing with a huge



“It was like the sky was singing and the landscape was talking. In 30 years in audio, I’ve never heard anything like it. It felt like it enveloped an entire suburb.”

Array Pontoon on the Maribyrnong River, overlooking the Maribyrnong Defence Site



Playback system



Weatherproofed connections



VocCom HS-2060 Array

instrument on a 24-hour cycle.”

With sites beginning at the TarraWarra Museum of Art and making their way down both rivers until meeting in the steel and glass of Melbourne, results were always going to be interesting. “The piece interacts with each landscape differently,” confirms Byron. “The Mount Lofty iteration created a reverb that I’ve never heard the like of. It was 12 seconds plus, just echoing off of the landscape. There was something about the depth of the gully and the straight trunks of the trees that created a huge diffusion field. It was like a Brian Eno-esque delay chain which took several seconds to come back; you’d send out a melody and a counter-melody would come back.”

As the piece made its way down the rivers over six weeks, Thomas, Deborah, and Byron would meet to talk about location, structure, and material for each site. “For each location, we’d discuss the work’s relationship to the river, and what had historically happened there,” illustrates Byron. “Deborah would lead on qualities and sounds. As for where the loudspeakers were located, I began thinking of them as duos, trios, and quartets. We’d establish a compositional intent for each location. I’d then articulate that into the software, go out and listen, and then develop a second or third version according to sound’s behaviour at the site.”

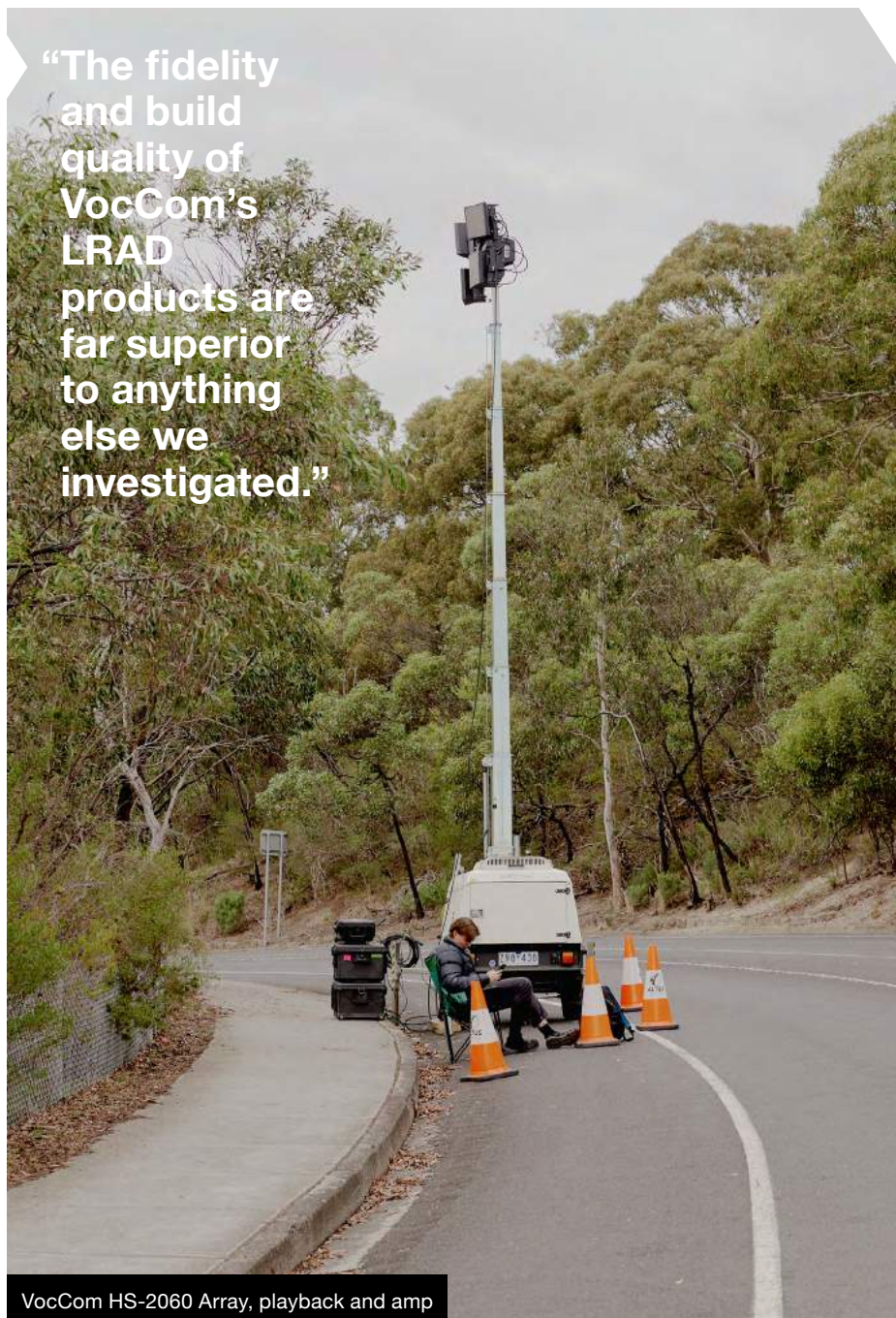
Delivery - So how on earth did they do this?

The technical question for all of Scullin and Supple’s sound works has been; how do you create a sound field that large? While Siren Song was achieved with the brute force of 500 horns and a helicopter, that isn’t always (or ever, really) practical. Byron started investigating a technology he’d heard about; LRADs – Long Range Acoustic Devices.

“I knew about LRADs, and had seen video of them in action,” Byron relates. “A company called Genasys originally developed the LRAD with funding from DARPA for the US Navy, for voice comms and hailing over water. They’re known for being used in protests, for warning tones and notifications. People have suffered adverse effects from that, as they’re outputting 140 to 150 dB. I’d heard a demo of Genasys’s LRADs in Fukushima, Japan, where they’re used for early warning. I thought they would be a great solution, as they’re very small and easy to deploy.”

The original design for Siren Song incorporated the use of LRADs but sourcing them turned out to be nigh impossible. “It’s so contentious,” sighs Byron. “The manufacturers are not interested in dealing with artists; they’re interested in dealing with emergency services, the military, and law enforcement. We called Genasys and they’d literally hang up the phone. I think the reason companies making LRADs don’t want to talk to artists or audio professionals is that there is a certain cache to being a ‘sound

“The fidelity and build quality of VocCom’s LRAD products are far superior to anything else we investigated.”



VocCom HS-2060 Array, playback and amp

weapon’ when talking to police and security. That market knows almost nothing about pro audio. We found when we looked at the build quality of a lot of products in this market, it was pretty bodgy by pro audio standards, but incredibly expensive. The weaponisation of sound is a matter of intent. You can treat any PA as a weapon, really. A huge aspect of this market is marketing and selling to people with little knowledge and large budgets.”

While working in Europe on other projects, an artistic director Scullin and Supple were collaborating with turned out to have a connection to a company called PASS-Medientechnik who make LRAD-type products under the name VocCom Audio. “While we were in Dusseldorf, staff from VocCom drove down with gear to meet us and let us test it,” retells Byron. “After testing and recordings, we decided that their HS-2060 product is what we wanted to use. It’s small, it

has 30x60 dispersion and weighs just 5.5kg. It can throw almost a kilometre. This meant our works could go from being done with 500 horns which needed scaffolding, labour, and an entire shipping container to transport, to being 32 HS-2060s speakers on upright winches or ground stacked.”

The VocCom build for Scullin and Supple, who now own the rig, is custom. The HS-2060s are powered by custom made amps, and are connected to a playback system designed by Optical Audio and MORE Studio to their spec. The whole production now fits in a couple of dozen Pelican cases. “The fidelity and build quality of VocCom’s LRAD products are far superior to anything else we investigated,” Byron asserts. “They’re the right people, and really wanted to show us what they could do and the diversity of their technology.”

"The fact that The Rivers Sing can move from place to place every weekend is down to the VocCom products and the portability of our playback system," continues Byron. "The whole thing is stable, compact and tight and they can project so far. It's just voice, just the range from 500 Hz to -5kHz, and it's perfect for that. The HS-2060s are running 20 to 25 dB below what they can do. If we wanted to, we could really dominate, but that's not the point. People assume if its military equipment it's going to be a bombardment, but the work runs not that far above the background ambient noise level. The voice intervenes in the environment for a unique sound experience that is an abstract and poetic reflection of what this landscape represents."

Playback - Jason Read, Optical Audio

The basis of The Rivers Sing playback node was modelled on a similar control system developed by Optical Audio's Jason Read as a redundant firing system for the Melbourne's New Year's Eve Fireworks.

"The original design was a standalone system that takes GPS timecode, turns that into a Longitudinal Timecode stream which goes into a Mac, gets converted into MIDI Timecode, which then triggers QLab. Most of the components were off the shelf, with some customisation on the GPS conversion. All the systems have 4G modems and uninterruptible power systems. They sync the playback files with Dropbox. This isn't the first project we've used the system for; we've been involved with Byron and the team since Siren Song in Hobart."

The Rivers Sing system is further refined to reduce the physical size of the control system and provide greater flexibility. Based on Pi4 technology, the system is cased up into a lightweight ABS case with a customised I/O panel to travel worldwide. "It's extremely portable," says Jason. "You can take it on a plane, and along with the HS-2060 rig, present it to a festival; this is our show. It can be as easy as two cases and some speakers. It's much easier and more efficient than mounting 100 horns onto eight buildings with amplifiers, rigging, and control loading in over multiple days"

MORE Studio - The Software and Admin Solution

The Rivers Sing system is an integrated hardware and software solution for a multi-location system for audio playback for a large area multi-channel audio artwork, designed and coded by Pete Brundle and James Sandri at MORE Studio.

The system involves isolated speaker nodes each containing a GPS-enabled Raspberry Pi Board Computer that outputs four channel audio to a multichannel audio interface which in turn outputs to the amplifier and speakers.

Each Raspberry Pi Node device is managed on the Balena device control web application and new software can be remotely deployed to all devices via the Balena API.

The software on board the Raspberry Pi uses the GPS hardware to continuously set accurate date-time to the operating system. This allows all nodes to be in sync with each other from a time perspective.

"A separate custom website, the Cue List Dashboard, allows cue lists of audio files matched with play times to be built and uploaded to each node or device," says Peter Brundle. "We use the Balena API plus a custom Node JS API on the Pi software to communicate directly with the Pis. The Dashboard also allows real-time control over the volume levels of each channel per node."

A Dropbox folder is connected to the Cue List Dashboard site via the Dropbox API and matches folder names to the names of the Pi devices. Audio files are copied into the folders and are then synchronised to the devices. Note, the device names can be changed on the Balena Dashboard where the devices are managed over the internet.

The Pi software continuously checks the time against the uploaded cue list times and plays the audio file specified for that cue.



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LIGHT CYCLES

How the inaugural Illuminate Adelaide created magic in Adelaide's Botanic Gardens

by Jason Allen

Australia's newest winter major event, Illuminate Adelaide, celebrated its inaugural year in 2021 and wanted to establish a unique, signature project. Moment Factory, headquartered in Montreal and with offices in Paris, Tokyo, Singapore and New York City, were the people to deliver it.

With a solid track record of creating amazing site-specific sensory experiences all over the globe, along with design work for Billie Eilish, Halsey, and Childish Gambino, Illuminate Adelaide had found the right people. However, creating & producing a project from Montreal to Australia in the middle of a pandemic, with border closures, was going to be an issue.

Inception

Initial conversations with Moment Factory in the constrained context of the pandemic



All photos courtesy Moment Factory

immediately had to look at how this new event could be realised remotely with the Moment Factory creative and production teams in Canada and the Illuminate Adelaide team translating on-the-ground details of the Adelaide Botanic Gardens.

