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THE AUSTRALIAN BALLET'S

PRISM

The Australian Ballet opened its season at Melbourne's Regent Theatre with Prism, a triple bill by Forsythe, Robbins, and Lake, using Macula Remote Followspot systems

THE CONTROL ISSUE

/ BSS OMNI: THE NEXT BIG THING IN DSP HAS YOU UNDER CONTROL
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Contents Photo – The Cat Empire

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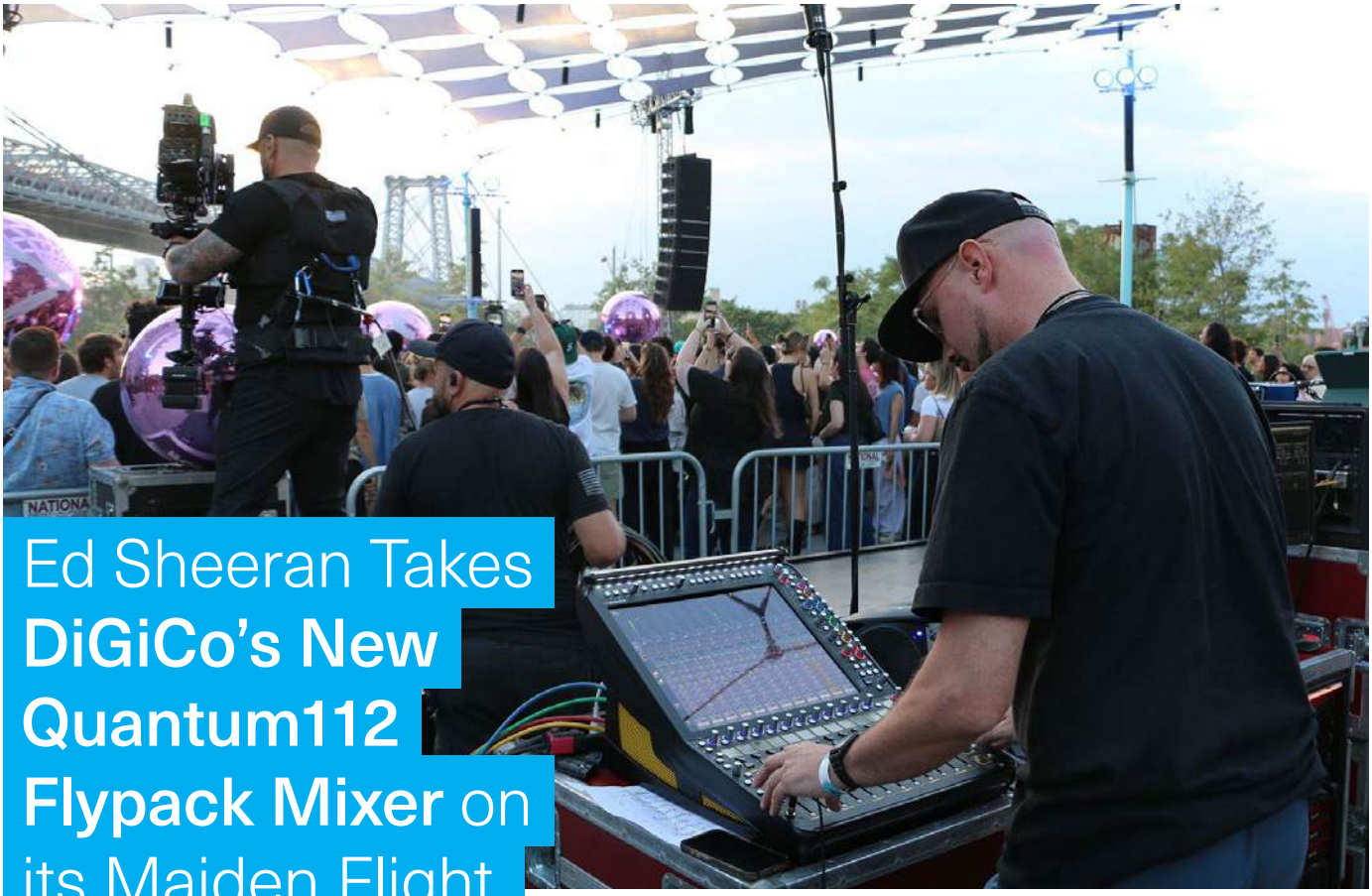

Ed Sheeran Takes **DiGiCo's New Quantum112 Flypack Mixer** on its Maiden Flight

Although DiGiCo has only just revealed the true identity and specifications of its Quantum112 – previously codenamed "Pufferfish" – the new ultra-compact flypack mixer is already being put through its paces by Ed Sheeran's FOH engineer, Simon Kemp, and production manager, Chris Marsh. Appropriately, the tiny desk had its first official deployment on National Public Radio's Tiny Desk Concerts video series, recorded live on Friday, September 12 at NPR Music's office in Washington, DC. The very next day, the still-secret digital mixer was whisked off in its Peli case to Williamsburg's Domino Park in Brooklyn, New York for an exclusive TikTok LIVE performance promoting Sheeran's eighth and latest album, Play.

DiGiCo has enjoyed a long history with Sheeran, tracing back to 2011, when Chris Marsh began mixing the artist's early solo tours on a compact SD11. In 2017, to accommodate an ever-increasing need for more busses, Marsh stepped up to an SD7 and subsequent Quantum7, which he toured with until passing the FOH mix baton on to Simon Kemp in 2023.

"I enjoyed six years on the SD11, going from pubs and clubs to stadiums – we even did Wembley and Croke Park with it in 2015," Marsh recalls. "But it was finally time to say goodbye to the convenience of the small console and increase my front-of-house footprint to match Ed's ambitions for shows moving forward. This was a big change as I could no longer walk in with a mixer under my arm, it cost more on freighting, and it was a logistical consideration at festivals and venues alike. I chose the SD7 and Q7 for many reasons, but mainly that it gave me an almost unlimited opportunity to expand and handle the demands of the artist. It was the right move at the time."

"When we launched the Mathematics tour in 2022, I attempted to return to the SD11 for our launch shows in pubs and small venues but simply could not make it work. The console would not stretch to our requirements. I truly wish that I had a Quantum112 at that time, but I am so pleased that we have this option now. As production manager, it is a game-changer for being able to make Ed's show translate into smaller venues, offering quicker turnarounds and cost-effective freight movements. It almost makes me want to be back at the faders again!"

Those FOH duties, of course, are now in the very capable hands of Simon Kemp, who has mixed Sheeran for the past two years, after working with everyone from Mariah Carey, Usher, and Lionel Richie, to Robbie Williams and Passenger.

"The exciting thing about Ed's show is that we do it all – from tiny popups to stadiums and everything in between," Kemp describes. "He creates loops via his guitar and vocal mic, which feed into Ableton and come to me via MADI as individual loop inputs. Years ago, the routing was likely fairly simple, but that has evolved into a much bigger setup. Today, we have the availability to have 16 channels of looper inputs, and the source can be his guitar or his looper vocal mic. We also now have a keyboard where he can loop samples, and for the bigger shows, there are three main vocal mics, three loop vocal mics, and five separate guitar inputs. It all adds up."

DiGiCo's smallest and newest addition to the Quantum Range – the Quantum112 – is a single-screen, 12-fader desk that is the company's first true flypack mixer. Designed to fit within a rugged and robust Pelican Air 1637 case, the ultra-compact console, when packed, weighs only 23 kilograms – a perfect 50 pounds – qualifying it as a standard checked bag option on most flights.

When Kemp was first briefed on the top-secret Pufferfish, two thoughts immediately came to his mind: "My first reaction was: I love the idea of getting this show back onto a small console that I can check at the airport and do a gig anywhere in the world. That thought was quickly followed by: how in the world am I supposed to fit this show onto 12 faders?!"

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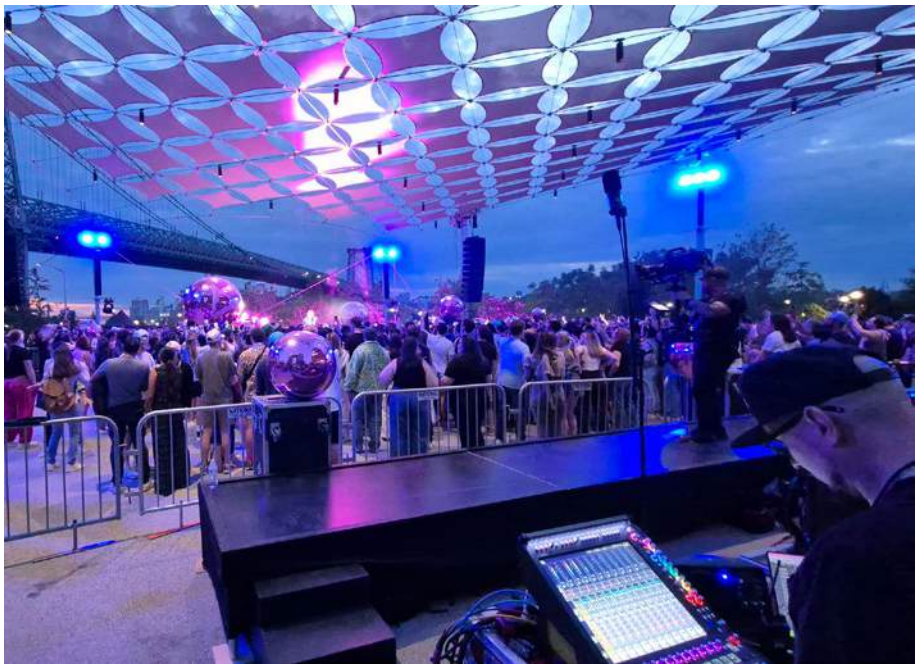
he laughs. “But as it turns out, it’s been great, and the desk is so easy to get around, which is essential seeing that monitors for the looper setup are also run from FOH. I’m not sure how DiGiCo fit so much into such a small footprint, but it really covers everything I need, and with the help of macros and a huge touchscreen, I can be anywhere almost as quickly as if I had 36 faders.”

Aside from applauding the Quantum112’s compact size and remarkably light weight, Kemp already has a list of other features and functions that he particularly appreciates. “I’m really impressed with the big screen and its brightness in the daytime,” he says. “In terms of mixing, the Mustard Source Expander has been great. Spice Rack has also been a must for us, and we use it for both Ed’s vocal and guitar. It’s a really powerful setup, and quite a robust little console in general. We’ve given it a good test throughout our US promo shows and it seems very hardy; the faders are great as well.”

A proper tour in support of Play is set to kick off closer to the end of the year, dramatically scaling up the production requirements, but the mix will steadfastly remain on DiGiCo’s Quantum platform. “We’ll be carrying a much larger Quantum852 for that, but seeing that they’re both Quantum surfaces, transitioning the show between the two extremes in surface size is surprisingly painless. Even in the early stages of the Quantum112, before its file converter function existed, it didn’t take me long to shrink the show onto the little flypack mixer.”

“To my knowledge, I don’t think there’s any other console out there that can do what the Quantum112 does,” he sums. “It has all the I/O that I need as standard on the back – and still has space for two DMI cards! Honestly, I can’t see any other mixer even getting close to its versatility. We’ve really been impressed with it.”



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Blackmagic 2110 IP Converters are available in models with RJ-45 connectors for simple Cat6 copper cables or SFP sockets for optical fiber modules and cables. Using simple Cat6 copper cables means you can build SMPTE-2110 systems at a dramatically lower cost. Plus copper cables can remote power devices such as converters and cameras. There are also models for optical fiber Ethernet.

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One of the biggest problems with SMPTE-2110 is needing an IT tech on standby to keep video systems running. Blackmagic 2110 IP converters solve this problem because they can connect point to point, so you don't need to use a complex Ethernet switch if you don't want to. That means you get the advantage of SMPTE-2110 IP video with simple Ethernet cables, remote power and bidirectional video.