Illuminate Adelaide were confident that working with their local tech partner Novatech Creative Event Technology as collaborators, they would be able to realise Moment Factory's vision. With a track record of delivering international creative projects

remotely, such as 2019's Borealis for Adelaide Fringe on behalf of Switzerland's Happy City Lab, Novatech had experience in the field, and the parties began a series of discussions over Zoom to see how the vision could be delivered.

"The initial discussions were so we could each gain an understanding of who we are and what technology we can offer," explains Novatech's managing director Leko Novakovic. "On those calls, we connected, and gained the immediate understanding that

we each knew what we were talking about, expected the best, and want anything we do done properly. That put us in the right frame to go forward with the project."

Moment Factory created Light Cycles, an immersive experience at the Adelaide Botanic Gardens for Illuminate Adelaide. To ensure seamless on-the-ground production, Illuminate Adelaide appointed a dedicated producer, Daniel Vorrasi, and production manager Peter Kelly, along with Chris Petridis, LD and video specialist, who was appointed



“Dedicated transitions helped guide guests from one installation to the next as they discovered the Gardens’ beauty by night.”



technical director. Working closely with Moment Factory’s technical director, lighting director and technical teams allowed Moment Factory’s and Illuminate Adelaide’s vision to come to life.

Encompassing nearly two kilometres, Light Cycles features seven unique immersive installations; Suspended Light, Into the Sunset, Forest Frequencies, Crystal Grove, (IN)Visible, Reflection Lake, and The Hearth, that each encourage newfound connections with nature. Dedicated transitions helped guide guests from one installation to the next as they discovered the Gardens’ beauty by night. The experience was designed to last 45 to 60 minutes, with most audience members spending 90 minutes.



Delivery

To support Moment Factory’s design, Novatech divided the Light Cycles experience into eight timecoded zones, with their own local racks of gear, with a control HQ in a building central to the Gardens. Each zone’s creative was a loop that ran from four to seven minutes, including lighting, video, lasers, practical effects and multichannel audio. Some technologies were consistent across the installation, others were specific to each zone.

The remote rack system in each zone housed the local tech as required, which included amps, media servers, LED controllers, and the network switches handling the main and redundant fibre connections linking Light Cycles together in ringed loop. Novatech’s

resident problem solver and Technical Director, Menk Novakovic found special climate-controlled tents to protect the racks from the weather, with their own AC and network connectivity for monitoring. Just as well, because opening night was cancelled due to a fierce storm!

The lighting system was built to run off the MA platform, with a grandMA3 light at HQ, and eight separate instances of MAonPC running on virtual machines. Moment Factory had their programmers and designers pre-visualising using MA, which transferred seamlessly to Adelaide. “Moment Factory has developed their own proprietary in-house control system called X-Agora,” divulges Leko. “However, due to the temporary nature



of this installation, Moment Factory proposed that we work with a system that was more familiar to us. As such, they were happy to share the design specifications and system topology of what they wanted to achieve, and let us propose a system design that checked all the boxes. We went for a design that kept all parameters in mission control and sent out to the rack nodes in each area."

Novatech developed their own dashboard for their control system to monitor all aspects of the system at HQ. "Everything cycled on screens we had around the control room," illustrates Leko. "We could see the status of every fibre connection, each MAonPC session, L-Acoustics Network Manager for the audio system, each of the eight QLab sessions, and the MadMapper pixel mapping software sessions. We could also remote into the network and get all of this if necessary. We used Q-SYS as the interface to get every piece of software to talk to the dashboard through the network. It was a significant network deployment, running 10GB fibre and 10GB switches, through two multimode fibre cables to each zone."

A huge variety of lighting fixtures, LED products, and vision were deployed, chosen or manufactured in collaboration with Moment Factory. "Some lighting elements were very specific because they had to be," reveals Leko, "and some were chosen through

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COLLABORATION

various field testing both in the Gardens and at Moment Factory's Forest Lab outside of Montréal. We went on-site for testing during development, as did Moment Factory over in Canada. We projected video onto stands of bamboo. We'd run up different lights and take photos and videos to share with the team in Montreal. There was a lot of experimentation, especially for looks like the custom pixels for 'Crystal Grove'; before we were going to manufacture 2,000 of them, someone needed to sign off!"

'(IN)Visible' carried the bulk of the video used in Light Cycles, with a serious 13 projectors fed by a disguise server in its local rack. 'Forest Frequencies' used ROE video strip fed by Brompton processing. Audio was L-Acoustics throughout. "All zones used L-Acoustics loudspeakers run by L-Acoustics amps," elaborates Leko. "We were able to use L-Acoustics Network Manager software to monitor the system, and L-Acoustics Soundvision software to design each zone, with different loudspeaker models for each zone depending on what it needed. The soundscapes were between eight and 20 channels, played out of QLab, so we went through a lot of amp channels. Audio was networked on Dante, with AVIO adapters in each remote rack to get into the amps."

With multiple sold-out sessions and incredible audience demand, Light Cycles original season was extended by three weeks, closing Sunday 22 August. A universal critical success, tens of thousands of people made the journey through the Botanic Gardens to experience the work, and businesses in the CBD reported that trade was up 35% as a result of the festival as a whole. Illuminate Adelaide will return triumphantly in 2022.





Q-SYS IS COLLABORATION

QSC

MS Teams, Zoom, Google Meet, Cisco Webex - whatever your chosen collaboration platform, Q-SYS has you covered. Q-SYS also has the meeting participants on the far/remote end of the video conference call covered! That's really the key to a successful collaboration environment and QSC have brought their Q-SYS conference experience and technologies to elevate the participants at the far end.

The technologies are a combination of professional quality 1080P video via Q-SYS PTZ conference cameras, and enhanced far-end intelligibility from third-generation Q-SYS acoustic echo cancellation. Advanced automixers and noise cancellation technology ensure that far end/remote participants can actively and effectively participate.

From a technical perspective the Q-SYS Ecosystem provides universal AV interoperability and connectivity, letting you connect a single, driverless USB to integrate

Q-SYS audio and multiple conference camera video into the web conferencing application of your choice.

So, whether your collaboration spaces are classrooms, boardrooms, all-hands spaces or lecture halls, QSC brings a complete solution that integrates and just works. Furthermore, QSC has linked with Sennheiser to create a solution that simplifies integration complexity and allows users to easily scale their deployment.

Regardless of the video conferencing platform, QSC has pieced together the audio, video and control platform, amps, speakers, cameras, video end points and more that work seamlessly under a single design philosophy and brand badge that makes end users comfortable and the job of selling the system so much easier. Microsoft Teams Rooms (MTR) has been one of the first platforms to recognise the power and potential of the QSC package and has certified virtually the whole QSC VC product complement for the MTR platform.

Collaborating effectively with remote participants is quite a learning process for us as humans. It's obviously been on fast track during the Covid era, and we're adapting and developing the necessary skills. Technology providers like QSC are skilling up too, and delivering solutions that meet expectations and sometimes exceed them. It's a fast-moving target but together, in collaboration, we'll get there.

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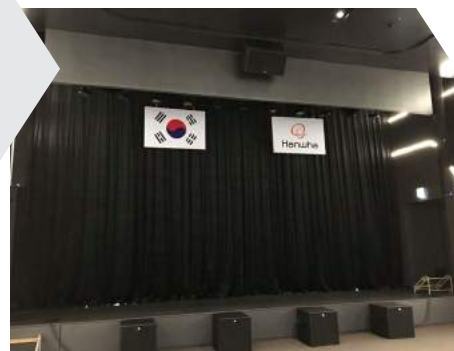
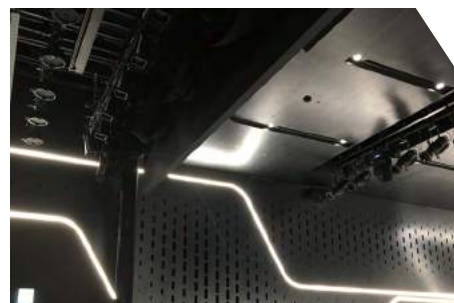
Business Sound Reinforcement – *The Future*

Founded in 1952 as a family-owned company, Hanwha is currently one of South Korea's largest corporate groups, active in a wide range of areas including chemicals, telecommunications, logistics, armaments, insurance and construction. At the start of this year, several rooms at Hanwha's corporate headquarters in Seoul were equipped with Fohhn loudspeakers. The installation included an auditorium and two large conference rooms. System integrator Stagenet, one of Fohhn's Korean partners, was responsible for both the sound and lighting.

The Auditorium

A highlight of this project is the new, futuristic looking auditorium in which audience seating can be retracted or extended as required at the touch of a button. Loudspeaker systems

were needed that could fulfil a range of requirements; they would have to blend in with the auditorium's metallic walls and neon lighting, thus appearing virtually undetectable. They would also have to guarantee first-class speech intelligibility and flawless sound



reproduction.

To meet these demands, Focus Modular systems have been installed on either side of the stage, forming the main PA system. These modular loudspeakers are remarkable for their integrated Fohhn Beam Steering Technology, which enables the speaker beam to be precisely controlled, in real time, using electronics and software.

The systems installed in the auditorium each consist of one FMI-400 low-mid module and one FMI-110 high frequency module. In front of the stage, four XS-4 passive subwoofers have been configured as a horizontal bass array, with four XM-4 systems serving as stage monitors. A passive AT-661w two-way loudspeaker system has also been added above the stage portal for central coverage. Along each of the side walls, four Arc-Series AT-09 two-way compact systems have been installed. These passive loudspeakers are mounted directly below the ceiling from where they can deliver perfect surround sound. All passive loudspeakers are driven by Fohhn's high performance D-2.1500 and D-4.750 digital amplifiers. A sophisticated lighting design, together with the darker housing colour of the loudspeakers, has meant that all systems have integrated almost invisibly.



The Conference Rooms

In addition to the Auditorium installation, two conference rooms are also fitted with Fohhn loudspeakers. Both of these rooms have been equipped with state-of-the-art media systems that include a small screen for each conference participant which can be automatically stowed in the conference table after use. In both rooms, two Linea LX-100 loudspeakers (one system per side) are being used for screen sound, with an AT-09 serving as a central system in each case. For optimum reproduction of low frequencies, the larger of the two conference rooms has been equipped with two XS-30 active subwoofers, while the smaller room has two AS-22 active subs. For the purpose of providing additional speech reinforcement, both rooms have also been equipped with six high performance LX-10 compact loudspeakers, three on each side of the room.

During the installation, Fohhn Sound Expert and Engineer Ralf Freudenberg was on site, both as an adviser and to support the Stagenet team during the loudspeaker calibration process. His verdict on the project: "Perfect integration of the very latest audio systems!"

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BOSE EXPANDS MEETING ROOM TECHNOLOGY WITH LENOVO



In response to the new era of hybrid work needs, Bose Professional has expanded the efficiency of the workplace and announced its latest collaboration efforts with Lenovo.

Bose Work solutions such as the Videobar™ VB1 all-in-one USB conferencing device and the ES1 and DS4 ceiling audio solutions bring the simplicity and clarity of Bose to everyday conferencing. Now, these Bose Work products can be coupled with Lenovo™ ThinkSmart Core™ + Controller solution in Microsoft Teams Rooms, simplifying meetings with one-touch control.

Lenovo ThinkSmart Core features Lenovo's first purpose-built, modular room kit with a new, smaller form factor and Premium ID. The ThinkSmart Core compute device is powered by an 11th Gen Intel Core™ vPro processor and together with the ThinkSmart Controller, a 10.1-inch touch screen powered by USB-C,

will be certified for Microsoft Teams Rooms.

For huddle spaces and small- to medium-sized conference rooms, the Lenovo ThinkSmart Core + Controller can be combined with the Videobar VB1. This combined solution ensures meeting rooms are up and running quickly with premium Bose audio and video from the Videobar VB1 and seamless, comprehensive endpoint compute and control from the Lenovo ThinkSmart Core + Controller.

For larger meeting rooms, the Lenovo ThinkSmart Core + Controller can be used with either the Bose ES1 or DS4 ceiling audio solutions. For integrated rooms,

both the Bose ES1 and DS4 solutions keep microphones off the table while offering clear, intelligible audio to help meeting participants focus on what matters. When combined with the ThinkSmart Core + Controller, users will have a clean, simple one-touch interface that puts them in control.

"Bose Work solutions provide a true ease-of-conferencing experience. In-room technology needs to be transparent, intuitive and immediate," said Martin Bodley, director and global head of Bose Work. "Our collaboration with Lenovo is another way Bose is expanding to provide more flexible options to customize the conference room experience."

Bose collaborates with a variety of industry leaders to guarantee interoperability and deliver the best meeting solutions possible for a variety of needs, ensuring the best possible UC experience.

To learn more about the Bose partner network, visit [PRO.BOSE.COM/Lenovo](https://pro.bose.com/lenovo).

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Xilica and Sennheiser Enter Strategic Alliance

Xilica, a provider of collaboration products that help unlock the power of human connection, has partnered with global audio specialist Sennheiser to develop a tightly-integrated room solution that minimises installation time, improves audio quality, and enhances collaboration for end-users.

The partnership will leverage premium audio products from both companies, offering integrators a seamless way to deploy adaptable, IT-friendly audio-conferencing systems.

The complete solution, which pairs the Sennheiser TeamConnect Ceiling 2 beamforming microphone array with Xilica's ecosystem of DSP, user interfaces and network endpoints, ensures exceptional speech intelligibility for physical and remote participants in hybrid spaces. This gives end-users the flexibility to move throughout their space and present in their own style, while eliminating risk of inaudibility. Integrators and end users benefit from the Sennheiser TeamConnect Ceiling 2's seamless integration with Xilica Solaro processors and Xilica Gio network endpoints, enabling an easy, no-code setup with pre-validated compatibility.

As part of the alliance, Xilica has enabled support for the TruVoicelift functionality of Sennheiser's TeamConnect Ceiling 2 (TCC2) across its Solaro Series of DSPs, which simplifies the installation of multiple Sennheiser TCC2 microphones through automatic testing and calibration of audio, saving hours of time during system

commissioning. Additionally, TruVoicelift offers noise reduction, speaker amplification and creates targeted zones to hone in on participants speaking in busy spaces. When paired with Xilica's proprietary noise reduction and HearClear echo cancellation algorithms, the combined solution offers a robust defence against meeting distractions.

Additionally, Sennheiser TeamConnect Ceiling 2 and Xilica Solaro processors offer end-to-end mute status sync for Microsoft Teams. This enables a software-based mute action, such as clicking a button in the Microsoft Teams application, to be reflected throughout the chain and back to the Sennheiser TCC2's status indicator LED. Similarly, when using Xilica user interfaces, a mute action can be reflected both to the Sennheiser TeamConnect Ceiling 2 and back into the Microsoft Teams application – giving room users complete visibility.

"Modern meetings have more remote participants than ever, and they need to hear clearly without being distracted by background noise and interruptions," said Charlie Jones, Global Alliance and Partnerships Manager for Sennheiser. "TruVoicelift is perfect for large conference

spaces and lecture halls that allow everyone to hear a presenter, or a question from a student that is raised. Together with Xilica DSPs, end users are assured high-quality, dependable audio with exceptional room and user control."

Jones adds that the ultra-low-profile Xilica Solaro QR1 DSP will benefit integrators working in corporate and education environments with limited or no rack space. He notes that bundling the Sennheiser TeamConnect Ceiling 2 and Xilica Solaro QR1 is ideal for these situations because no special wiring or configuration is required.

"Our customers are seeking cost-effective ways to add audio and UC to rooms that historically had no audio or only a simple microphone," said Jones. "The Xilica Solaro QR1's compact form factor allows installers to mount the DSP virtually anywhere. It's small, powerful and PoE, and upon first seeing it we realized that many Sennheiser customers could benefit from a combined solution. It's also the standard for Sennheiser demonstrator kits worldwide."

Additionally, general availability of the Xilica follow-me camera tracking module for the Sennheiser TeamConnect Ceiling 2 is expected in Q4 2021, enabling automated pan-tilt-zoom by using the beam position information from the TeamConnect Ceiling 2. This gives room users even greater freedom to present throughout their space without consideration of the AV infrastructure.

"We're pleased to partner with Sennheiser to help unlock the power of human connection," said James Knight, COO, Xilica. "Our joint solution offers a pre-validated room system for the high-value collaboration space that delivers greater freedom and flexibility to end-users, while eliminating lengthy setup for integrators. Pairing Sennheiser's patented technologies with the audio-enhancing algorithms of Xilica processors give a distraction-free experience in which people can come together."

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CYNAP Pure Pro is ideal for remote and hybrid meeting rooms, all levels of education learning spaces and courtrooms.

Yamaha ADECIA*

ADECIA is a family of communication products designed to work together for a completely customisable audio solution for all types of meeting spaces, including training rooms, conference rooms, classrooms, and boardrooms.



From input to output, ADECIA ensures the highest-quality audio communication for which Yamaha is well known. The comprehensive conferencing solution introduces the RM-CG ceiling microphone and RM-CR room control processor and includes Yamaha's long-trusted PoE switches and VXL Series line array speakers.

ADECIA provides all the equipment required for a simple installation, with every component of the system, from the microphones to speakers as well as the required networking and communication equipment, automatically integrates thus reducing time, costs, and installation complexities.

**ADECIA is distributed by Amber Technology in Australia only. All other Yamaha Unified Communications products are distributed in both Australia and New Zealand by Amber Technology*

Yamaha FLX UC Series

The FLX UC Series of conference phones is designed to make collaboration easy.



The FLX UC 500 USB Conference Speakerphone is a full duplex system that allows for audio playback and capture simultaneously. With integrated acoustic echo cancellation, no additional processing is required to achieve the best possible audio signal.

The FLX UC 1000/1500 USB and VOIP conference phone combines a speaker, microphone and audio processing technologies that can be used for conference calls, desktop audio and PC communication tools.

Yamaha CS Series

The CS 700 Video sound bar designed for huddle rooms is an all-in-one video conferencing system that includes audio, video and screen-sharing. Zoom certified and with integrated remote management it's easy for an IT department to manage.

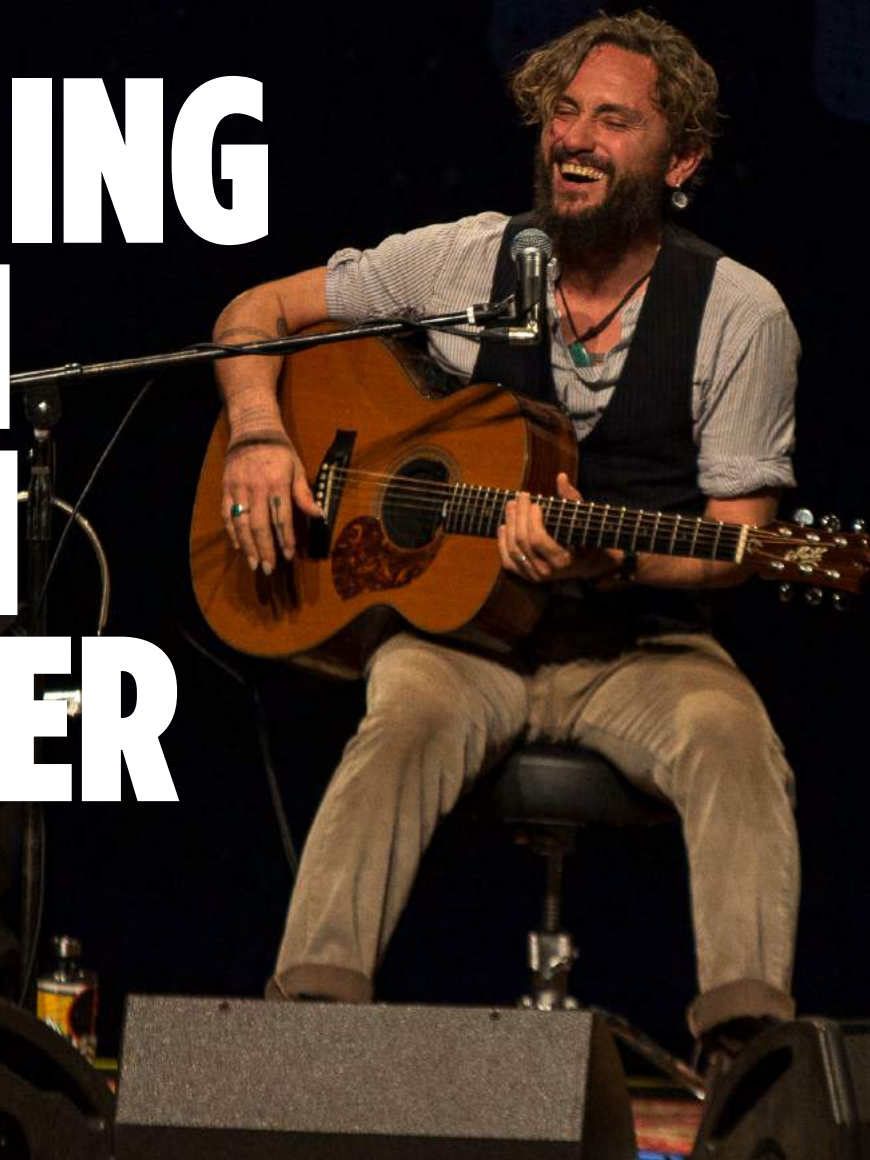
These are just a few of the products we have on offer. More information is available on the Amber Technology website

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AN EVENING WITH JOHN BUTLER

by Jason Allen



Proudly independent Australian roots music legend John Butler has had a more mobile year than most Australian musicians. Lucky enough to pull off a national tour through May and June, his guitar-intense solo set, after support from partner Mama Kin and band, went from a whisper to a roar across NSW, QLD and his home state of WA.

Very sensibly against a background of random lockdowns, sound engineers Tim Millikan and James Newhouse separated responsibilities for the Eastern states and WA, with Tim mixing on house rigs from Sydney to Toowoomba in May, and James mixing across WA in June. With many of the smaller,

more remote WA venues needing production brought in, James jumped at the chance to try out a PA system that was not only portable, but highly recommended.

“My old friend Christian Peterson, who had a Head of Sound position with Cirque Du Soleil and is now with CMI Music & Audio, said he

had an idea,” relates James. “CMI are the Australian distributor for Adamson, and I’d been keen to try one of their PAs for a while, especially after Christian kept telling me how great they were. He had a system in WA that was the perfect size for the venues we were about to tour, so I said, ‘let’s do it.’ Quite a few of the staff at the venues we were heading to were keen to hear it as well, so it was a win-win.”

The system Christian provided included two Adamson CS10p powered two-way 10”s for main left-right, two CS7p powered two-way 7”s for fill, and two CS119 single 19” powered subs. Having toured most of the venues before, including in Albany, Kalgoorlie, and Esperance, James knew the rooms and what to expect.