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L-Acoustics Strengthens APAC Sales and Application Teams, Establishes Global Real Estate Division

L-Acoustics have announced significant enhancements to its Asia-Pacific (APAC) Sales and Application teams. This strategic initiative, led by Tim Zhou, CEO of L-Acoustics APAC, reinforces the company's commitment to providing exceptional local support while capitalising on the region's growing demand for premium audio solutions.

The enhanced structure builds upon L-Acoustics' client-centric approach, with increased investment in teams that deeply understand the region's rich tapestry of languages, cultures, and business practices. The Asia-Pacific region unites many distinct ecosystems, each with unique needs and opportunities. The newly strengthened teams bring together multilingual specialists with regional roots and global expertise, enabling truly localised support to deliver the technical excellence that defines L-Acoustics worldwide. The newly expanded team will respond to remarkable growth for L-Acoustics in the region, with rising demand across various sectors including live entertainment, performing arts, and premium installations.

The strategic expansion is anchored by key leadership appointments, including David Cooper's elevation to Director of Sales & Business Development APAC, building on his 12 years with L-Acoustics. The company also welcomes Sebastian Hammond as Application Director APAC, who brings exceptional experience from his work across Asia and the Middle East as a sound designer. Hammond contributes extensive operations and management expertise spanning both residential and touring productions with companies including Cirque du Soleil and Dragone. These appointments are complemented by Alvin Koh's transition to a newly created senior advisory role that will leverage his 12 years of L-Acoustics expertise and extensive industry relationships.

On the sales front, David Cooper, Director of Sales & Business Development APAC and a 12-year veteran of L-Acoustics, welcomes strategic new additions to his team. Vivian Zhao steps in as Head of Sales, Greater China, leveraging her impressive 11 years of business development expertise at Sennheiser. Hiro Sawaguchi joins as Sales Manager, Japan, bringing valuable industry experience from technology leader Lenovo and audio specialist Shure. They join established Sales Managers Eric Chua and Chris D'Bais to create a comprehensive sales network poised to further accelerate growth across the region.

Under Sebastian Hammond's leadership as Application Director APAC, the Application team welcomes Singapore-based Jufri Price,

Pictured above: The APAC L-Acoustics Sales and Application teams. L-R - Zohar Pajela, Amelia Wong, Daniel Lee, Eric Chua, François Montignies, Freida Lee, Vivian Zhao, Damien Juhasz, Alvin Koh, Sebastian Hammond, David Cooper, Chung Wah Khiew, Hiro Sawaguchi, Jufri Price, Kim Fai Hep, Chris D'Bais

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who brings 15 years of hands-on experience as a sound engineer, and Manila-based Zohar Pajela who steps into the role of Application Manager, House of Worship, bringing valuable industry experience from Switch Online Solutions and MUSIC Tribe. Jufri and Zohar join existing team members Chung Wah Khiew, who has been promoted to Senior Application Engineer in recognition of his long years of service and expertise, along with Frieda Lee, Daniel Lee and Kim Fai Hep. The Application team is supported by Application Coordinator Amelia Wong, while Damien Juhasz has been promoted to Application Manager APAC, Consultant Liaison.

"This investment in talent reflects our dedication to the diverse and dynamic markets across the Asia-Pacific region," said Tim Zhou, CEO of L-Acoustics APAC. "By strengthening our local presence with industry experts who understand both the technical demands and cultural nuances of each market, we're positioned to provide unparalleled support to our partners and clients while accelerating growth across the region."

The new APAC team structure enables L-Acoustics to better address the region's increasing demand for premium audio solutions across various sectors. From concert venues and performing arts centres to houses of worship and luxury commercial spaces, the expanded team brings together local expertise and global resources to deliver exceptional sound experiences tailored to each unique application.

This strategic enhancement of the APAC teams aligns with L-Acoustics' global vision of connecting people through the best shared sound experiences. With its blend of industry veterans and L-Acoustics expertise, the APAC team positions the company to capitalise on emerging opportunities across this dynamic region while maintaining the exceptional level of service and support that defines the L-Acoustics experience worldwide.

L-Acoustics have also established a new global Real Estate division under the leadership of Gérald Yven as Global Real Estate Director. This strategic initiative ensures that L-Acoustics' facilities match the excellence of its renowned audio technologies, creating inspiring environments that support innovation and collaboration for sound professionals, corporate partners, team members, and visiting artists across the company's expanding international operations.

The Real Estate division will oversee L-Acoustics' substantial investments into its global corporate and industrial real estate portfolio, coordinating major real estate projects from site acquisition and renovations to the design and construction of specialised L-Acoustics spaces such as Creative Studios and Showrooms. This centralised approach ensures consistent implementation of L-Acoustics brand identity and operational standards across all global locations.

"The establishment of the global Real Estate division represents a critical step in supporting our growth trajectory," said Hervé Guillaume, co-CEO at L-Acoustics. "By centralising our real estate strategy, we can ensure that every facility - from our corporate headquarters to our international studios - reflects our commitment to innovation and provides an optimal environment for our teams to deliver exceptional solutions to our clients."

The APAC L-Acoustics Application team: L-R – Kim Fai Hep, Daniel Lee, Zohar Pajela, Amelia Wong, Chung Wah Khiew, Freida Lee, Sebastian Hammond, Alvin Koh, Damien Juhasz, Jufri Price

The APAC L-Acoustics Sales team: L-R - Eric Chua, Vivian Zhao, David Cooper, Hiro Sawaguchi, Chris D'Bais

L-R - Gérald Yven, Christian Heil, and Anne Hamlet at the grand opening of L-Acoustics' corporate office in Massy, France

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Exterior view of L-Acoustics' newly opened corporate office in Massy, France

L-Acoustics' office in Massy, France

L-Acoustics' Innovation Center in London

The division's mandate extends beyond traditional facility management to encompass strategic site selection and development across global markets. By standardising facility management practices, the team ensures operational consistency that ultimately benefits the L-Acoustics global network of partners and clients through improved service delivery and support.

Recent accomplishments under the new division include the establishment of a global corporate office in Massy, France, which has freed up space at the original Marcoussis headquarters to focus on R&D activities, and the creation of an L-Acoustics Creative Studio at Rock Lititz where sound engineers can learn and perfect mixing techniques using L-Acoustics L-ISA immersive technology. The team has also overseen expansions of production facilities in France and Germany, as well as the opening of a second L-Acoustics Innovation Center in London, plus improvements to the Westlake Village global headquarters to enhance comfort and efficiency. Additionally, solar panels are being incorporated into all company-owned buildings in France, with the goal of achieving net-zero energy use.

Gérald Yven brings extensive finance and project management expertise to his role, with previous experience in facility management at Generali and Unibail-Rodamco-Westfield. His team includes Nassieba Adref, Head of Maintenance Operations, who ensures the smooth daily operations of facilities worldwide with in-house teams and local facility management partners, and Camille Bertrand, Real Estate Project Manager, who pilots major renovation projects and new space development when L-Acoustics acquires or leases new locations.

"Our centralised real estate strategy allows us to create spaces that foster collaboration, innovation, and well-being for our teams, which directly translates to better service and support for our clients and partners," said Yven. "We're also committed to responsible facility management that minimises waste and optimises spending, ensuring every facility decision we make is guided by both sustainability and how it enables L-Acoustics to better serve the global audio community."

Meeting space at L-Acoustics' Innovation Center in London

L-Acoustics' corporate office in Massy, France

Looking ahead, the Real Estate division will continue to create inspiring spaces that welcome L-Acoustics partners and clients from around the world. From specialised studios where engineers can experience cutting-edge audio technology firsthand to collaborative facilities that foster innovation, every L-Acoustics location is designed to strengthen the global audio community and advance the art and science of sound.

Analog Way Names **AXIS HUB** As Its New Distributor for Australia and New Zealand, **Lightware Australia** as Exclusive Reseller

Analog Way has announced that Sydney-based AXIS HUB Pty Ltd has been appointed the exclusive distributor for Analog Way products in Australia and New Zealand (ANZ).

AXIS HUB's two company directors, Jason Lewis and Patrick Kong, who have more than 50 years combined industry experience, have been named as the exclusive Analog Way vendor partner for ANZ to provide an immediate national sales and support network across the region.

Analog Way and AXIS HUB principals already have a strong relationship and history in delivering world class video solutions with their complementary brands and systems, so it was logical to pursue that path to achieve the same mutual success in Australia and New Zealand.

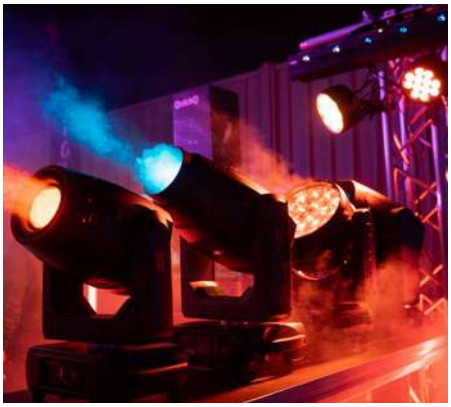
Jay Gonzalez, Analog Way's President of the Americas, says, "We are delighted to welcome AXIS HUB to the Analog Way family. The industry expertise and enthusiasm of Jason and Patrick will be valuable assets for us as Analog Way builds and strengthens its sales and support services throughout Australia and New Zealand."

"We're excited to hit the ground running to deliver Analog Way's premium video processing solutions," says AXIS HUB Company Director, Jason Lewis.

"Analog Way will be complemented by AXIS HUB systems, our Australia and New Zealand authorised system integrator dealer network, to deploy truly premium end-to-end video delivery systems across the region."

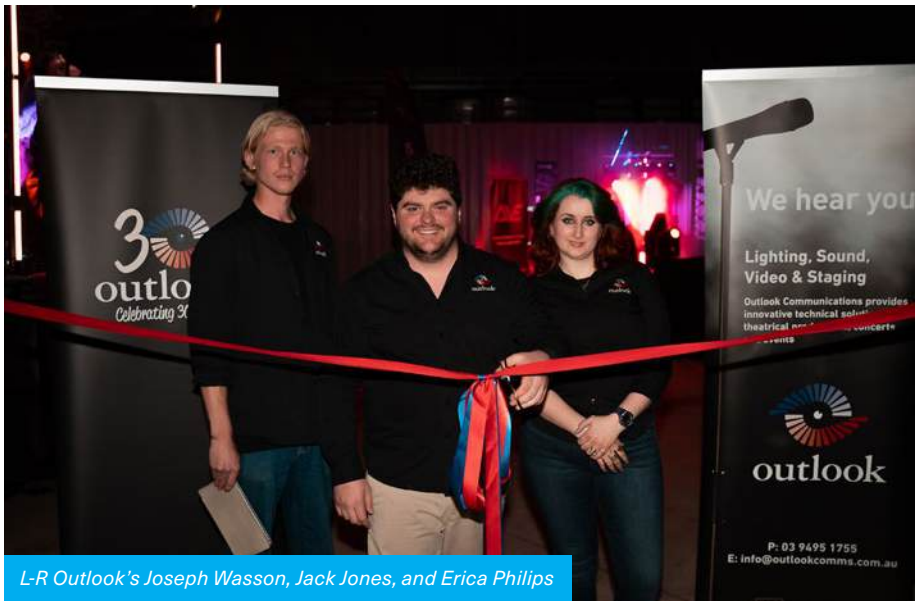
AXIS HUB have in turn appointed Lightware Australia Pty Ltd as the exclusive reseller of Analog Way for Australia and New Zealand. Lightware's complimentary video systems and integrated SDvoE and fibre solutions will be enhanced by Analog Way's product offerings to Lightware's well-established pro AV and staging rental dealer network across the region.

by Jason Allen. Photo Credit: Nic Roberts Media



OUTLOOK AFTER DARK

Showing off Outlook's New Home



L-R Outlook's Joseph Wasson, Jack Jones, and Erica Philips

On the night of Tuesday 23 September, Melbourne's Outlook Communications threw open its doors and staged a combination of a party and a trade show to celebrate its new Preston HQ and owner Jack Jones' 28th birthday. At that tender age, we think that makes Jack the youngest owner of a full service AV company in Australia!