“John’s solo show is very dynamic,” explains James. “You need headroom, clarity and detail. It’s everything from quiet acoustic

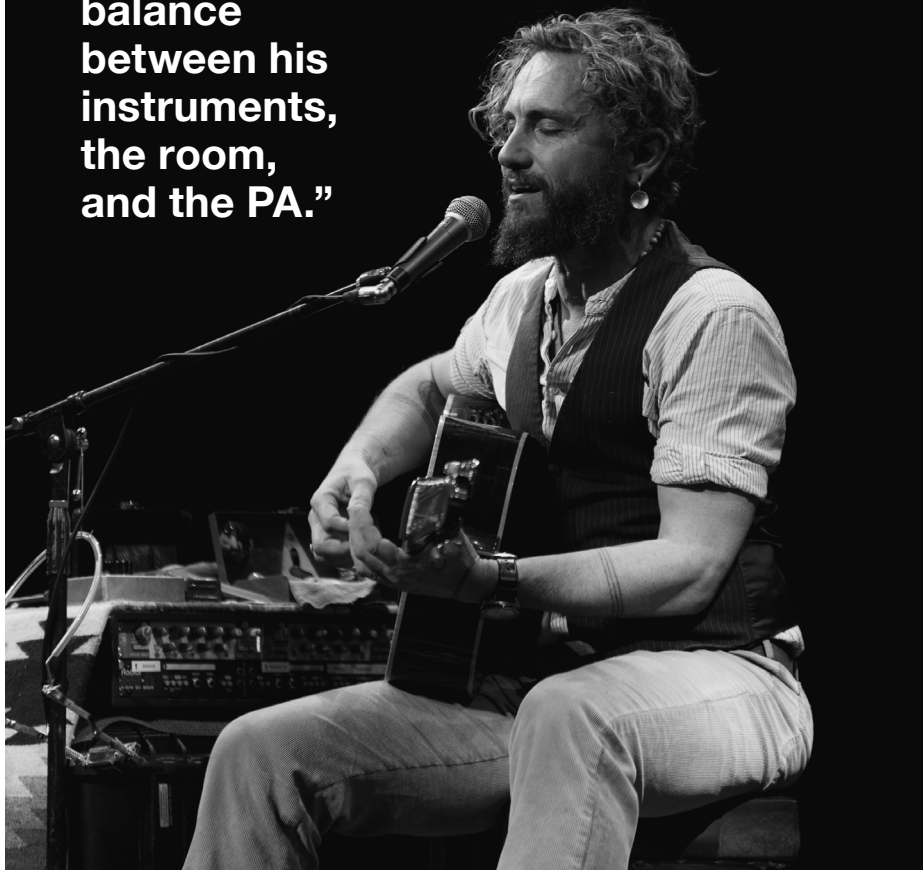
instruments to a wall of distorted Marshall heads and massive bottom end. Some of the tour, including the Perth dates, used house PAs, but had I known how the Adamson would perform, I would have used them on the whole tour. In the end, we used the Adamson rig in Esperance, Albany, and Kalgoorlie. In Albany, I was going to use the house line array, but we fired up the Adamson and it left it for dead. Adamson blew my mind on this run."

Touring a small show to remote venues meant a couple of techs, John, and a van. Space and time were at a premium. "This Adamson rig was such a tiny system!" chuckles James. "I can pick up a CS10p with one hand. When we got to a venue, load in was 20 minutes and we'd be ready to go. The coverage, bottom end, and clarity that we got out of these small boxes was very cool. The subs, for example, are single 19s. I would have been underwhelmed if I'd saw that in a venue spec. But the bottom end was all there. John had an octave pedal on some things, so I needed the extension. I never got anywhere near limiting, and I always felt like I had room to push up the master."

A quick load in leads to a quick load out, merciful at the end of long day and longer drive across the vastness of WA. "20 minutes and the whole PA was in the van," reports James. "The three of us had the whole show packed in 40 minutes, including the backdrop, Marshall heads, and guitars. Honestly, most of the van was John's gear."

James has worked with John on and off for years and has a unique insight into how his live sets function. "John's show is a delicate balance between his instruments, the room, and the PA," observes James. "His guitars react to the PA, his amp, and his foldback, and everything has to become one with the room. If the room and the PA aren't responding in balance, the guitars won't be stable. When you're dealing with high gain guitars, as soon as something is

"John's show is a delicate balance between his instruments, the room, and the PA."



not balanced, you get guitar feedback, or instability when doing loops. When John's using his guitar percussively to create loops, you want the low end to be really defined. With the Adamson PA, the guitars were stable every night. Whatever comes off the back of the Adamsons is good, as I had no issues tuning between the guitars and the PA. After the last show, I was talking to John about how well the Adamsons perform for such small boxes and he couldn't believe it; he thought we'd been using the big house systems at each venue."

Feeding the PA was a Midas Pro 1 mixing console. "There's a fair bit going on considering it's just one guy who's making all the noise," says James. "I wanted a console that can be easily taken into a theatre that sounds good and has a nice, quick workflow. We had five lines coming into the desk, including from a rack mounted Midas XL48, which is eight channels of preamps that blend John's guitar pickups. He uses the EQ on those pres to balance his guitars, then it comes to me. I split some of the inputs into different channels for parallel processing and such, so I've ended up with 10 channels in total."

John chooses to sing through his reliable Shure Beta58, while James mic'd John's guitar amp with a Josephson e22s side-address cardioid condenser and put a trusty Shure SM57 on his Marshall cab. "I hadn't taken the Josephson out on the road before," muses James. "It was designed in California for Steve Albini, and it's basically a KM84 with a pad and side address. It's incredible at high SPL, and it's become my go-to mic to such an extent that I don't think I'll use anything else now. It captures all the detail while being very dynamic. John's show is all about dealing with dynamic range, from quiet acoustic moments to a Marshall JCM8000 with a lot of power. John uses a volume pedal on his guitars so they can go from a whisper to a screaming jet."

Augmenting the processing in the console, James decided to try out a UAD Apollo Twin audio interface in a live scenario. "Studio



Midas Pro 1 and UAD Apollo Twin in action

Christian Peterson and James Newhouse with the Adamson PA system.



engineering is my day job,” confesses James. “I changed over to using UAD processing three years ago, and it was the best thing I ever did in terms of studio gear. I had been searching for a sound and feel. I like touching things like 1176s; there’s something about how they react. I found when I got a UAD interface and all its processing, I had the same world at my fingertips. Three weeks later I sold my console and tape machines. Now I just pull up emulations of analog classics that sound great, and they respond in the same way.”

James employed the Apollo Twin (co-incidentally, also distributed in Australia by CMI Music & Audio) mainly for extra reverbs. “I’d been using them in the studio, and wanted to try them live,” he continues. “The Apollo took two independent mono ins from the console and sent back a combined stereo return. The effects sound awesome and beautifully three dimensional. I used their Space Echo emulator, the Capitol Records Chamber Reverb, EMT 140 plate reverb, and EMT 250 digital reverb. They’re simple yet detailed reverbs that work well with John.”

After standing ovations all-round from audiences thrilled to experience live music again, James has experienced a paradigm shift in what a small touring PA can deliver. “The big names in PA manufacturing have been all about line arrays for a while, but it’s about picking the right box for the scenario,” he observes. “Point source is accurate. You know exactly where the sound is going. In venues it can give you the ability to be precise. For these 300 to 500 pax rooms on John’s tour, there’s some great options, including Adamson’s. And they’re so small!”

Are you concerned about your mate's mental health?

FACT: Most Australian tech crew and roadies have attempted or considered suicide¹!

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¹Passion, Pride, Pitfalls Dec 2014

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Supporting the mental health of Australian entertainment industry workers



Photo credit: Jay Blakesberg

The Long Strange Trip with Dead & Company

Dead & Company's highly anticipated shed and stadium tour is rolling into the northern hemisphere's autumn, with more than 30 concerts scheduled between the August 16 launch in Raleigh, North Carolina and the grand finale on Halloween weekend. Following a decades-long tradition established by the Grateful Dead, this latest iteration of the legendary jam band is touring with audio production anchored by a Meyer Sound LEO system provided by UltraSound.

The tour stops at a mix of sheds/amphitheatres and sports stadiums, including major league ballparks in New York, Philadelphia, and Chicago.

Meyer Sound's enduring relationship with the Grateful Dead (and subsequent spin-offs) extends back prior to the company's founding in 1979, with company President & CEO John Meyer consulting on the legendary

Wall of Sound. The band was often heard through the Meyer-designed JM-3 and JM-10 loudspeakers from McCune Audio shortly thereafter.

"We've obviously been working hand-in-hand with Meyer for many years," says Derek Featherstone, who doubles as both CEO of UltraSound and FOH engineer for Dead & Company. "I came on board in 1988, but I

know UltraSound started developing products with Meyer back in late 1979. It's a two-way relationship, because our company has long been involved in the developmental stages, as a proving ground for what works and doesn't work for a touring company. So, we have a long development history and growth with Meyer, and with the new products it keeps getting better, even easier to deploy, yet always with the fidelity we've come to expect from Meyer products.

"For this tour we have prepared for a remote pandemic mixing scenario. When we are faced with a venue that has a compromised mix position that would put the crew within six feet of the crowd, we move the FOH mix to backstage in a dressing room," continues Featherstone. "Using the Meyer GALAXY AVB network, we have set up a FOH drive tuning station for the daytime in addition to running the analyser mics back to the dressing room via AVB. We can then watch the FFT analysis of the PA, adjust it in real time, in addition to monitoring the FOH SPL. In the dressing room we can match the frequency response daily of the PA using GALAXY to the Amie studio monitors with Amie-Sub. These monitors do a great job replicating the main PA sonically and

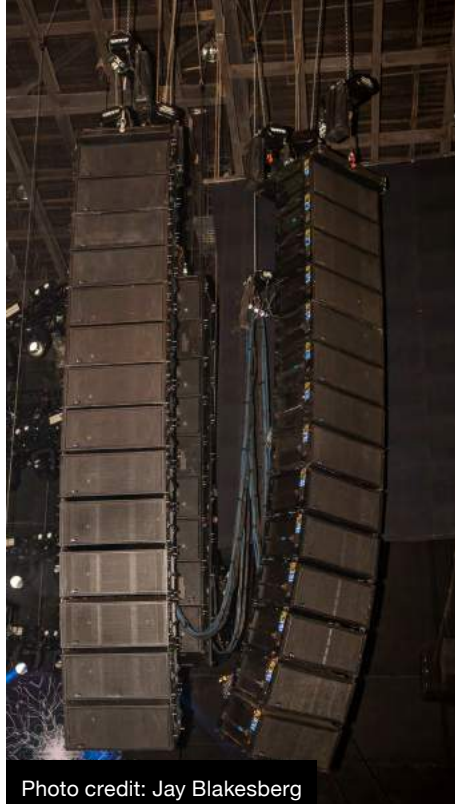


Photo credit: Jay Blakesberg



Derek Featherstone, UltraSound CEO and Dead & Company Production Director/FOH Mixer. Photo credit: Katie Friesema



Photo credit: Jay Blakesberg



Photo credit: Jay Blakesberg



Photo credit: Jay Blakesberg

allow us to mix the show remotely and stay connected to the PA tonal characteristics.”

For UltraSound Director of Operations Josh Osmond, the LEO system is an ideal match to the current tour. “It flies quickly and easily, and because it’s self-powered we don’t have amp racks cluttering the stage and taking up truck space,” he says. “Also, you know whatever you put into the system is exactly what comes out of it, without any audible harmonic distortion. It’s consistent in all environments, indoors and out, regardless of winds or humidity. It holds up really well in all scenarios, and that’s essential for touring these days.”

In the shed configuration, Dead & Company’s 2021 touring rig comprises main front hangs of 16 LEO line array loudspeakers per side, with identical arrays for the side hangs. For sub-bass, nine 1100-LFC low-frequency control elements are flown per side behind the LEO arrays, with an additional dozen elements in a 6 x 2 setup in the pit. Ten LEOPARD line array loudspeakers are available to be deployed singly for front fill, with system drive and optimization supplied by eight GALAXY 816 Network Platforms linked on an AVB network.

For the stadium shows, two more LEO loudspeakers are added to each of the four main arrays, one more 1100-LFC is hung on each sub-bass array, and the pit complement is expanded to 10 x 2. UltraSound adds components for the stadium delays on a per case basis with a typical system comprising three delay towers and deploying 12 LYON line array loudspeakers per tower. For Citi Field and Hershey Park Stadium, Meyer Sound rental partner DBS Audio Systems out of Pennsylvania was tasked with the project.

“Despite all the changes from day to day, with different venues and changing weather, there’s a trust that you will hear the same thing out of the system,” says UltraSound Systems Tech Michal Kacunel. “With the sheds we have to deal more with the acoustics of the structure, but even then, the response is remarkably consistent.”

Kacunel speaks for the entire tour crew when he adds, “I’m excited to be doing this again. It’s been over a year and a half since the last show, so it feels great to be back bringing live music to the loyal fans.”