Outlook pulled in their suppliers and friends to have a full stage provided by Event Stage Hire, catering, excellent local wines, and staff and gear on hand from Showtools International, AVE, NAS - National Audio Systems, Jands and TAG. Nearly 200 attendees came along to celebrate, connect and get their hands on some of the latest AV, lighting and sound technology, highlighting what happens when technology and community come together.

MC'd by Suzanne Jones, the evening was full of performances from solos artists and full bands, with all production provided by Outlook. Suppliers put up tradeshow-style stands to demonstrate their wares, and there were both local and interstate staff on-hand to show off brands including d&b audiotechnik, High End Systems Hog, GLP lighting, Chauvet DJ, Electro-Voice, and more. Jack was also cheekily offering a dozen free bottles of wine to anyone who bought more than $5000 of gear - a true entrepreneur!

It was a great night, and it made me wonder why more production companies who also do sales and installations don't do evenings like this. After all, they already have all the gear - why not show it off and sell some stuff into the bargain? Also, if it's also your birthday party, it's tax deductible too!

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ROBE ANZ OFFICIAL LAUNCH MEANS BUSINESS

Over 100 industry leaders, movers, shakers and influencers from Australia and New Zealand rocked up to NIDA, The National Institute of Dramatic Art, in Sydney for an official launch event hosted by "LSC: The New Home for Robe in ANZ", which represents Czech Republic-based moving light and LED manufacturer Robe lighting s.r.o. sales in these key territories.

LSC Control Systems has appointed Darren McLanders as the Robe sales manager for ANZ, filling out a team that now represents an impressive triumvirate of leading brands – Robe moving lights, LSC power and distribution, and Avolites visual control – with stock immediately available for the Australian and New Zealand markets.

Visitors enjoyed the chance to see and learn more about Robe's latest technologies in a highly social and creative atmosphere.

They represented all sectors of the entertainment technology spectrum and included lighting and visual designers, programmers, managers, engineers, technicians and artists at all stages of their careers actively working in the rental market; at venues – from theatres to multifunctional spaces; and in the worlds of corporate entertainment and the arts.

This event follows a re-boot of The Robe Group's commercial activities across Australia and New Zealand, which became effective on 1st July 2025 – coupled with its representation of these other two market-leading brands – LSC Control Systems and Avolites.

The NIDA event buzzed with action, information, entertainment and networking opportunities, combined with some unique technical exploration.

Robe international product specialist Dave Whitehouse gave a special presentation highlighting Robe's T-series fixtures that have been specifically developed for the theatre and performing arts market, plus other recent Robe technologies to hit the market.

The band Dave McCormack & The Polaroids played in the foyer, which was designated the main party and mingling area. Dave is well known for voicing character Bandit Heeler in award-winning animated children's series 'Bluey', and as the frontman of Brisbane-based rockers, Custard.

The Polaroids performed a special set of eight songs, each number with lighting designed to showcase the many features of different individual Robe products, programmed by Hamish Lee from design studio Colourblind, assisted by Alex McCoy, and using an Avolites D9 console. Colourblind director Lynden Gare provided control of LED Video elements from an Avolites AI server and T3 console.

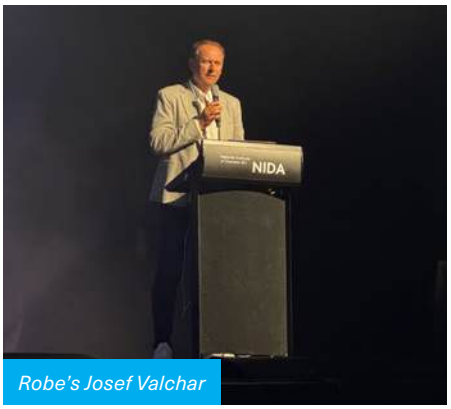
Colourblind were also involved in designing lighting for other areas of the event.

Guests enjoyed the chance to get 'backstage' and see some of the Robe products and technology up close – which was very popular – as well as getting some sneak peeks at a few future and pipeline products!

Visitors could see some key LSC products as well – a UNITOUR rack was powering the entire foyer rig – plus the new GenX Dim/Switch unit and APSX Power Distribution unit were also on display.

This official launch event was attended by Robe lighting s.r.o.'s CEO and founder, Josef Valchar, global sales director, Michel Arntz, and Jens Poehlker, managing director of Robe Asia Pacific.

LSC's Clare Springett and Greg Lowe



Robe's Josef Valchar

LSC's Gary Pritchard

Michel underlined the importance of the Australian and New Zealand market to Robe: "From the global perspective, this is a hugely significant territory with a lively production, performance and arts scene and an existing healthy, strong rental sector. Robe has already gained a good reputation, and we see a lot of potential growth here. Acquiring LSC last year has now given us fantastic possibilities of increasing business and market share for Robe and all its brands."

Michel and Josef also commented that they were confident that Darren was the "perfect individual" for the job with his enthusiasm, extensive contacts, excellent communication skills and enormous energy and passion for the industry.

Darren stated, "It was great to see such a good turnout at NIDA and so much interest in Robe ANZ's activities. There's some hard work ahead for sure, but I am looking forward to all the challenges and rewards that will come with getting this market-leading brand the visibility and success it deserves."

Extra production gear was provided by Robe rental partners Harry The Hirer, Chameleon Touring Systems, Theatricks Productions and Lux Imperium, together with some of the Robe and LSC house products installed at NIDA.

Photo Credit: The Ironman Group

The P.A. People Provide Audio and Communications at **The 2025 Voltaren City2Surf**

The P.A. People once again delivered a comprehensive audio and communications solution for the world's largest fun run, ensuring clear sound, smooth coordination, and an engaging experience for participants and spectators from the Sydney CBD to Bondi Beach.

Start Line

At the Hyde Park start line, the sports presentation team from Downtown Events provided all background and DJ music, video content, and live MC hosting to entertain and inform runners ahead of the race. To support their high impact program, The P.A. People deployed a Bose Professional ShowMatch Line Array system.

Distributed PA systems extended along College Street (north and south), Park Street, William Street, and Macquarie Street, each receiving program feeds from the central audio control position with the flexibility for local input as required.

Supplementary remote PA systems were located in Hyde Park North and Hyde Park South, playing pre-recorded instructional messages for participants.

Additional to audio, The P.A. People also provided wired and wireless communications systems linking the sports presentation crew, The Ironman Group, and all technical staff, ensuring reliable coordination between the different teams.

A six-person crew installed the start line system, completing most of the setup on Saturday before finalising installation once road closures commenced at 3 am Sunday. The system went live shortly before 6 am for race start.

Finish Line

At the Bondi Beach finish, another six-member team from The P.A. People deployed nine distributed PA systems across Queen Elizabeth II Drive, the Bondi Pavilion precinct, and Bondi Beach Park.

Three primary systems provided music, video, audio, and live MC commentary for spectators near the finish chute and pavilion areas. Three additional systems along Queen Elizabeth II Drive broadcasted recorded information and facility updates, while a further three systems along Campbell Parade and within Bondi Beach Park played transport and event messaging.

Each system was equipped for local announcements and featured an emergency override capability from the audio control position to ensure public safety.

A Coordinated Technical Effort

Through careful planning and execution, The P.A. People once again demonstrated their expertise in large-scale event delivery, providing high-quality sound coverage and robust communication networks across both ends of the iconic Voltaren City2Surf.

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by Jason Allen

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Brisbane Sound Group and L-Acoustics Run First Australian L-ISA Mixing Demo

In late October, I had the absolute pleasure of attending an event run by Brisbane Sound Group (BSG) and L-Acoustics at Bridgeman Baptist Community Church in Brisbane showcasing L-ISA Hyperreal audio for Houses of Worship. I've experienced L-ISA Hyperreal audio before, in 2018 when it debuted in Australia with the Adelaide Symphony Orchestra (covered in CX143 December 2018) and again at international tradeshows, but this was the first time I've had the revelatory experience of being guided through a real mix while listening on a Hyperreal PA.

Hyperreal (as opposed to 'immersive') is the term L-Acoustics use for the application of the L-ISA spatial processor to create a realistic sound field experience for the majority of the audience using at least five frontal arrays. The processing, and positioning of audio sources in the three-dimensional space defined by the L-ISA interface, can match the perception of where the audio sources are on stage to what the audience is actually seeing. It defeats the phenomenon in standard stereo systems by which you perceive the sound of any source to be coming from whatever loudspeaker is closest to you.

A Hyperreal system provides a superior experience for the audience. In a standard stereo system, only around 15% of the audience experiences the centre 'sweet spot' in which the stereo effect creates a sense of source localisation, with the rest of the audience experiencing a form of dual mono localised to their closest speaker. This also causes variability in the mix according to where you are in the audience. With L-ISA, the sweet spot expands to around 70% of the audience, with no variability, and the remaining 30% get a spatialised experience that converges on the centre.

On the other side of the mixing desk, it's even more revolutionary. While I understood how the L-ISA interface could be used to create a perceived position for a source on the stage, I did not realise how much this fundamentally changes the workflow of mixing.

I have previously experienced how spatialisation changes mixing workflow on a KLANG system for in-ear monitoring; assigning instruments their own physical 'space' in a 3D field can separate and define sources operating in the same frequency ranges - kick drums and bass guitars being an example. This is what we usually achieve with EQ, sidechaining, and other sonic tactics, which are all compromises in some sense. What I didn't realise was the extent to which spatialisation itself becomes a form of EQ, compression, expansion, and more.

With the evening's presentation opened by Brian Vayler, General Manager of Brisbane Sound Group, we then heard from L-Acoustics' APAC Sales Manager Chris D'Bais, before

Joshua Maichele, L-Acoustics' Global Applications Lead for Houses of Worship, fresh from the USA, took on the bulk of the presentation and demo duties.

BSG and L-Acoustics had brought in a system consisting of five arrays of three A15 constant curvature line array elements, accompanied by two hangs of three KS21 subwoofers each, and two A10s for outfill. This represents a realistically affordable system for a church of this size. Joshua, who mixes for his own church in Michigan, had multitrack files of excellent (and quite big) worship bands, and talked us through his L-ISA mixes, letting us compare L-ISA to stereo. While the stereo mix was excellent, the comparison became stark when you walked the room and noticed the variation seat by seat.

The really mind-blowing thing for me was a video they ran of renowned American worship mixer Lee Fields talking about his use of L-ISA while mixing a multitrack through the system – we were hearing his L-ISA mix and watching his L-ISA interface. He built a mix from a multitrack from scratch, quite quickly. His sources were going through his SSL desk straight into L-ISA, with the only console processing used being the occasional low or high pass filter; L-ISA did the rest.

Simply by altering a source's location on the L-ISA interface, most of what we used to achieve with EQ, compression, and panning is done by spatialisation. My real 'aha' moment was when Lee was explaining that, when you're in charge of audio and you're training a volunteer to mix "who is a welder five days a week", it's hard to explain why a signal is crunchy at 3K and how to EQ it. He then took a pair of overhead mics that were indeed crunchy at 3K and moved them 'upstage' in the L-ISA interface. It took out the harshness. He then explained that when something is unpleasant or harsh, you can just tell a non-audio person to move it 'back'. The level didn't drop much, but the sound was totally altered.

The rest of the mix came together brilliantly, with almost no traditional 'mixing' taking place at all. The presenters stressed that if you "just do the panning' in the 3D space, you've done 99% of the job, and it was true. Simply by assigning sources to take up their own 'space' and not sit on top of each other, you achieve a remarkably realistic and polished result.