Formed in 2015, Dead & Company includes former Grateful Dead members Bob Weir,

Mickey Hart, and Bill Kreutzmann along with John Mayer, Oteil Burbridge, and Jeff Chimenti. The band has performed every year since, though the 2020 schedule was cut short by the pandemic following January shows in Cancun, Mexico.

For the 2021 outing, Dead & Company delves deeply into the voluminous repertoire of Grateful Dead originals and covers, allowing dedicated camp followers to hear a new show at each stop. For at least the first three shows, for example, the set lists were completely different except for the improvisational “Drums” and “Space” jams.

Established in 1978 by Don Pearson and Howard Danchik, UltraSound started providing audio services for the Grateful Dead that same year and quickly established a reputation for delivering high-quality audio in stadium-size venues. Other artists and ensembles receiving audio support from UltraSound include the Dave Matthews Band, Volbeat, Bob Dylan, Primus, Metallica, Bobby Weir and Wolf Bros, and the San Francisco Symphony. The company recently moved into its new headquarters and warehouse facility in Petaluma, California.



Mixing Pop Vocals For Live Concerts

by Vincent Casamatta

Vincent Casamatta has spent the past 18 years mixing front of house for artists including Maroon 5, Halsey and Prince. He got his start mixing at small clubs in Chicago, Illinois, where he owned and operated a recording studio in the early 2000s before moving to Los Angeles a decade ago.

When it comes to mixing live music, whether you're working alone in your local club or with a team of professionals on a large touring production, it's essential to have a game plan that helps you prepare, build and prioritise the most important aspects of the mix.

In most music genres, including pop, your number one priority will be to ensure that the vocals are heard loud and clear, and that the artist's vision comes across to the audience. In this article, we'll share tips and techniques for mixing great-sounding vocals that cut through a full mix in any setting.

Select the Right Mic

The first decision to make when working with an artist for the first time is choosing which microphone is right for the situation. Unfortunately, there isn't one microphone that's perfect for every artist and scenario. So how do you learn which microphone is best

for an artist you haven't worked with before? Here are a few questions you can ask yourself to help you with this process.

What is the register and tonal quality of the singer's voice?

Does the artist have a natural baritone, tenor, alto or soprano register?

Is their singing voice articulate or raspy?

Are they lacking low-mid "body" or top-end "air"?

If you can pick a mic that accentuates the strengths of the artist's voice while de-

emphasising their weaknesses, you'll be one step ahead before you even touch the console.

What is their performance style?

Does the singer stay stationary with a mic stand, or do they jump around the stage energetically with a handheld mic?

Do they only sing, or do they also accompany themselves with an instrument?

Do they have great mic handling skills, or do they have a tendency to cup the mic?

Generally speaking, a dynamic mic with less handling noise will help if the singer mishandles the mic.

A condenser mic can yield a more transparent and open vocal sound, but requires more careful handling.

How loud is it on stage?

Is there a live band with loud guitar amps and crashing cymbals, or does the production use more direct inputs like keyboards and drum machines?

Does the show feature big explosions and cryo jets?

If there's a lot of onstage noise to compete with, a microphone with a tighter cardioid pattern will pick up more of your singer's voice while rejecting the unwanted sound.

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However, the tradeoff is that if your singer moves off-axis, you risk losing their voice in the mix.

Do Your Research

Trying to answer the previous questions may raise another question: how are you supposed to find this stuff out before you work with the artist for the first time? This brings up the importance of doing your due diligence and conducting some research beforehand.

If you have the option, the best way is to attend or get involved with the band's live rehearsals before the tour starts.

If you can't do that, ask management if they can provide multitrack recordings from a previous tour.

And if that's not possible, you can either try to scope out a live gig if they're playing in your area or find some recent live performances on their website or YouTube.

Talk to the Artist

Very few artists have perfect mic technique, and not every singer understands the relationship between what they're doing on stage and how it affects the sound that reaches the listeners' ears. With every artist you work with, the way they perform and how it interacts with your job is an issue that needs to be addressed, no matter their level of experience, discipline or skill.

You don't want to come off aggressive and demanding, but you need to find a way to have constructive conversations so that you can both achieve your common goal: a great mix with amazing vocals that blows the audience away.

When you first start with an artist, it may take a while until you can gain their confidence.

A great way to break the ice is to point out what they're doing well. For example, if they have an exceptional performance on a certain occasion, you can mention it to them: "Hey, I thought you sounded incredible last night. I noticed you did X, Y and Z particularly well."

This will help reinforce good habits subconsciously, whether it's a specific warm-up technique they did that night or a new approach they're trying out. And it may help them open up to you in the future. On a human level, most artists will be grateful that you care and take the time to talk with them honestly. When you connect like this, you're not just doing a technical job, you also have the ability to help the artist improve at their own job. How cool is that?

Playback

For better or worse, pre-recorded tracks are becoming increasingly common for touring artists of all levels and genres. And they're not just used in pop music; many rock, rap, country, and indie artists utilise playback tracks to varying degrees. Whether it's just an extra harmony that pops in for the chorus or a full-on lead vocal replacement during a choreographed dance routine, you need to be prepared to incorporate them into your live mix.

As with all things in your mix, there's an art to finding the proper balance between the pre-recorded material and the artist's live vocals. The last thing you want is for the chorus to hit and your singer's live vocals are being overpowered by these shiny, studio-perfect tracks.

Here are two ways you can overcome this challenge:

Re-record the playback tracks - if you have a good relationship with your artist, you may be able to ask them to re-cut their playback vocal tracks using the same microphone

that they use live. This will help you achieve greater consistency between their live vocals and pre-recorded tracks.

EQ the playback tracks - pre-recorded vocal tracks tend to be very compressed and have a lot of high end, which can be challenging to compete with. If you filter out some of this high-frequency content with a high shelf EQ, it will make it easier to get your artist's live vocals in front and keep them from being drowned out.

Making Space for the Vocals

While the goal is always to make sure the vocals cut through the mix, there are many different approaches you can take. Do the vocals actually need to be the loudest thing in the mix? Not always. Listen critically to most Motown recordings and you'll notice that, even though the vocals are always clear, sometimes they're not the loudest element in the mix; it might actually be the bass, snare drum, or a tambourine.

Because mixing isn't fully automated yet, your job is to think creatively to direct the audience's attention throughout a performance. Sometimes it's just as important for the vocals to feel like they're part of the whole, instead of just riding on top of the mix. You can make space for your vocals in a busy mix by using EQ or multiband compression to carve out other instruments that compete with the vocal without diminishing their supportive role.

If you really want to get surgical, you can insert a multiband compressor on your instrument bus and sidechain it to the vocal bus. This way, you can selectively duck the low-mids of the bass and guitars to make room for the singer's lower register, or duck the high-mids of crashing cymbals to allow consonants to cut through.

"Because mixing isn't fully automated yet, your job is to think creatively to direct the audience's attention throughout a performance."





Signal Chain

Get a few veteran FOH engineers in the same room and it won't be long before they start comparing their signal chains. The signal chain for a vocal refers to the order of operations regarding each processor that affects the overall sound. It will take some experimentation to find which signal chain works for your personal workflow, but here's a great starting point:

Subtractive EQ – The first step is to clean up and remove unwanted frequencies from your vocals. This includes a high-pass filter to get rid of low-frequency rumble, and potentially a low shelf for removing muddiness.

Compression – Pop vocals tend to be on the dry end of the reverb/delay spectrum, which is why it's common to use aggressive compression as its own effect. Set your attack time fairly fast, adjust the threshold until the consonants are getting through safely, then play with the release time until the compressor feels like it's breathing to the tempo of the song.

De-essing – If your artist's vocals are sounding harsh, especially in the high frequencies on "S" and "T" syllables, you may want to use a de-esser. A de-esser is

a specialised dynamics processor that only attenuates a certain frequency range (usually in the 3 kHz – 6 kHz range) when the vocal's hard consonants exceed the threshold you set for that range.

Final EQ Touches – Now that your vocals are cleaned up and the dynamics are under control, you may want to boost the high-mids for lyrical clarity, or lift the very top end to add some air around the voice.

Pitch Correction – It's helpful to have an insert with vocal pitch correction that you can easily turn on and off. Pitch correction can be used as a creative effect for specific phrases, or just to help your singer out if they're having an off night. This can be a touchy subject with vocalists, so be sure to have a conversation with the artist before you decide to make them sound like the next T-Pain.

Always & Never

Possibly the most important tip we can share is to learn when to use and when not to use each of these techniques. It's easy to get into a routine and think that you have to use every tool, every time to be a good mixer. But the truth is, there's no one-size-fits-all method to mixing.

You need to make sure that every step you take is actually improving the overall sound and not just something you're doing out of habit. Every now and then, take a full step back from the console, and just listen. Don't touch any faders or knobs, just really listen and ask yourself, 'What does this mix actually need?' Then, step back up to the console with a fresh mindset and only do what needs to be done.

Watch the Full Video

I hope you enjoyed this article, but I also invite you to view the full JBL Learning Session webinar video that this article was sourced from 'Mixing for Pop Vocals with Vincent Casamatta'.

youtube.com/watch?v=arzQL2Lor4M

We invite you to view all our upcoming JBL Learning Sessions and our recorded JBL Learning Sessions Playlist. Our complete audio, video and lighting Learning Sessions Calendar and our library of all recorded learning sessions is available as well at:

pro.harman.com/lp/learning-sessions

Melbourne based Lighting Designer and technician John Collopy got bitten by the lighting bug in high school, operating followspot on the school musical. He worked on lighting designs through university, and after graduation started working in the independent arts sector in Melbourne, LD-ing and teching for theatre, dance, opera, and circus.

Highlite Infinity TF260C7 Fresnel

by John Collopy



I had an existing relationship with Australian Highlite distributor Clearlight, who recently started hiring Infinity fixtures out. I tried out the Highlite Infinity TF260C7 Fresnel on a couple of my shows, and found it to be punchy, with wonderful colours, projecting an even field of light across the whole beam, which is what you want in a Fresnel. It's a significant improvement on some of the LED pars I've used for the same types of jobs.

The Infinity TF260C7's output is comparable to a traditional 1K Fresnel, like a Rama. The light field is flat, and in fact feels flatter across the beam as a whole than a traditional fixture. The optics perform well at both wide and narrow zoom.

I've been using the Infinity TF260C7s on smaller shows, where it's been great to have a two or three colour backlight. Instead of putting up three times the traditional fixtures with gels, I can just put up a couple of Infinity TF260C7s and get everything I need. Having the ability to zoom means I can shift between a flood and a spot if necessary. In terms of bang for buck, the Infinity TF260C7s really perform as a colour wash.

Colour

The TF260C7s are a slight innovation on seven colour source LED engines – RGBALDB, with the DB standing for Deep Blue. I've seen great results with the orange, cyan, and amber. In the blues, you're mixing cyan, blue, and deep blue, which creates rich blues with depth. On some LED pars, I've found you can bring up Tokyo or Congo, and you're just getting the blue chip at 100 and everything else at zero. The TF260C7s really give you subtlety in your colours. The gel matching is spot on, and the built-in colour wheel helps you create depth in whatever colour you're trying to achieve.

Whites

The quality of white light the TF260C7s produce is very pleasing. It's adjustable from 2000K to 8000K. I dialled in 5600K and it was extremely close to what I'd expect from traditional Lee 201. At 2700K, which is the fixture's default setting, it's extremely warm, and as such, the pastels it produces are really great.

Control

I was using the TF260C7s recently as a technician and the LD asked what control mode I usually run them in. As a habit, I run them in full 21 channel extended mode, because I want the most control. On that gig, that would mean adding another DMX Universe, so we decided to run them in 11 channel mode, and to be honest, I couldn't tell the difference. Whatever they're doing internally in terms of control processing is impressive.

When I'm LD, I'm running off of my ETC Nomad rig, so I'm not using encoders to dial in colours, I'm picking from a gel palette. This means I'm particularly interested in what the desk thinks in terms of matching a Lee or Rosco colour. The libraries available for the TF260C7 are pretty good and play nicely with my set-up. They have their own colour wheel, so if you want to pick something out manually, you can make it match.