Lee did have a couple of other tricks up his sleeve that definitely weren't 'realistic' spatialisations. One is to take reverb reruns and spread them across the soundstage to make things like pad sounds and backing vocals seem much bigger than they are; same with the main vocal. He used the same technique in reverse to deal with two excessively processed electric guitars, localising them apart from one another and reigning in their out-of-phase effects. All of this has now changed my perception of what a live mixing workflow can be.

With my mind blown, we came back to reality with L-Acoustics APAC Application Manager for Houses of Worship APC Zohar Pajela explaining how the L-ISA system and PA in the room had been priced as cost neutral against a mid-level stereo setup, and only slightly more expensive than a 'value engineered' stereo system. Brisbane Sound Group's Installation and Projects Team Manager Rob Bird rounded the evening off by inviting anyone in the audience who were interested to come and ask questions of any of the representatives from BSG, L-Acoustics, or new L-Acoustics distributor Group Technologies that were present. Interestingly, despite being promoted as an event for houses of worship, attendee information indicated that 50% of the audience were from other markets, including venues, engineering consultants, and production houses.

L-ISA in the USA

Before proceedings kicked off, I had some time to interview L-Acoustics' Joshua Maichele about the use of L-ISA in the house of worship sector in the USA, which I had no idea had become so common, with 80 installs (and climbing) into the market.

"The first system we installed was in 2018 at Mount Paran Church in Atlanta, Georgia," says Joshua. "In the first five churches that we did, it wasn't the audio technology that sold it, it was the advantages of sightlines. We'd go into these churches that have big LED walls and

projection screens, and what was happening with a left-right array with a longer hang was that the PA was cutting into the congregation's sightlines. Because we could use short hangs of products like A15s and A10s and spread the SPL out laterally, we didn't need long arrays."

After getting their foot in the door, the sonic and practical advantages of L-ISA became apparent; "It was the fact it was easier for volunteers to mix on," continues Joshua. "One of the hardest things to teach a volunteer is EQ and dynamics. We're asking an electrician or a baker to come in and volunteer; they're not all audio engineers and they don't live this every day. When an audio engineer is mixing on a stereo system and the acoustic guitar and the keys are on top of each other, we're triaging things with EQ and dynamics to create space for each, and they don't sound natural. To just take the acoustic guitar and pan it away, all of a sudden it becomes alive, and we're not masking anymore. If a volunteer or a mixing engineer comes up and they do nothing else but pan on L-ISA, they're going to have a better mix than they would on a stereo PA."

"I talk about this a lot in pre-sales," adds Joshua. "As an audio engineer, we've been given this palette, and we've been given two brushes, no water to wash them out, and a bunch of colours, and at the end of the day, what do we get? We get brown and gray. What L-ISA has given us is multiple brushes with multiple colors, and now we bring the art back to mixing. We're less about triaging sound and more about being artistic."

There's a strong focus at L-Acoustics on making L-ISA as simple as possible to operate.

Photo Credit: Josh Bonnici (BSG)

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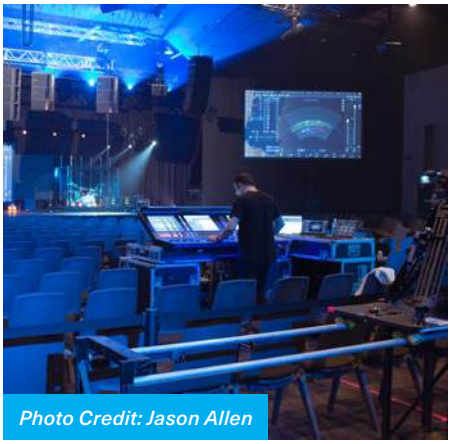

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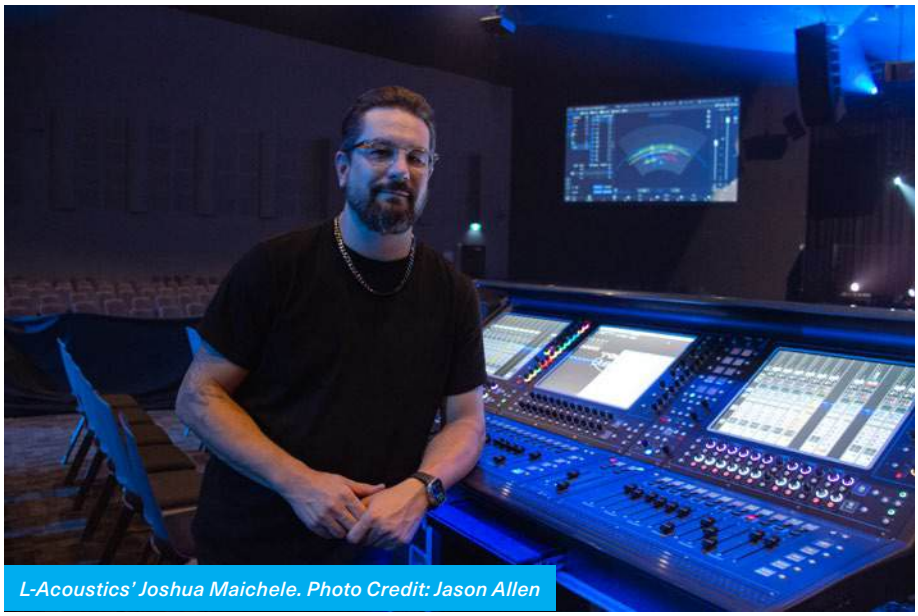

L-Acoustics' Joshua Maichele. Photo Credit: Jason Allen

Brisbane Sound Group's Rob Bird, Group Technologies' Shane Cannon, and L-Acoustics' Joshua Maichele. Photo Credit: Jason Allen

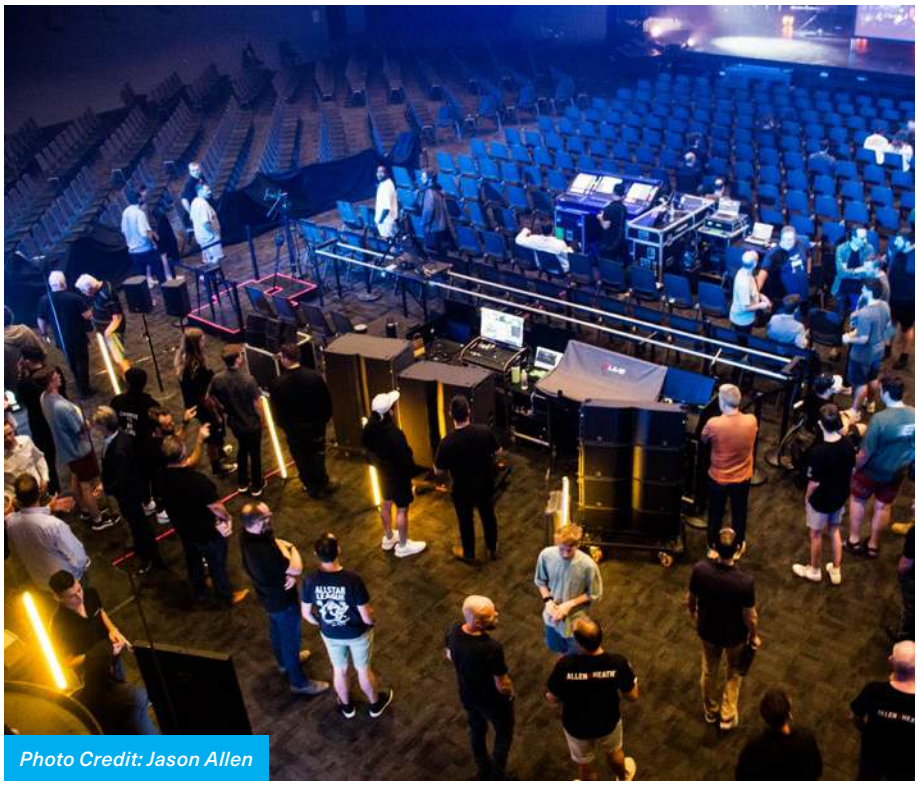

Photo Credit: Jason Allen

"We spend a lot of time making sure we have an 'Apple-esque' workflow," illustrates Joshua. "All of the parameters - pan, distance, and elevation - are all on one screen. If you're on a DiGiCo, SSL, Avid, or Yamaha Rivage desk, you have direct control of L-ISA from the console; it's no different than the pan knob that you're used to. At my church, we're on an Allen and Heath Avantis, so I don't have that direct desk link, but I just have a couple snapshots song by song, and the L-ISA and desk snapshots fire together. It's really quite easy and seamless. I've found that the younger generation of mixers are so used to working in DAWs creating their own music that this is an easy workflow for them."

The adoption of L-ISA into worship is physically changing how churches function. "There's been a trend in churches where they were building thrust stages that go further and further into the room," relates Joshua. "It's an attempt by the pastor to feel more connected to the people that they're speaking to. What you realise is that people are actually looking at their side or their back when they get out far enough, and most people are just looking at them on the screens. It makes them feel less connected when people aren't looking at them. With L-ISA, the pastors have said they don't need the thrusts anymore, because people are looking directly at them when they speak. Their position is localised, and it's less distracting for them because they're not hearing their voice come from somewhere else, it's above their head. It feels natural to be speaking, and you don't even feel like you're amplified."

While you don't need overhead or surround speakers to run L-ISA, some churches add them later after adopting L-ISA Hyperreal systems. "I'm seeing it more and more," confirms Joshua. "It's not for making things spin around the room, but to be able to use things like the vocal backing tracks to bring them around the room to enhance the worship experience. We don't always fill a room all the way. The first Sunday service at my church, we're maybe a third full. How do I create the same experience for that congregation as when we're at capacity with 1,200 people? If you can make those vocal tracks really wide and envelop people, they're much more likely to engage in worship when they don't feel like it's just a few people singing. That's been the greatest thing for me, the emotion it brings, and watching people have their guard brought down because they don't feel isolated when a room isn't completely full. We've all had that wonderful experience of being in a 15,000-seat arena with everybody singing every word; how do we bring that to the local church? I think L-ISA has really opened up opportunities for us to do that in an organic and not manipulative way."

NEW GEAR

DiGiCo Quantum112 Flypack Mixer

DiGiCo has released its smallest addition to the Quantum family - the Quantum112, a single-screen, 12 fader desk that is DiGiCo's first true flypack mixer. When packed in a custom Peli case, it weighs only 23 kilograms (50 pounds), qualifying it as a standard checked bag option on most flights. The Quantum112 offers 80 input channels with 24 aux/subgroup busses, LR/LCR master busses, and a 12x8 matrix, all with full channel processing. 12 control groups plus two solos are also available. It comes with a 7-inch, 1000-nit, high-brightness multitouch screen with both a meterbridge and soft quick select buttons. There are 18 individual TFT channel displays to provide clear user feedback and beneath the main display are a dozen 100mm touch-sensitive faders. The DiGiCo Quantum112 incorporates Quantum Range features like Mustard Processing channel strips (20), Spice Rack plugin style native FPGA processing options (6), and Nodal Processing (24). 12 graphic EQs are further available, as are eight FX Rack slots. Other highlights include Stadius 32-bit ADC and DAC conversion, dual DMI slots, and plenty of I/O options, including Dante (64 channels in and 64 channels out at both 48kHz and 96kHz), MADI (redundant or single), optional optics, AES, local connections (16 analog inputs and eight outputs), and more.

Australia and New Zealand: Group Technologies grouptechnologies.com.au +61 3 9354 9133

Adamson Array Intelligence V1.3 Software Update

ArrayIntelligence V1.3 is an update for software to design and deploy your Adamson audio systems. Room Design allows users to design a space using basic geometric shapes. Users can create any environment from a basic field to a complex structure. After placing virtual cabinets in your room design, different aspects of their behaviour may be simulated, including SPL and time-based simulations. Gain, muting, delay, EQ, and grouping are all controlled on a single page, and users can implement changes on a per-box level or per control zones. Input and output metering for all online devices is available on one page. ArrayIntelligence is available to download free of charge.