As for the dimming curves, they're smooth and particularly nice on the bottom end.

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Casual	7%

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Occasionally when you use LED fixtures in a mixed rig and you snap to black, somehow the tungsten is out before the LED due to the default LED curve some manufacturers add. The Infinity TF260C7 is much snappier, and I haven't had that issue.

Manual Handling and Build

At just over 8 kg, the TF260C7 is heavier than a conventional Fresnel. They feel seriously robust. When rigging, they feel front-heavy, but they have double lock-offs. I'd like to see a zoom degree marker on the barrel for when you're doing manual adjustments, but Highlite are trying to steer you to using the desk for the zoom settings. What I did find funny was that the TF260C7 ships with a square gel frame. I guess some people might want to put some diffusion in front of it?

Improvements and Changes

I haven't really used the motorised zoom during a show, but I have played with the manual adjustment when focussing and it's very slow. The zoom wheel on the back of the fixture requires three or four full revolutions

before you really see any change in the beam. As I said before, it's pretty obvious they'd much prefer you to set the zoom via the desk. At full zoom extension, the lens is around 15 centimetres out of the barrel, so it's a significant range of movement.

I'm honestly not sure if I like or don't like where the control screen is placed, which is on the side of the fixture instead of the rear. On the one hand, it's nice that you don't have to be behind the fixture to change a setting, but if you're focussing, that's where you're likely to be anyway. It's actually a nice innovation, but I guess I'm just used to it being on the back!

I don't think the barndoors are quite as effective in some parts of the zoom range as traditional Fresnels. At full flood and full zoom they behave as expected, but there are points in between where they're a little less effective than normal doors.

In Situ

One of the venues I work at has recently purchased six TF260C7s. The venue has a

grid seven metres above stage. At full flood, the TF260C7s are really, really punchy. The traditional 1K Fresnels at the venue are now being totally outclassed. Most of the rig has already been converted to LED, so hopefully there'll be the budget to purchase some more TF260C7s this financial year.

Service and Support

The customer service from Highlite distributor Clearlight Shows is excellent. They're lovely to deal with, and I know I'm always getting what I need. Through all of the COVID disruptions, they've been flexible with the constantly changing arrangements. Clearlight have become my go-to, and I use them for everything.

Product Info: www.highlite.com

Distributor Australia: clearlight.com.au

Distributor New Zealand: kelpis.co.nz

Infinity TF260C7 Fresnel - The Specs

Source

Light Source Type - LED

Light Source Quantity - 7

Light Source Power - 260W

LED Colour Type - RGBALDB

Life Expectancy - 30,000 Hours

Lumen Total - 3500

CRI - 96

CCT Minimum - 2000K

CCT Maximum - 8000K

Colour System

Colour Wheel CMY+CTO

CMY & CTO Resolution - 8 bit

Optical

Beam Angle Circular (min) - 15 degrees

Beam Angle Circular (max) - 50 degrees

Zoom Type - Motorised

Control and Programming

Control Mode - DMX, Manual

DMX Channels - 1, 6, 7, 11, 21

Protocols - DMX, RDM

Display - LCD

Dim Curve - Linear, Square, S-Curve

Dimmer Resolution - 16 bit

Zoom Resolution - 8 bit

Mechanical Specifications

L 474mm, W 322mm, H 457mm

Weight 8.3kg



David Walker is a Digital AV Systems Consultant, with over 57 years' experience in the AV industry. Beginning his career in electronics in the Postmaster General's Department, which later became Telstra, David also earned a Broadcast Operators Certificate and Television Operators Certificate, which gave their holders the right to manage engineering for TV and Radio. In a career that started before the invention of transistors and now encompasses AVoIP, David has never stopped learning, taking on IT, networking, and digital video distribution.

AVPro Edge MXNet

by David Walker



My company is responsible for a video distribution system in a hotel on the Gold Coast that was running a 5x3 display matrix, predominantly used for content for the TAB. It had the ability to select screen configurations of 2x2 and 3x3, change the layout, and change sources. The original installation used a 16x16 HDMI matrix. The display configuration for multi-screen displays was actually done in the displays themselves. The problem with this was that it was done over serial control and took forever to reconfigure. We set up four layouts, two of which were in use most of the time.

With the failure of the matrix the whole display was inoperable. We decided to replace the 16x16 matrix with a 16x16 MXNet AVoIP system. There were a lot of advantages to the MXNet approach. We could configure the multi display modes via the web GUI that controls MXNet. We could build layouts in a web browser and send them straight to the displays. I created all the layouts, then AVPro Edge, who were still building the API for MXNet, were very helpful and wrote new commands so I could call up multi-image displays with a single command line, instead of having to send a line of code to every display in serial mode, as I had to with the previous system. Technical support from

the Australian distributors, Audio Visual Distributors, was also excellent. Their relationship with AVPro Edge allowed the integration of the system to proceed with any issues resolved in a timely manner.

Another advantage of the AVoIP system is that expansion to new displays and new sources is not limited by I/O as would be the case with an HDMI matrix.

AVoIP has a huge advantage over standard HDMI or HDBaseT matrices. It gives you so many more options for distribution and processing. MXNet provides preconfigured switches; we chose a 48 port switch for the Gold Coast job. I wrote the control code in

Vantage, and pre-programmed everything before we went in. We had the system completely changed over from the old matrix to MXNet in about two hours.

Open vs Proprietary

I find that the AV industry is full of people who know a bit, but not a lot. As a result, a company like AVPro Edge that releases a product where you can buy encoders, decoders, controller, and a switch and then just plug and play, will do well. And when we put in the MXNet, it really was plug and play. There was no difficulty in the installation whatsoever. We could give each encoder and decoder an identifying name, all in the web GUI. We could then use the web browser to interrogate the box and give it its own IP address if we desired, though you don't have to. Every component can autoconfigure.

None of my AVoIP installations leverage the existing networks to transport video and audio; they're all standalone. The MXNet control box has an AVoIP port to talk to the encoders and decoders, and a separate control port for connection to the building's regular network. I can also tunnel in remotely via VPN and interrogate the MXNet web GUI and control system.

In terms of a third-party hardware control system, I tend to use Vantage. It's easy to programme, and while it's not quite WYSIWYG, it's as close as you can get to drag and drop without having to learn code.

Resolution

MXNet will handle 4K and will do it in a relatively affordable way compared to other brands I have used. MXNet encoders and

decoders have a fibre connection built-in, in addition to the standard RJ45 for Cat6 connection. This means you can easily cable with fibre and run high bandwidth video well over 100 metres. We have a fibre backbone in the Gold Coast hotel installation that has a lot of extra capacity.

The MXNet's standard protocol is JPEG2000 up to 4K but we distribute standard HD throughout the venue. MXNet is very tolerant of changing resolutions. If it changes, MXNet just deals with it and passes it through. Through the web GUI, you can see the input and output resolutions in real time, and you can force it to a particular resolution, but I've left those settings on 'auto' because MXNet just seems to deal with everything more smoothly when it administers itself.

Picture Quality

In terms of the picture quality after JPEG2000 compression and distribution on the network, it looks like you've connected directly to the display via HDMI. With the old system handling scaling and multi displays within the displays themselves, the change to scaling and multis being handled by MXNet has meant changing from a 4x4 to a 3x3 is now basically instantaneous. The system even syncs to HDMI faster than it used to. The picture quality of the multis is better than it was when the displays handled it. And I probably had 1000 lines of code running the old system; I'm down to around 100 now. There are also no EDID issues. MXNet can change EDID settings, but again, leaving the system on 'auto' works perfectly.

AVoIP vs Legacy

HDMI is a domestic system that's become a quasi-standard in commercial AV. HDBaseT

is a standard, but mixing HDBaseT interfaces from different manufacturers can be problematic. Matrixes are limited by their input and output connections and cable length restrictions. AVoIP removes the matrix from the equation. While you have to have an encoder or decoder at every point, once you do, you can send anything anywhere and you're not restricted by anything other than the standard Cat6 length not exceeding 100 metres. This can also be supplemented with fibre connection for any source or destination that exceeds the 100 metre restriction. There are still some issues with Mac laptops and their HDMI outputs arguing with AVoIP systems, but I haven't had that problem with MXNet.

I have a friend working in both Australia and the USA that implements AVoIP systems for court recording and other video distributing applications. The company they work for has now deployed in excess of 700 end points in AVoIP in the USA alone. It's the industry standard now.

Conclusion

I've found that by using AVPro Edge MXNet, the number of problems in any given AV system are reduced drastically. Some people may find deploying network switches and multicast issues difficult, but AVPro Edge have built a system where you source everything together from one manufacturer, and truly plug and play.

Product Info:
www.avproedge.com

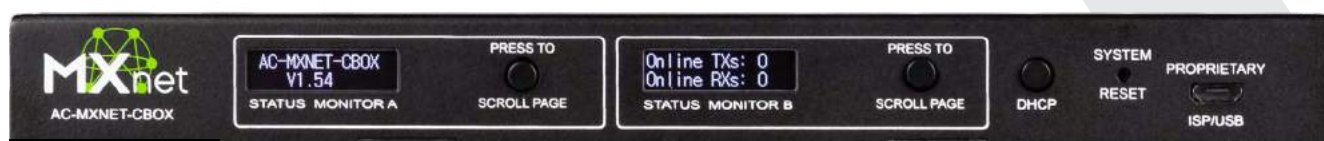
Distributor Australia:
www.avdistributors.com.au

Distributor New Zealand:
www.keyserviceltd.co.nz

AVPro Edge MXNet – The Specs

MXNet is an AVoIP environment consisting of network switches, encoders, decoders, control, and software. Features include:

- Fast switching, including 4K, HDR and format changes
- Extensive HDR support for superior picture quality, including HDR10, HDR10+, HLG and Dolby Vision
- Video over USB 2.0, with full support for audio, video, or data over USB 2.0
- Unlimited Video Walls - configure and execute an unlimited amount of video walls
- Extensive video format support, from 720p to 4K60 (4:4:4), with interlaced to progressive conversion
- 10-Year Warranty - install with confidence



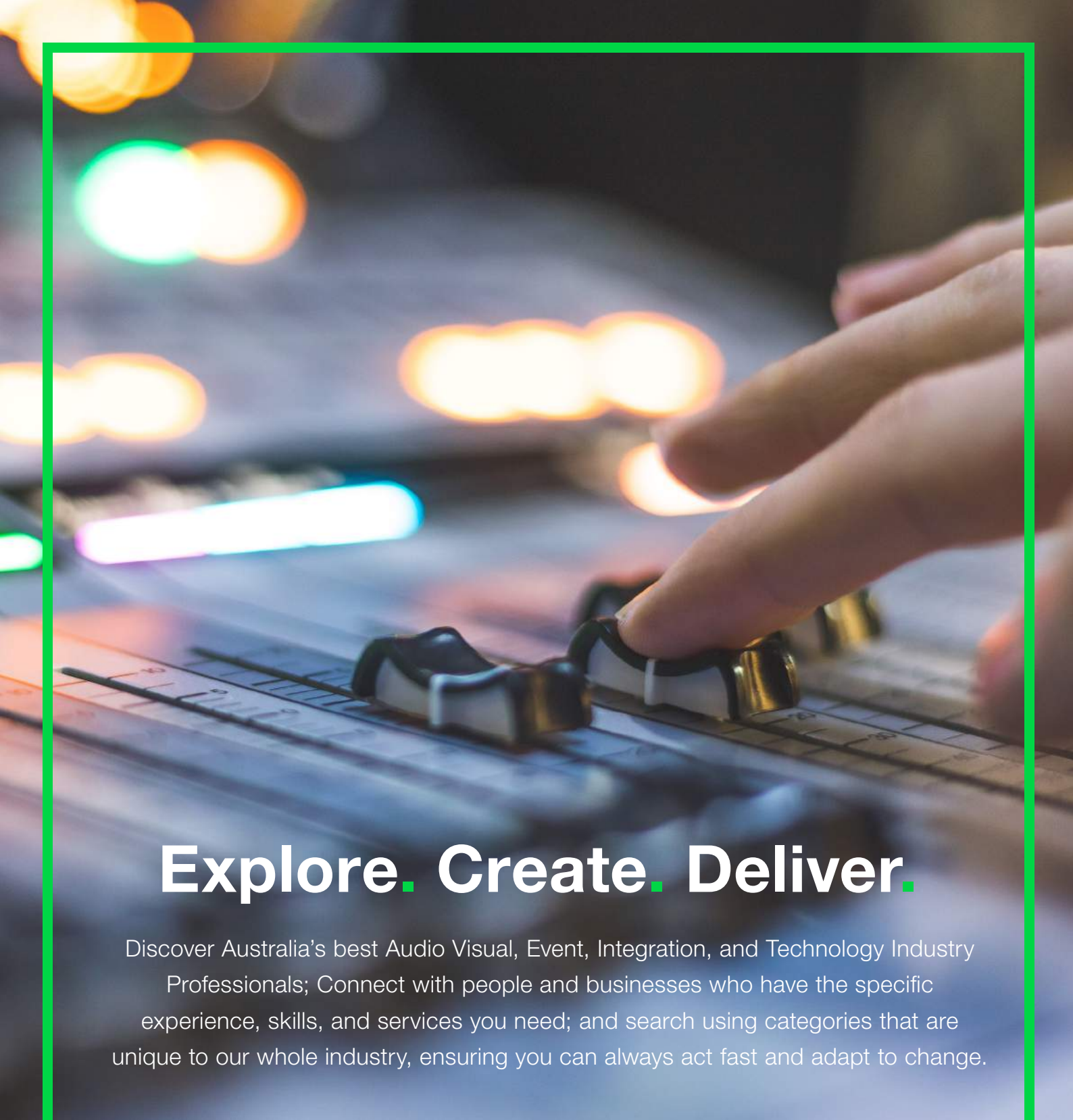
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With over forty years in the AV sector including import, Russell Williams is Sales Manager at NZAV, a company founded after the first lockdown to provide customised systems installation to the commercial sector.



BOSCH DICENTIS CONFERENCE SYSTEM

by Russell Williams

The BOSCH DICENTIS Wireless Conference System is fast becoming the number one choice for Councils across New Zealand. There's a number of reasons. Pacific AV's reliable supply and support is definitely a factor, as is the flexibility, simplicity, ease of installation and support for the product.

Taking flexibility first, in many areas of the country Councils utilise their Council Chambers as Emergency Response Centres in the event of a crisis. The rooms very swiftly need to be reconfigured and wired solutions are not only difficult to change up, but they are also notoriously unreliable once cables have been messed with. The wireless DICENTIS System solves this problem.

The DICENTIS uses an open API control platform and natively offers easy integration with supporting systems to provide features such as automatic camera control, a must now so many Councils are streaming their meetings. As part of a recent installation at Waitaki District Council, we teamed the conference system with a Lumens PTZ camera and LC-200 video capture and streaming system. This ticked every box,

providing the public with good quality audio and a clear picture as the camera tracks the active microphone. Within an hour of going live, the Council received Facebook posts commenting on the improved quality and outstanding audio and video.

Clients can also select from a number of models, with the option of a touchscreen, futureproofing their purchase should they decide to use it for voting in future. The touchscreen shows the queue and who is currently speaking. Councils can also opt for card access, so users don't have to log in; they just use a card linked to their personal details.

Secondly, my clients love how simple it is to use. Council IT staff have a network log-in to a web page with an easy-to-navigate user interface. Basic discussion settings can be

defined for whichever device is being used. The meeting can be managed by an operator or chairperson, who can open or close a meeting, decide which participant can speak and how many people can speak at the same time. The chairperson can also use the priority button to override all participant microphones whenever necessary. Participants are automatically queued, and limits can be set to the numbers in the queue, with operators able to manually re-organise the queue or change the limit during a meeting. They can even delete people or quickly turn them off, a useful function now content is often live streamed. That the system eliminates people talking over the top of each other has been positively received by Councils who have said it supports adherence to meeting protocols.

Thirdly, from the integrator side of things, the open platform means it is not only flexible for the client but also cost effective to install and maintain. It provides an out-of-the-box solution with no bespoke customisation required. You can pretty much send it to customers, with only one piece of equipment requiring physical installation – the WAP – and this can be installed anywhere in the room. The integration mentioned above, with the camera and the video system, was absolutely straightforward. Working as I do across the South Island, we have clients three hours' drive away or more. Not being a bespoke



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system, we can remote access it, isolate the problem and troubleshoot from our office.

Of course, the quality of the audio is critical too. The clarity is such that older chambers with no sound reinforcement have found the DICENTIS system solves a lot of problems. The stations provide individual councillors with a speaker directly in front of each person, a big help for those hard of hearing. To supplement this, each station has two headphone sockets for those that need extra hearing assistance.

I have predominantly been installing them in Council Chambers and in meeting rooms at conference centres, but overseas they are used in a variety of locations including convention centres.

The system has all the security bells and whistles too, but I'd be lying if I said that was what our clients are after. It is the flexibility of set up and the simplicity of use that wins them over every time. There is an increasing level of familiarity with the system now

amongst Council and Regional Authorities across New Zealand. Other installations, in addition to Waitaki District Council that I have been involved with, include Environment Canterbury, Timaru, Selwyn and Ashburton District Councils.

Pacific AV have consistently been available to answer any questions. They have a dedicated DICENTIS system that we use for demonstrations, which supplemented with our camera and other equipment gives clients the full experience of the conference system as part of a streaming and video conferencing solution.

Product Info: www.boschsecurity.com

Distributors Australia:

Audio Brands www.audiobrand.com.au or (02) 9659 7711

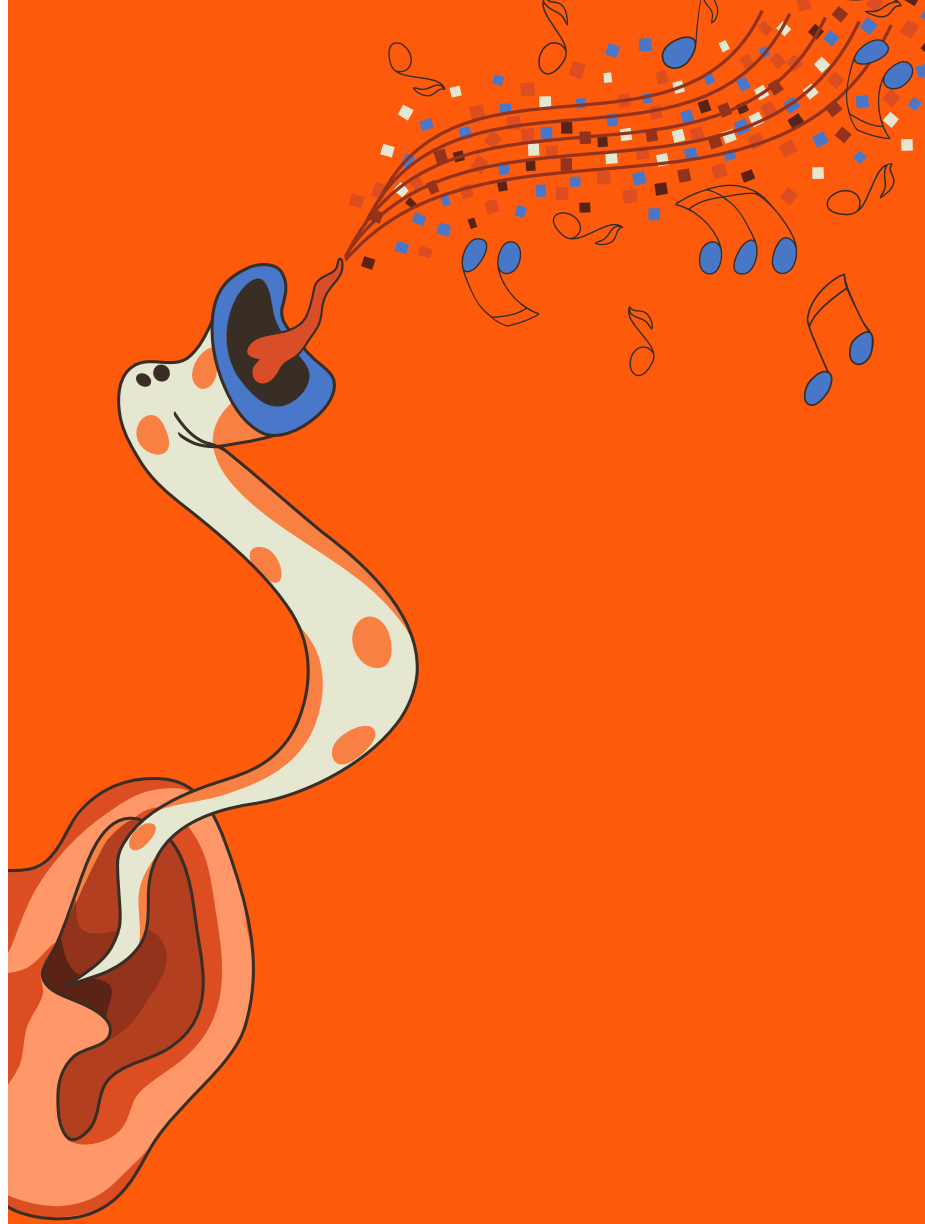
Audio Source www.audiosource.com.au or (08) 9354 3185

Distributor New Zealand: Pacific AV
www.pacificav.co.nz or (09) 947 5230

BOSCH DICENTIS – Overview

- Open platform based on the OMNEO media networking architecture for system flexibility and cost-effective installation and maintenance
- Easy integration with supporting systems to provide features such as automatic camera control
- License-based expandability for a future-proof system that can easily take on new functionality
- Optimised user experience to maximise meeting efficiency
- Simultaneous interpretation of up to 100 languages
- Cable and power supply redundancy to ensure meetings are held without system interruption





EARWORMS

by John O'Brien

Earworms are annoying little blighters. They come out of nowhere and stick in your head for hours, sometimes days. They are usually some song that you particularly detest and the annoyance can distract you from everything else until it disappears or you blank it out with another, more infectious number.

Earworms are different to gig-worms. Science tells us that earworms (Involuntary Musical Imagery) are usually 15 to 30 seconds in length and are more common in those with an interest in music. So, CX readers are prime candidates. Unscientifically, gig-worms are where you hear the same song and set every

night on tour. That tune means work. When the show is over for the night, they are easier to ignore. The big exception being when the act is popular enough that you hear their ditties over the shopping centre PA on days off. Then you are doomed.

For me, earworms also take their root in the high rotation top-40 pap that you get subjected to packing up after the band finishes. Usually at 100+ (muffled and poorly EQ-ed disco) decibels. Earplugs might soften the aural impact, but the psychological stain can stay for decades, hence the following resurfacing randomly 25 years after the fact.

This morning's brain parasite came from 90s one hit wonders, Chumbawumba and their lightning in a bottle moment, Tubthumping. I'll give you a few moments for this throwaway pop to wiggle its way into your psyche. There, are you stuck with it too now? Well, good. Normally, I'm firmly against inflicting this kind of cultural torture on others. But times ain't normal and the sentiment in the song seems so timely.

Three simple lines, repeated ad nauseum:

"I get knocked down.

But I get up again.

You are never gonna keep me down."

Like earworms do, it appeared without warning. Why this particular jingle, I do not know. I've not heard it in years. Perhaps my subconscious was trying to say something. Of all the musically fantastic and memorable hooks that I know and enjoy, this is not one.

I took it as an allegory and realised that incessant government mandated restrictions had knocked me down too. Line 1. And I determined to get back up. Like I've done every other time in life something crap happened. It's what we all do.

If it seems much harder right now than the rest of life's injustices, that's because it is. Very few alive have concrete memories of WW2 or widespread polio, let alone earlier mass events of fear and dislocation. In the developed world, this Rona-pando-monium mess is as serious as it's been so far for our generation.