Australia: Audio Logistics audiologistics.com.au 1300 859 341
New Zealand: Direct Imports directimports.co.nz 06 873 0129

DiGiCo V3.1 Update for S-Series

DiGiCo's S-series consoles (S21 and S31) get a software update to keep these desks current. V3.1 allows the S21 and S31 to each fully support the MQ-Rack stage rack, which features 48 microphone inputs and 24 line outputs, with four of these outputs switchable to AES/EBU digital outputs, at 48 or 96kHz sampling rates via MADI over BNC connection. V3.1 offers User Layouts, allowing multiple operators to easily access their own favourite way of laying out the console. Another option, Separate Layer Control, allows for the left screen of an S21 – or the left and center screens of an S31 – to view and control a different layer to the one displayed on the right-hand screen. There are also many new options for auxiliaries and macros.

Australia and New Zealand: Group Technologies grouptechnologies.com.au +61 3 9354 9133

ETC Architectural Display Fixtures

ETC have three new display fixtures: Plus luminaires reintroduce the ability to mount ETC fixtures on 230V track, this time using the DALI control protocol and adapters compatible with OneTrack by EUTRAC. All available in 2700K, 3000K, 4000K, and 5000K colour temperatures in 80 Standard and 90 Gallery CRI. The Irideon Framing Projector Zoom (FPZ) Plus features a 25-50 degree beam spread and an output of up to 1600 lumens. DMX or DALI controlled. The Irideon Wash Light Zoom (WLZ) Plus includes 9-78 degree zoom - designed for softening the appearance of any space. This fixture outputs up to 2600 lumens. Source Four Mini LED Plus is made for crystal-clear image projection, using E-size pattern holder, gel media frame, three-plane stainless-steel shutter blade assembly, and 19°, 26°, 36° and 50° interchangeable lens tubes.

Australia: Jands jands.com.au 02 9582 0909
New Zealand: Jands jands.co.nz 09 941 9780

ETC Hog V5.0.1 Software

Hog version 5.0.1 is the latest update to the Hog software platform. This release is the first version 5 software recommended for all Hog users, including those operating Hog 4 consoles. Updates include a refreshed user interface, new Master Ranges function (replaces previous Playback Bar Docking feature) simplifying console configuration and wing connectivity, and new database architecture that improves performance for multi-console systems and enhances data handling across the platform.

Australia: Jands jands.com.au 02 9582 0909

RF Venue PA Extension Kit

RF Venue have come up with a way to add satellite loudspeakers to AV and PA setups without extra cabling. With the RF PA Extension Kit, users can wirelessly deliver stereo or two independent audio signals anywhere in a venue. The 1RU transmitter sends high-quality audio wirelessly via analog FM in the 470 to 506 megahertz UHF band. RF PA RX4 portable receivers, powered by 12 VDC, output line-level audio to feed loudspeakers or other devices. The diversity receivers are IP54 rated with weatherproof connectors for outdoor use. Receiver units have up to 800 milliseconds of built-in digital delay to allow satellite speakers to be time-aligned with the main PA.

Australia: Jands Jands.com.au 02 9582 0909
New Zealand: JPRO jpro.co.nz 09 275 8710

NEW GEAR

Meyer Sound USW-121P Subwoofer

USW-121P from Meyer Sound is a non-arrayed subwoofer, eliminating the rigging hardware and other elements required for flown configurations. It is powered by a single 21 inch driver with a wide frequency range of 20-125Hz (-10dB). At just 24.5 inches deep, the USW-121P provides substantial low-end extension using minimal floor or stage space. It's corner cut-out allows for connector and cable clearance when the cabinet is in tight spaces. USW-121P features Galileo Extended Networking (GEN-1) technology, which integrates networked audio connectivity and Galileo GALAXY-class DSP directly into the loudspeaker. AES67 and analog inputs are standard at launch, with Milan functionality planned in a later GEN-1 update.

Australia and New Zealand: Meyer Sound meyersound.com +1 510 486 1166

Q-SYS Library and Portfolio Enhancements

Q-SYS' Full Stack AV Platform is expanded with new network cameras, audio I/O devices, software updates, and network switches. NC-90 is the next-gen network ePTZ camera that combines onboard AI with enhanced optics to deliver an automated experience in smaller collaboration spaces. NC-Pro15x is a network PTZ camera, built by Canon, that expands Q-SYS video capabilities to high-impact spaces requiring elevated production-grade elements. Audio I/O expander models added to the existing QIO Series include QIO-ML24i, QIO-L24o, and QIO-24f. Each new model features support for analog audio connections, 8x8 GPIO ports, and dual network connectors. The Space Utilisation feature in Q-SYS Reflect helps organisations with system and usage metrics. Q-SYS Library is a one-stop hub for verified ready-to-use assets such as Q-SYS plugins, UCI templates, and sample designs. NS26-480+ and NS40-960+ have been added to the NS Series Gen 2 network switch portfolio.

Australia: Technical Audio Group tag.com.au 02 9009 4322
New Zealand: NSL Group Ltd nsl.co.nz 09 913 6212

Yamaha URX-C and UR-MK3 Interfaces

As part of some corporate restructuring, Yamaha has taken over Steinberg's hardware business. The previously Steinberg-branded IXO12, IXO22, UR22C, and UR44C audio interfaces will be reintroduced under the Yamaha brand as the UR12MK3, UR22MK3, URX22C, and URX44C respectively. UR12MK3 is a 2-in/2-out USB-C Audio Interface with 24-bit/192kHz support, 1 Combo/1 Hi-Z input, Direct Monitoring, Loopback, and Steinberg software suite. UR22MK3 is the same with another Combo input. URX22C is 2-in/2-out USB-C Audio/MIDI Interface with 32-bit/192kHz support, 2 combo inputs, and DSP-powered mixing/effects. URX44C is a 6-in/4-out USB-C Audio/MIDI Interface with 32-bit/192kHz support, 4 combo and 2 line inputs, and DSP-powered mixing/effects.

Australia: Yamaha Music Australia au.yamaha.com (03) 9693 5100

Showtec Spectra Series

The Spectra series are LED bars designed for temporary outdoor use. The series includes the Spectra Wash and Spectra Strobe, both built with robust, IP65-rated housings. Optional accessories like beam shapers, barndoors, vertical brackets, and base plate are available. Showtec Spectra Wash is a silent, one-meter-long LED wash bar that uses 16 20W RGBW LEDs with a narrow 12° beam angle. Each LED is individually controllable via DMX. Showtec Spectra Strobe is a one-meter-long LED strobe bar designed to deliver intense wash and flash effects. It's equipped with 360 1W white LEDs for strobing and 384 0.5W RGB LEDs for colour. Controllable sections (12 for the white LEDs and 24 for the RGB LEDs) allow for animated chases and effects.

Australia: Clearlight Shows clearlight.com.au 03 9553 1688
New Zealand: Kenderdine kelpls.co.nz 09 302 4100

tarm BLAZE Laser Source Luminaire

BLAZE from tarm is a beam moving head fixture using a 100W white laser source. This IP66 rated unit is designed to be out in the elements, with a high-density foam shell coating the alloy chassis. The laser engine requires fewer lenses than conventional movers and outputs 170,000 lx at 20m. BLAZE features CMY mixing and additional colour wheel includes CTO tones. Gobos, prisms, rotating glass gobos and frost filter complete the effects. Theatre mode is less than 40dB and BLAZE has three different DMX profiles. Connections via DMX512, Art-Net, RDM, and sACN.

Australia: AVECorp
avecorp.com.au 03 9706 5325

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A Night At The Opera (House)

by Andy Stewart

There are gigs, and then there are gigs. For me, this was a big one. Seeing my friend and musical collaborator Kutcha Edwards up on stage in the Concert Hall at the Sydney Opera House with the Sydney Symphony Orchestra, performing songs we'd recorded together was a surreal experience. It was also a scene I'd pictured occurring in my head years earlier... but on this night the dream was real.

Emotions were running high on a Tuesday night in Sydney recently when I found myself at the Sydney Opera House (which resides on a patch of ground called Tubowgule) witnessing my good mate Uncle Kutcha Edwards perform songs from his Circling Time album with the Sydney Symphony Orchestra. (I'm actually writing this article on Tubowgule right now, looking straight at the House as tourists wander past me – I thought it might be fitting to pen this story at the source.)

I produced Kutcha's Circling Time album a few years ago now, down at my Mill Studio, arranging the songs and playing several of the instruments on the record. So needless to say, I knew the material pretty well, although I'd never heard it played quite like this before!

On the night of the concert (despite my best efforts to avoid it) I found it incredibly difficult to stop those parts of my brain I usually rely on to make albums from analysing the orchestra's performance, picking up on arrangement cues, and reflecting on my many experiences with Kutcha during our time working and playing together. It's the downside of producing music; you never really get to experience live performances of works you've created in the same way as do those around you, which awkwardly separates you from the collective experience. There's too much going on in your own head; too many memories of the creative process that brought the music to bear. It's a strange mixture of nostalgia, curiosity and reflection upon a process that in some ways never truly ends, but rather simply becomes more publicly known – some albums more so than others.

After what was (for me at least) a surreal entry to the main Concert Hall – a place I've found discombobulating at least once before when attending Bruce Jackson's memorial back in 2011 – we took our seats in the stalls right in front of the string section, and braced ourselves for the rollercoaster ride.

It all began with Uncle Michael West from the Metro Local Aboriginal Land Council giving the best, most fascinating Welcome to Country I've ever witnessed. It was long and detailed, educational and funny, and it set the scene for what was to follow: a monumental night of musical rearrangements exquisitely performed by a magnificent orchestra – along with Kutcha and special guests, of course – a scene that weirdly I'd pictured occurring in my mind years earlier.

Two dancers, Brent Watkins and Phil Egan, both nephews of Uncle Kutcha, came out Stage Right to perform a traditional dance, welcoming the conductor Benjamin Northey onto the stage, followed by guest singers, one at a time, the dancers performing for each of them individually.

First up was Shellie Morris, who stood respectfully still while the dancers performed directly in front of her, followed by Emily Wurramara who did likewise. Then came Ray Dixon, who was a little more 'interactive' with the dancers, shall we say, passing by them with a wry, familiar grin on his face. Finally, Kankawa Nagarra entered the hall, (a woman who Kutcha, later in the performance, described as 'the legend'). She too stood motionless and relaxed as the dancers welcomed her onto the stage.

Then came Kutcha himself, resplendent in his fancy suit. He engaged his nephews in dance, looking at each of them intently, then skyward, and finally as the dance resolved, they let him pass. I must admit, as a white fella myself, it crossed my mind that they'd better get onto letting him pass pretty soon; Kutcha is 6 foot 4, and a considerable human being... I was worried he might push them aside and into my lap in the audience! Which, I hasten to add, was never going to happen, of course.