It has more than just upset the apple cart of our lives. It has challenged the very existence of our way of life, and indeed the industry many have devoted their entire being to.

Knocked down, locked down, same-same really. Line 2: "But I get up again." Current restrictions on our movements will end; the political winds are shifting inexorably in that direction. While we may not get a 'let it rip' moment like the UK, I cannot see lockdowns surviving long when arbitrary vaccination thresholds are reached, if not before. It might be months yet, but some sort of living as we knew it will resume. It will necessarily be different and that's OK. Change is a constant in life. Density restrictions will be painful but will be the price of putting on a show inside. With luck, industry representations to government will inspire at least a few sensible, workable regulations. Either way, some doors will re-open, some will stay shut.

If you must leave events and move on, that is fine. The welfare of you and your family

BACKSTAGE

is a rightful priority. The industry's loss may be your gain. It need not be permanent though. When things pick up, knowledgeable operators will be in short supply. I have cycled all the way back around. The lure of the stage is strong.

Starting from scratch is difficult. I've been there enough times to know how challenging it is at every level. Which leads to Line 3: "You are never gonna keep me down."

Because up is the only real choice when you are down. It sucks and it's hard but getting back up is the only direction available. Over many years of chronic pain, even the physical act of getting vertical can be a major chore for me. Add the mental challenges that we've all copped over the last 18 months and yeah, some days it's difficult to care too much about anything at all. But I still make an effort to get up every day and do at least one useful thing. Doing that gives me hope that the next day may be better and that I can do two.

Hope is the only hope we have. So, dare to hope. Not too big, just enough to get you through today. Hope that you can hope some more tomorrow and take it one step at a time.

There are industry initiatives and alliances happening. There is slow, if meagre, government response. Shows are going on overseas. Little by little, the world opens up again. I'm daring to dream.

Locally, we are going full steam ahead with the next iteration of the Euroa Music Festival in March 2022. I wrote of the first one and the feeling of sheer joy after early lockdowns of being in a crowd, bopping to some tunes. I'll never take that for granted again. We, the committee, production companies, local businesses and punters, like everyone else frustrated at the state of the world, cannot wait to feel like social animals again, sharing a common experience in the flesh.

I've been around long enough to see a gazillion bands. Some memorable, many not. This year at EMF, we had Melbourne act Pinch Points impress with their quirky post-punk.

Now that I've uploaded Tubthumping into the setlist of your day, I offer an antidote. Think of it as earworm vaccine. Chumbawamba has been purged from my mental playback reel and Pinch Points 'Stainless Steel' added as its replacement. It's equally lightweight but transports me back to a good time, putting on a gig with mates, punters beaming and mingling. We are all overdue for that feeling.

Things will never be the same, and it might take a while yet, but gigs will happen. Stay strong. Find resilience. Get back up again ... and find a tune to lift you up for the day.

Stainless Steel is:

"Better than a tin foil hat.

Rust free guaranteed."

Sing on.



SUPPORT ACT TO THE MEAT RAFFLE

The way the music died



Snippets from the archives of a bygone era by **Brian Coleman**

Every musician and technician has at least one support act disaster story, but you know you've hit rock bottom when you've become the support act to the meat raffle.

MIDI was a major breakthrough for solo and duo acts during the latter part of the 1980s. Its emergence coincided with the decline of live band venues, which morphed into dedicated gaming establishments where MIDI performers would play second fiddle to meat raffles and poker machines.

Prior to MIDI (Musical Instrument Digital Interface), the only viable music backing for solo and duo acts was the humble

cassette tape, which played off pitch; and good backing music was limited and very expensive.

MIDI was a steep learning curve for me, an anachronism from an analogue world. But even today's digital music seems simplistic compared to the complex world of MIDI with its labyrinthine network of connections that linked my Roland MC-300 micro composer, Roland D5 keyboard, and Yamaha SPX-90

multi-effects processor. I should note that akin to some half-witted antic from a Dumb and Dumber flick, I did lug the D5 synth, which I didn't play, out to my first few gigs purely to access its sound samples, unaware that Roland had a neat little U-220 rack mount sound module on the market.

With all this innovative equipment I was wary from the onset of being accused of some sort of technical chicanery. So, to legitimise my guitar playing, I augmented my 50s/60s repertoire with numbers from The Shadows complete with a Hank B. Marvin type echo triggered by MIDI from the Yamaha SPX-90. One of the forgotten gems of these tiny MIDI files was they could message sound modules and effects units to turn on and off instrument and vocal effects such as vocal harmonies,

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echoes and reverbs.

MIDI is one of the industry's survivors. Today, it's mostly used in the studio, but since digital music hadn't quite evolved back then, it was a breakthrough. You could store around 20 MIDI song files on a 3.5" 1.44 MB floppy disc. MIDI files are similar to text files, which just send messages telling a sound module or effects module what samples or effects to play.

And so, armed with the latest advances in music technology and my not-so-scintillating stage name, Brian Jay, I re-entered the world of live performance. How could I have envisaged that in just a couple of years I'd be playing at an inner-city club devoid of patrons on a Saturday night, amidst empty tables with half-eaten schnitzels and spilled drinks, watching some passed-out punter's cigarette burn down to his lips?

I don't recall having too many absorbing conversations in those smoke-filled arenas where the punters seemed more stimulated by the music emanating from the poker machines than from my offerings. However, I do recall a bizarre conversation when an inebriated Elvis aficionado called me over to theorise his hero's demise. He alleged that Elvis' doctor was a compulsive gambler who gave the King a lethal injection because he couldn't pay back money that Elvis had loaned him. Then he added, "And you know what? I don't even believe he's dead."

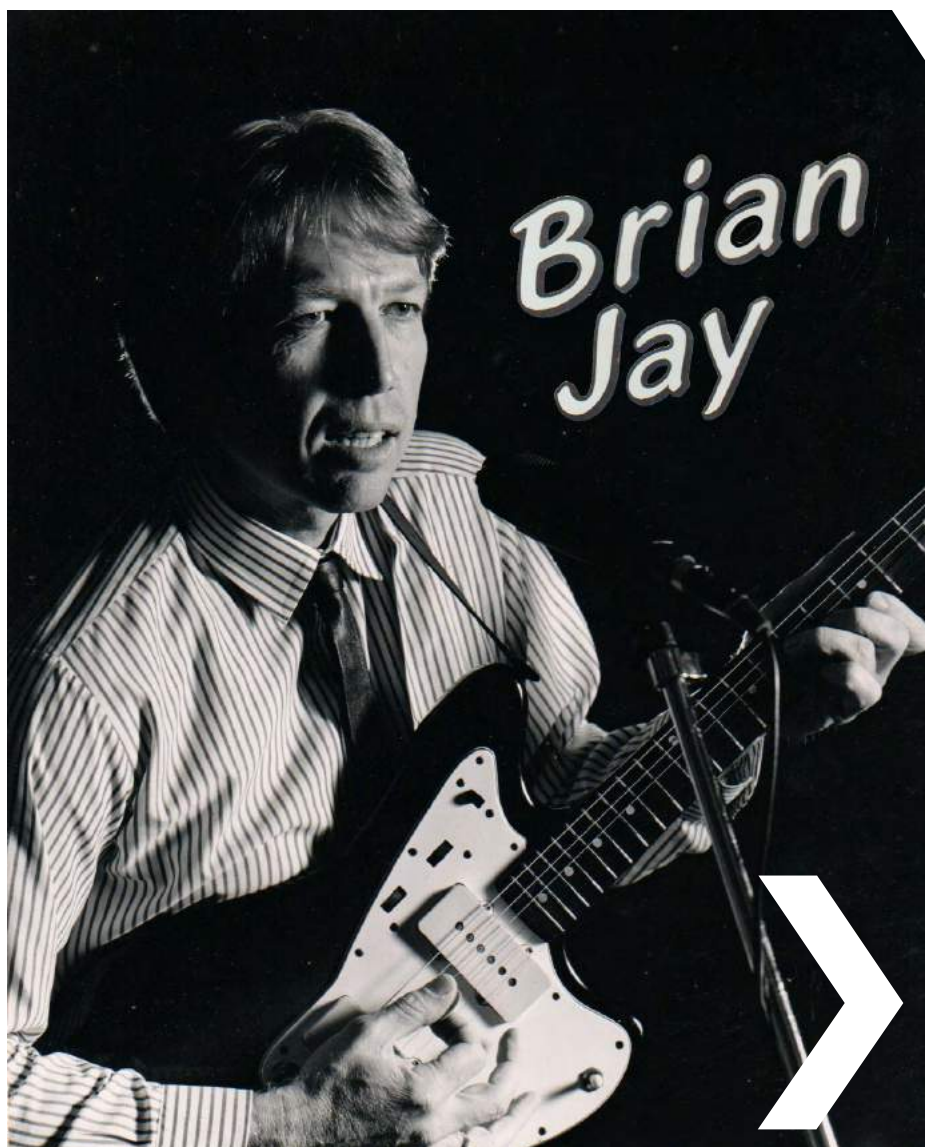
I did play to packed houses, but patrons were either there for the meat raffle or some other attraction. And it wasn't unusual to hear "Number twenty-seven to the snack bar" resonate over the club's ceiling speakers during a performance.

In one bizarre engagement at the Balmain Leagues Club, I had to compete in real time with Trivia Night. Whilst I was belting out, "I'm a walking in the rain," from Del Shannon's Runaway, the trivia host would be shouting brainteasers on his microphone like, "Which Russian novelist wrote The Gulag Archipelago?"

I grew to accept my role as a side-act to the meat raffle, but it was difficult not to become misanthropic watching punters buying reels of meat raffle tickets that were sold for as low as ten cents each. Ten dollars got them one hundred shots at a meat tray, and I'd watch them robotically advance to collect their booty, which was as good as guaranteed given the abundance of meat tray prizes. I never heard so much as a cheer or a yahoo or any joy whatsoever, just a protracted procession of expectant winners.

The realisation soon sank in that those 70s support acts, where our bands played for free with the worst possible sound mix and light show, might not have been all that bad.

As dispiriting as being the benchwarmer for the meat raffle was, the real behemoth was the Monster Raffle. I arrived at the Botany RSL Club one evening in 1991 to find the



entire width of the stage lined with prizes. Everything from bicycles to brush cutters, musical instruments to microwave ovens, food hampers to footballs, all stacked to the ceiling.

I set up behind the prizes, grabbed a beer and waited for the raffle to commence, and the prizes to clear. My scheduled time to go on came and went but the Monster Raffle prizes remained. The club manager approached me. "Hey, Brian, you're supposed to be on."

"But the entire front of the stage is stacked to the ceiling with prizes; they won't see me," I pleaded.

"You're playing first, the raffle is later; just play behind the prizes."

I very rarely spoke to audiences, but at the end of my set, totally unseen behind the Monster Raffle prizes, I couldn't resist. I went to the front of the stage and made an announcement: "Thank you ladies and gentlemen. You're just about to have your

club's Monster Raffle. Now when you come up and collect your prizes, just be aware that all the band equipment behind the prizes is mine." Not a single chuckle emanated from the audience. I made a mental note to reconsider a career in stand-up comedy. Relaxing with a beer after my set, I noticed two patrons intently staring at me. One of them approached, "Don't worry," he said rather abrasively, "We won't take your equipment."

My last one-man-band gig was New Year's Eve 1992. I'd come out of retirement (for want of a phrase) because NYE gigs, unlike the typical \$200 fee, paid \$500. It was a club with lots of stairs, so I decided to only load in one speaker. Mindful of years of being asked to turn down, sometimes to a level below the volume of the poker machine music, I didn't see this as an issue. I set up in the lounge area and quietly went about playing to my regular audience of empty tables and chairs. Some twenty metres away at the bar NYE revellers were getting liquored up for their midnight countdown caterwauling. I noticed the club manager approaching. He delivered a request rarely, if ever, heard by MIDI performers: "Could you turn up the music please, we can't hear it at the bar."

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