When the orchestra was conducted into life, they began as Circling Time itself begins, with a song called 'Singing Up Country'. To

AT NO STAGE

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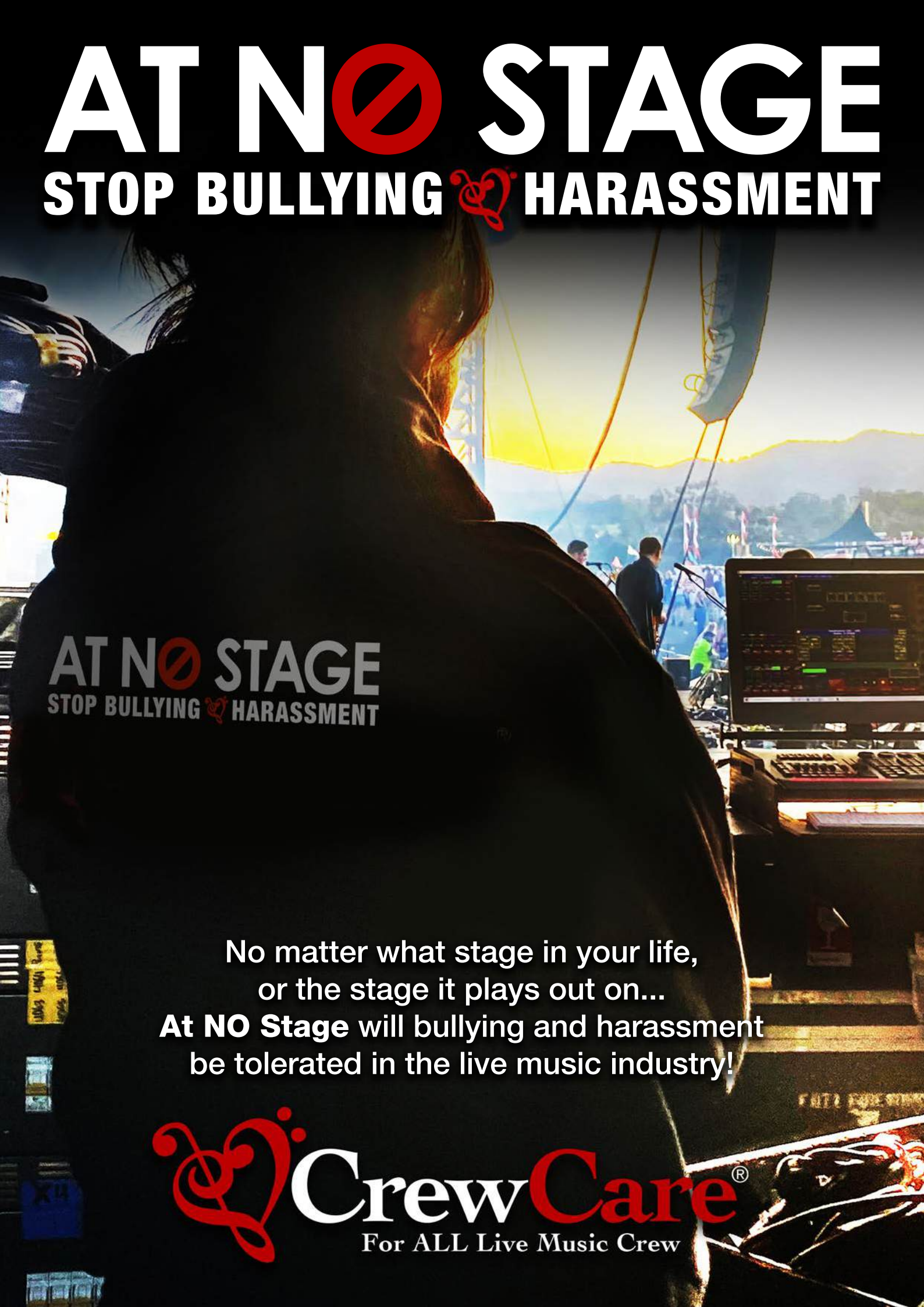

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the wider audience around me this musical entrance probably seemed like a gentle, almost innocuous pathway into the evening's performance, but for me the experience was a whole different kettle of fish. I was immediately thrown back to the night when I recorded an Omnichord on the opening track of the album, which had originally been worked on at The Mill by a collection of musicians (Dean Roberts on keys and guitar, Marcus Satchell on bass, Colin Matthews on lead guitar and myself on drums) and in those early rehearsals there had always been something lacking about the arrangement, in my opinion – it had been distinctly predictable rock that I wasn't fond of.

Then, one morning, while Kutcha and I were sitting in my house down at The Mill enjoying a coffee before the start of our day's recording session, we talked about how 'straight' I thought 'Singing Up Country' was sounding. I'd had the idea of starting the song differently – without a rhythm section, time signature, or even a band, just Kutcha performing solo with his Omnichord (yes, he too plays an Omni). I imagined a dreamy, ambient landscape of sound, with Kutcha's powerful voice floating above it. So while the coffee brewed, Kutcha got out his Omnichord and sang the song just like that. It was a revelation – so much more compelling that the cacophonous rock rendition from rehearsals.

So we got straight to it. Kutcha recorded his vocal and Omnichord in the studio simultaneously as a 'live take,' and later that night I went to work adding more Omnichord OM84 to the new arrangement. I recorded my takes on my own late at night through a delay pedal to make the sound shimmer, and on the final mix there are actually three Omnis in total; Kutcha's in the middle, and two performances of mine panned left and right.

This is why when the full Sydney Symphony stated performing their own rendition of this same introduction, I was immediately overcome with emotion. I simply couldn't believe what I was witnessing. My strong memories of that song had been of me sitting alone in the dark, messing with the delay times and feedback settings on my old Boss DD2 pedal, indulging in the trippy interaction between the different Omnichord performances. Now I was surrounded by thousands of people and a full orchestra in the Sydney Opera House! It was truly bonkers – one of those remarkably implausible moments where you really question whether you're dreaming or hallucinating.

It was a surreal start to an extraordinary night of music, tumultuous emotions and meaningful reconnections.

The orchestra performed some fantastic versions of songs from Circling Time that night, my favourite among them being 'I Know Where I'm Going' – another song of which I had strong recollections given that it had originally been recorded in the studio as a single live performance. There were also some beautiful performances of songs off previous albums in Kutcha's catalogue, along with other songs

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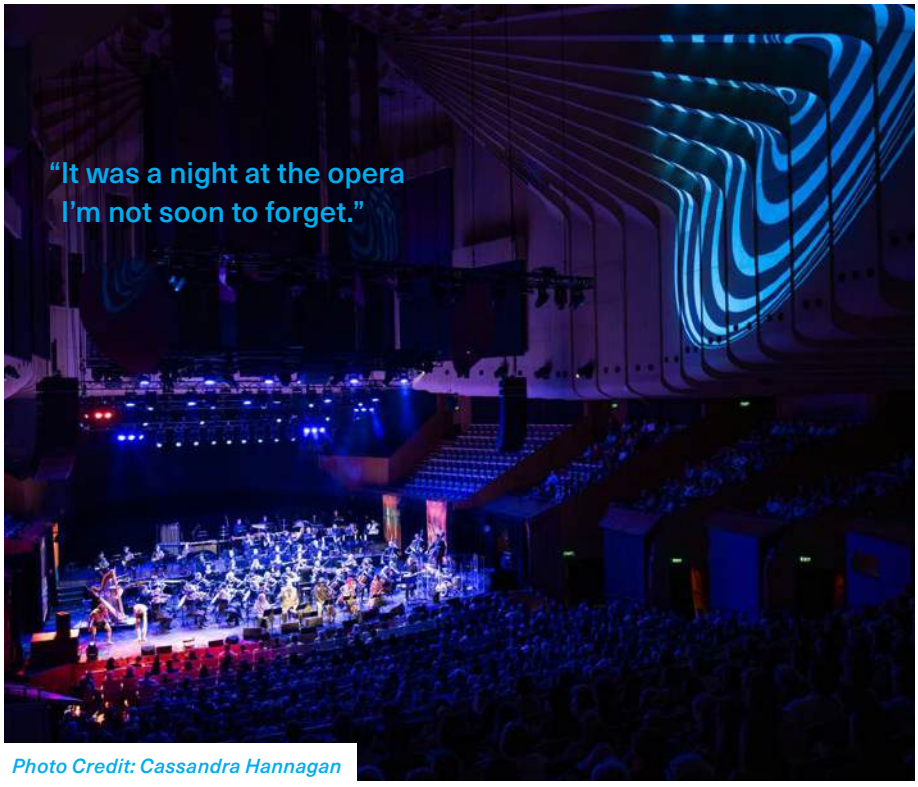


Photo Credit: Cassandra Hannagan

Photo Credit: Cassandra Hannagan

Photo Credit: Cassandra Hannagan

Moon over the House

(some of them traditional) performed by Shellie Morris, Emily Wurramara, Ray Dixon, and Kankawa Nagarra.

It was a remarkable night for all of us, not least of all for Kutcha, who later told me how overwhelming and breathtaking the whole process had been, "It was unbelievable, Mr.!" (he always calls me Mister). He was emotional (as always), proud, happy, and confronted all at once by the journey he had found himself on (and continues to walk).

For me personally, the day pushed well into the wee small hours, by which time I found myself alone at Circular Quay. I actually took a photo of the Opera House that night as the moon rose up majestically and silently in the East; a cosmological gift seemingly handed to me personally by forces beyond my comprehension, given that no-one else was still around. I had always heard about the design of the 'sails' of the Opera House having been inspired by boats on Sydney harbour, but seeing the moon floating above it this still night made me see the building altogether differently.

It was a night at the opera I'm not soon to forget.

Andy Stewart owns and operates The Mill on Victoria's Bass Coast. He's a highly credentialed producer/engineer who's seen it all in studios for over four decades. He's happy to respond to any pleas for recording or mixing help... contact him at: andy@themill.net.au

by Allee Richards

NICK SCHLIEPER

When I speak to Nick Schlieper over Zoom he is recently returned to Australia after having spent just shy of 48 hours in New York. Nick was attending the Tony Awards where he was nominated for his lighting design on The Picture of Dorian Gray. The Music Box run of the production was nominated for six Tonys, and took home two.

It's surely the dream of every young, starry-eyed emerging designer to one day be in the running for a Tony. Unfortunately for Nick, his time in New York coincided with him having a kidney stone. "I went through the entire seven-hour long ceremony in a miasma of cross-eyed pain, just wanting the damn thing to be finished."

While he's yet to receive a Tony, Nick is one of Australia's most awarded designers, having received multiple Green Room, Sydney Theatre, and Helpmann Awards over his career. For many years he has been in the incredibly fortunate position of being able to be selective about which projects he takes on and, more specifically, which projects he turns down.

Like anybody, he started with little knowledge and experience and gradually built his expertise and, like so many theatre professionals, Nick's starting point was "the great old cliché of that one particular schoolteacher." Nick is unclear on exactly what this teacher's experience was, "He had some kind of background in theatre in a previous life that was a bit of a taboo subject, we all kind of knew not to go there." But his impact was undeniable, "He was the most inspiring and inspired teacher imaginable."

Nick describes his high school as "bog standard" and says there was "nothing as grand as a drama department," but there was a group of students who put on plays. In his final year, Nick worked on lighting and set design for five shows. Despite this much extra-curricular activity, he achieved the marks to get into an Arts Law degree. "I got all the way to the sandstone portals of Sydney Uni for orientation day. I stopped at the threshold and looked at all of these kids lugging their backpacks full of books. I had this moment of thinking – this is what I've just done. This feels like a wrong move. I turned on my heel and left."

Fortuitously, Nick ran into his inspiring modern history teacher as he got off the train that afternoon. He told Nick to go home and ring NIDA straight away. Although he'd missed the admissions window for that year, Nick worked on an application and was guaranteed a spot at NIDA for the following year. "It was the best thing that could've happened because I knew in a year's time I had a place. By the time that year was up, I was working at the Old Tote, the forerunner of the Sydney Theatre Company. I had a permanent job as a stage manager and when NIDA started ringing asking where I was, I looked a long way down my nose at them and I said, 'I don't think I require your services anymore'."

Given the breadth of Nick's work as an LD it's hard to imagine him doing anything else, but there was a time early in his career when he desired to be a director. The pathway to becoming a director back then was via stage management. "The SM was very much the director's right hand." Nick figured out "pretty damn quickly" he was never going to be a good director, but he was a really good stage manager.

Although Nick describes this four-to-five year period of his career as a side-step, it has informed his work as a designer. Because of the SM's pivotal role in the larger structure of a company, Nick interacted with everyone from the box office to publicity. "It gives you a really good bird's eye view of all of the bits of a jigsaw puzzle that go into making a show." His experience calling large scale productions gave him lots of practice at cueing. Not just with lighting cues, but all aspects of the show and how they interlock together. He'd be approaching the same operatic scene change each night and would think, "if that fly cue went on that note of music and the lighting cue went with it, instead of two bars before, etcetera. I got really annoyed about it, but that showed how much I was learning."

In this era, he also worked as a production manager, which taught Nick about financial planning and budgeting, including how to front up to boards and ask for more money. "I would say that knowledge has been more useful to me than being able to plug a light in and make it work with wireless DMX."

STC The Picture of Dorian Gray. Photos: Daniel Boud

"I'm a crap technician," Nick says. "I always have been, and I always will be. I'm not interested in it. I don't have the aptitude for it. I've certainly never learned the skills. I don't need them, no more than I need to be able to learn how to operate a lighting console. There are people who specialise in that who are highly skilled and qualified. Let the people who are good at it do those things. I'm not in any way putting down the work of technicians. Quite the contrary actually. I can't do it. But I don't think being able to do it makes you a better designer."

In terms of where Nick did learn the fundamentals of lighting design, he did a course with British lighting designer David Read in '77. The Australia Council had brought David to Sydney and eight people, who were already working in theatre, were selected to partake in six months of tutelage. "In some ways it was a bit of a joke," says Nick. "It became a beer drinking competition. He was very much a British lad and down at

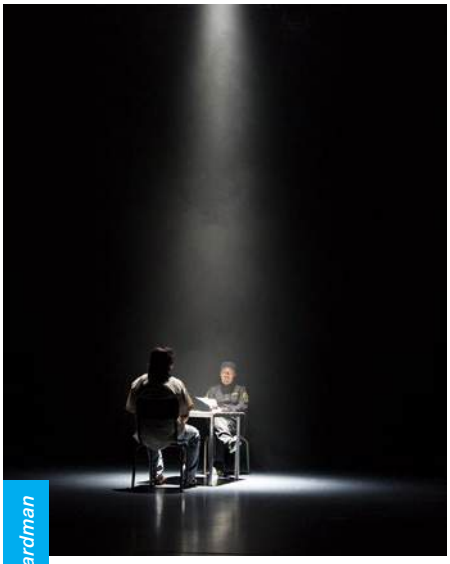
the pub every five minutes." Nonetheless, Nick gathered the fundamentals in British 1960s methodologies of lighting box sets. "He was able to contextualise that old school methodology with slightly newer ways of thinking." This style had an emphasis on lighting actors, something Nick says can be undervalued and, decades into his career, still sees as a crucial part of his aesthetic. "Once you have people sitting 60 and 70 metres away from the stage you have to have some tricks up your sleeve to overcome that physical distance barrier to appear to make that face more present than it really is."

It can be hard for Nick to be any more specific about what his style largely is, in part because technique is something that shapes and shifts very gradually over time. For instance, it wasn't until years later when Nick began to teach lighting design himself and he returned to his notes from David Read, that he realised he had thrown away the old McCandless theory – a lighting technique whereby you light a face using two lights, each from a 45 degree angle. "45 degrees is way too flat. I hate it. It's 60 one way and 80 the other. That's what my eye likes, that's my taste."

It's harder to narrow down style more so because Nick rejects the idea that a design can be approached in any formulaic way. "I might be kidding myself, but I really, really, really try to approach every single show as its own thing. If you stop at least giving this a noble attempt, then it's time to get out of the game," he says. Ultimately Nick believes theatre to be an act of communication between human beings at one end of a room to human beings at the other end with light working as an enabler for that communicative pathway. "Telling an audience how to think, why to think, where to think, let alone where to look." And Nick describes this part of the gig as "the fun bit".

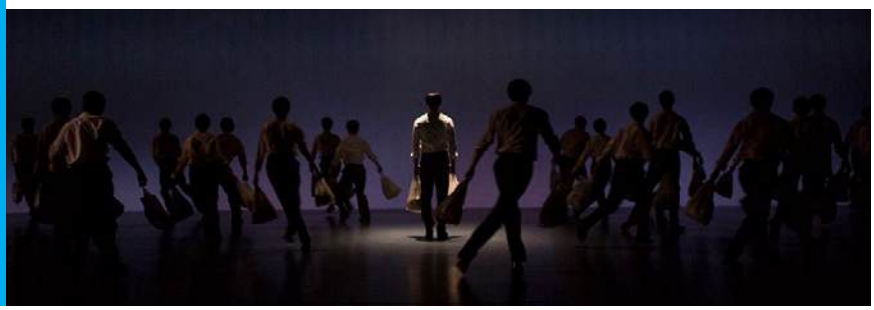
"It's the greatest audience manipulation tool in the kit." While sound can possibly do it to a greater degree, an audience realises when they're being manipulated by a sound cue because they can hear it, but if you bury your lighting cues carefully enough and time them carefully enough, you can pull the audiences' strings without ever being seen to do so. "I would say somewhere between half and three quarters of the cues I make in a year will be designed to be completely invisible. That is so ingrained in my thinking I can't imaging not doing that."

Even still, Nick maintains it's impossible to make sweeping statements about anything. As he forms a sentence all the exceptions to the rule come to mind. "The biggest fundamental is that you have to do everything to realise the



Uncle Vanya

STC Chimerica. Photo: Brett Boardman



STC Saint Joan. Photo: Brett Boardman

STC Rosencrantz and Guildenstern Are Dead. Photo: Heidrun Lohr

STC The Harp in the South. Photo: Daniel Boud

STC Waiting for Godot. Photo: Lisa Tomasetti

STC Face To Face. Photo: Brett Boardman

The Wonderful World Of Dissocia

jointly agreed amongst you vision you started with." This speaks to the core meaning of what a designer is. "In one way or another, I have a picture in my head and the technical skills allow me to take that picture and put it into whatever situation that is. In this case a stage." Unfortunately, this is one of the many babies that Nick fears is being thrown out with the bathwater in how we've integrated modern lighting technology. "There's a whole bunch of technique that is gone because you don't have to commit in advance. You don't have to have a picture in mind, you can just have a bunch of ingredients, a rig of potentials."

This shouldn't be mistaken to mean that Nick is a Luddite. In particular, he thinks the development in consoles is significant and mostly for the better. "I find more and more that I'm treating channels within cues as individual entities and not just a block of light. I can control one channel, give it its own time and delay." And he does use moving lights and LED. "I use them quite a lot. They have their purposes to my mind. Like any other tool, you use it where it's applicable." But given Nick's penchant for lighting actors, he could never rely entirely on LED, as he would lose the part of the visible colour spectrum that pertains to the facial tones of white people. "Everyone says you can't tell the difference between LED and tungsten on a white wall, but if you hold your hand in it – one hand is the colour of my hand and the other looks grey." He wonders how people use LEDs for front of house light when you can't peak the lamp. "The whole 50 per cent overlap from lamp-to-lamp, it's all gone out the window and no one seems to give a shit because they don't have to make a decision about colour in advance."

With a career as long and impressive as Nick's he maintains it's impossible to choose a favourite show. "One tries to love as many of one's babies as possible." But, he concedes, because of the sheer scale and the amount that it took over his life, when asked this question he cannot go past the South Australian State Opera's 2004 production of the Ring Cycle, Australia's first ever production of Wagner's behemoth. "I think it's still one of the biggest shows that's ever been put on in this country indoors." It included an 18 metre wide and one metre high bar of flame that flew. A two-metre-high ring of 12 flame burners than came up through the floor. It is the only time, Nick believes, that he has rigged a thousand lamps. "In every respect the thing is a fucking monster and we pulled it off." But, like all of Nick's answers, he refutes any simple truth of this being his one best show. He refers to the

STC Streetcar

'golden era' of STC when Cate Blanchett was co-Artistic Director of the company with her husband and starred in several shows Nick lit – Hedda Gabler, Streetcar Named Desire, Uncle Vanya, Big and Little, The Maids and The Present. And he notes the work he has done with the Bavarian State Opera.

I've interviewed many lighting designers for this magazine and not one interview goes by without the subject mentioning Nick and his work, always with reverence. If he gives his projects the complexity, earnestness and generosity he has given the answers to my questions – and I suspect he gives much, much more – it is no wonder he has become one of the country's most in-demand designers. If there is one part of our conversation he seems to have little interest in, it is the Tonys. Kidney stone aside, it seems the real prize for Nick is the work itself.

Strange Case of Dr Jekyll and Mr Hyde. Photo: Daniel Boud

STC Macbeth. Photo: Brett Boardman

Nick Schlieper is one of Australia's most highly awarded designers, having received five Helpmann awards, seven Sydney Theatre awards (including two for Set Design) and six Green Room Awards. This year he was nominated for a Tony award, for The Picture of Dorian Gray on Broadway.

His 104 productions for Sydney Theatre Company most recently include set and lighting designs for Happy Days, (which he also co-directed with Pamela Rabe).

2025 has also seen him light Love Never Dies in Tokyo, The Picture Of Dorian Gray on Broadway, Grief Is The Thing With Feathers (also Co-Adaptor and Set Designer), and Orlando for Belvoir St and The Lady From The Sea for London Theatre Co at The Bridge Theatre. In December, he'll start rehearsals for Dracula on the West End, starring Cynthia Erivo.

War Of The Roses

by Jason Allen

Corpus Novum: Rite of Spring

Benjamin Skepper's neoclassical 'Art Rave' immerses with L-Acoustics' L-ISA

Melbourne's own Benjamin Skepper has packed more into his first four decades as a multi-instrumental musician, artist, thinker, creative, and curator than four other people could do in a lifetime. Born and raised in Clifton Hill, he first toured internationally playing piano at age 10. He's been commissioned to produce works all over the world, by everyone from cultural institutions to luxury brands. He is a regular performer at international festivals, and has even done his fair share of modelling and design.

In live performances, he wields his Yamaha SVC50 electric cello, processing through a pedal board he's spent 20 years devising. His music blends classical tradition and electronic futurism; he's fascinated by the intersection of art, science, ritual, and healing. His artist-led creative studio, contrapuntal, which began 16 years ago while resident in Japan, now finds its new home in Fitzroy, in a Victorian-era decommissioned print factory.

Benjamin is seeking to make contrapuntal Melbourne's home for sound, art, technology, and wellness, with a full studio launch slated for 2026. He sees it as "a collective place and platform for collaboration, experimentation and radical creativity." As such, he's been raising funds to establish the space, which currently sits as a largely empty shell. Corpus Novum: Rite of Spring was an immersive experience held for this purpose on October 11, featuring an immersive dinner and an 'art rave', all powered by L-Acoustics L-ISA spatial audio.

"contrapuntal, my studio and its many collaborations, is driven by sound," relates Benjamin. "The Fitzroy studio is currently two 100 square metre, long, rectangular caverns. It's dark, it's moody, it's industrial, aesthetics very much on point. I love architecture, and the 1870s Victorian meets Art Deco facade building is positioned in what's become the beating cultural heart of Australia, Fitzroy. It's fantastic to come into this really cool and edgy space (the building also hosts other music businesses), that's somehow beaten gentrification and is ready for its next chapter."

Benjamin's music and technical approach to creativity lends itself to presentation in spatial audio. "I've worked with spatial and multi-channel sound for more than 15 years," adds Benjamin. "This has mainly been for private events, museum openings and exhibitions and self-initiated projects." Keeping abreast of developments in spatial audio, Benjamin approached L-Acoustics to collaborate in utilising L-ISA to present his sound design

Benjamin Skepper. Photo by Giovanni Gastel

Photo Credit: Juzzy Kane

Photo Credit: Juzzy Kane

and compositions. "I've just come back from Westlake Village, L-Acoustics' incredible studios in LA where they invited me to engage with their engineers," he enthuses. "When I came to L-Acoustics with the idea that I'd like to work with them, and about L-ISA as a spatial concept, they said that I'm one of the first artists who has come to them with knowledge about their brand and innovative sound solutions. My curiosity lies in how cutting-edge technology can be harnessed to transform the audience experience of my sonic world."

Corpus Novum is not the first time Benjamin has deployed L-ISA in Australia; the first time was at contrapuntal's launch in July, also supported by L-Acoustics. "I am the first independent Australian artist and studio to feature L-ISA in Australia in this way," confirms Benjamin. "I think it's important that artists develop an awareness around tech and the backline teams that truly support their careers. This opens dialogue and inspires everyone to contribute to the mix. I have a long and deep respect for my technical and creative teams around the world that have supported my vision and helped me develop this awareness. Ultimately, as an artist, whether you acknowledge it or not, your sound team moulds and shapes your sonic identity, and that sonic identity is what your audience also comes to love."

Helping mould Benjamin's sonic identity at Corpus Novum was Norwest Productions' John 'Watto' Watterson, General Manager for Victoria and South Australia, and sound technician Max Jardine. L-Acoustics themselves provided the L-ISA processor, while John and Max brought in 11 L-Acoustics X8 8" two-ways, two L-Acoustics X12 12" two-ways, and four SB15m 15" subwoofers, all powered by L-Acoustics LA-RAKs.

"Norwest also supplied MADI interfaces," adds John. "We connected an RME MADIface XT to Benjamin's laptop, which enabled us to get 64 channels out of Ableton via MADI to our desk, a DiGiCo SD11i. We also had some local inputs; electric cello, toy piano, vocal, DJ rig, and a modular synth. Everything was sent to the L-ISA processor from the SD11i, out of the L-ISA into an RME MADI to AES converter, and AES direct to the LA4Xs."

Norwest are no strangers to L-ISA, who hire it from L-Acoustics for special projects, with John counting a dozen under his belt. But this was John's first time using L-ISA in full immersive mode, as opposed to L-Acoustics 'Hyperreal' frontal mode. "I've mostly used it with five or more frontal arrays, placing orchestras as Hyperreal static placements," he elaborates. "Benjamin's show was a feature sound design with significant use of effects for movement."

The X8s were circling the room, facing into the middle, creating a 360 degree sound stage. "L-ISA also has the ability to create distance, with elements coming in closer and shooting off into the ether," explains John. "The show had a range of different snapshots saved into L-ISA that changed L-ISA effects and triggered movement. Benjamin's Ableton file has 80 or 90 tracks that we bussed down into 20 MADI streams, with the bussing mainly being done for organisation."

The proceedings of the evening were split in two; the first was a ritual immersive art dinner, during which Benjamin performed his immersive soundscapes as a backdrop to conversations around fundraising for his studio. The tables were then cleared, and the space became an underground 'art rave', also spatialised in L-ISA. "I performed and did sound design for three hours for the dinner, then opened the art rave with a further ambient live performance and artist talk to give further context to the gathering. After this I finally took a little break," recounts Benjamin. "The entire night is spatialised from start to finish, and the engineers worked very hard to create an incredible spatialised environment based on my vision."

John programmed the Ableton outputs and the L-ISA system before handing over to Max Jardine to operate the gig. "Benjamin's Ableton files had lots of his field recordings; birds singing, fire crackling, monks chanting," continues John. "From a sound design perspective, that's pretty cool, and you can do a lot with them spatially. Benjamin's electric cello was coming in via his pedal board with

a reasonable amount of processing already. We started off by positioning that where the source was, then building moments where it would swing around the room, or come in and out of the distance. The modular synth also sometimes triggered an effect."

"It was really exciting to watch Max and John experiment with the material on the fly as we worked through the sound design with very limited time," notes Benjamin. "In my Ableton files, there's genetic music frequencies, astrophysical sound data, musical sound design and other sonification projects. There's cinematic material, reconceptualised Stravinsky, there's techno, pre-recorded piano and cello; there's so much going on in terms of original samples and genres. I also brought a couple of extra instruments to mic up; a toy piano, little music boxes, and Japanese singing bowls. I do a lot of field recordings, and my three central concepts in field recording are industrial sounds, nature sounds, and then shamanic, religious or spiritual incantations; things like zen chanting in Kyoto or the Benedictine monks of Paris, or sermons at the Vatican in Rome. There are even geishas that I'd recorded in Kyoto. Those busses then got manipulated in the spatial spectrum. Jonathan was really great in working with Ableton and how to get it to interface with L-ISA."

Benjamin is more than inspired by the possibilities of L-ISA; "Depth, elevation, all of the things that you can play with; it's insane," he marvels. "It's like floating in a cosmic sonic soup. An artist really needs months with it to be able to fully explore the ambit of what it can do. With music like mine, which is genre bending, interdisciplinary, pushing boundaries, expanding mindsets, it's really exciting to be able to play with the perception of sound and where the sound source should even be coming from in the first place. L-ISA can do that, and that's absolutely fascinating to me. I think there needs to be a retraining of how we listen. That needs to happen not only from an audience perspective, but also from an artist and sound engineering perspective, so that we can start to reconsider and reconstruct the boundaries of what we think sound can do and where it should thus be placed within the field that we're working in. I want everyone to become excited by this prospect! In this case, we had 11.4 channels, but the mind boggles as to what we could do if we had the time and budget."

Never lacking for ambition, this is the future direction Benjamin wants to take with L-ISA. "I want to spend months on this, and really dig down into it to create experiences that are truly, wildly immersive," he states. "What you can do with the system is infinite; there's so many parameters you can play with. I'm especially excited as I work a lot with algorithms, and you can use these algorithms to shape sound samples, for example reverb tails. This is something we explored in LA and I'm really hopeful that we'll be able to devise a system and a structure where I can more deeply explore the technology with L-Acoustics, and in the next iteration, whenever that is, scale up a little bit more as well. I want to personally thank everyone at L-Acoustics in Australia and America, as well as the team at Norwest for getting behind me at this pivotal point in my career."

"Of all the L-ISA projects I've come across, this one has made the most use of the panning, effects, and movement during the show," adds John. "The amount of movement, panning and zooming in and out is a sound design experience. L-ISA can take a source and do a lot of things that you previously had to spend a lot of time programming on a platform that wasn't really designed for it. L-ISA has it all built in, and you can very quickly establish something in 30 seconds that you might have taken 20 minutes clicking around in another program to do."

"The natural progression is for Benjamin to get his Ableton file timecoded," continues John. "We could then spend three

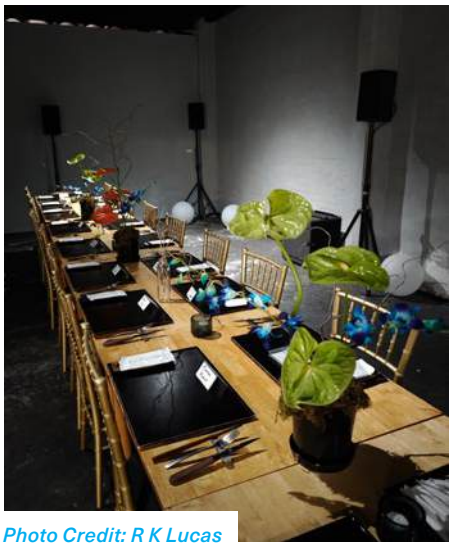
months programming. We spent around 11 hours programming the show this time, but we could easily spend 11 days. If it was fully timecoded and snapshotted out of Ableton, we'd end up with hundreds of snapshots doing different things."

And maybe that opportunity will come sooner rather than later. As we were going to press, contrapuntal were promoting 'Sacrament Saturnalia' for New Year's Eve, again with the aim to feature L-ISA: a "three-part midsummer ritual: Communal Sound Bath - Live Performance - Art Rave. The evening begins in stillness and ceremony, live music beckons introspection and transcendence, and catharsis through cutting edge sounds from Berlin and afar bring chaos into ritual."

Find out more at benjaminskepper.com

L-R - Benjamin Skepper with Norwest's, Jonathan Watterson and Max Jardine. Photo Credit: R K Lucas

Photo Credit: Juzzy Kane



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Capturing the timeless soundscape of the world's tallest trees


MKH 8040

In March and October of last year, field recordist Thomas Rex Beverly was allowed to record in an ancient redwood forest and climb one of the gigantic trees to capture its rich soundscape at different heights. With the help of a selection of Sennheiser microphones - including the renowned MKH 8000 Series condenser microphones - Beverly not only sought to document the ambient sound of an untouched forest and the subtle, intimate sounds of one of the redwood trees, but also to preserve and share the auditory essence of the ancient redwood ecosystem.

"More people have climbed Mount Everest than have climbed an old-growth redwood tree," says Beverly, highlighting the fact that these giant trees are strictly protected. It was only when Beverly reached out to the Sempervirens Fund, an organisation dedicated to preserving redwood forests, that he - after careful scrutiny - obtained permission to record up in a redwood. The recordings took place in the heart of California's Santa Cruz Mountains in a secluded redwood grove protected by the fund. The trees in this conservation area - some growing as tall as 80 metres - are undisturbed by logging, with some believed to be as old as 1,000 years.

Beverly describes the forest as "amazing", noting the pristine condition and the opportunity it provided to access trees that had been left untouched for centuries. "It was about ensuring there was minimal noise pollution and that we could access the trees without causing harm," he explains. "The location was perfect for this kind of deep sonic exploration."

Beverly's connection to trees runs deep. Growing up in Texas, he often climbed oak trees with his father, fostering a lifelong fascination with old trees. "I've always been drawn to the stories trees tell through sound," he says. "Redwoods, in particular, offer a unique perspective on nature. This project was about capturing not just the sound of the forest, but the essence of the trees themselves."

Some of Beverly's primary tools for the project were Sennheiser MKH 8000 Series microphones, which he chose for their clarity, wide frequency response, and ability to capture nuanced, ambient sounds in challenging environments. His setup included the MKH 8020, MKH 8030, and MKH 8040 in various set-ups to capture the redwood grove's diverse acoustics. The MKH 8020 is particularly good for capturing the most subtle sounds of the redwoods because of its low self-noise and high sensitivity.

"I had a double ORTF setup of Sennheiser MKH 8040s," Beverly explains. "I was testing directional setups using the MKH 8040 and MKH 8030, pointing the microphones upward to capture the sounds of the tree canopy while recording from the forest floor."

Given the towering height of the redwood trees, capturing sound from multiple vertical layers was a must. Beverly notes, "The difference in sound between the base of the forest and 60-80 metres up is huge. On many trees, the branches don't even start until about 50 metres high, so recording from the forest floor and then from the canopy gives a totally different sonic perspective.

"So the main goal of the microphones was to record at the base of the tree, at about 30 metres up, 60 metres up and 70 metres up. The mics were all recording in parallel so that when sync'ing them all up, you could hear the same sound from different heights in the tree. For example, when a big wind gust came in, you could hear that at 30, 60 and 70 metres. It gives listeners a deeper look into the micro-ecosystems of the tree."

Over the course of 10 days in March 2024, Beverly positioned multiple microphones in the grove to capture a range of environmental sounds. The setup included spaced omnidirectional microphones,

the double ORTF configuration, and experiments with the Sennheiser AMBEO VR ambisonics microphone, which was used to capture spatial audio across the vertical landscape of the trees.

Perhaps the most striking element of Beverly's project was his exploration of the sounds inside the trees. Using contact microphones carefully placed directly on the bark, he could record the unique 'crackling' sound of water being drawn up through the xylem - the tissue responsible for transporting water and nutrients within the tree.

"Recording the sounds inside the tree was one of the most fascinating parts of the project," Beverly recalls. "You get this crackling, almost whispering sound as water moves up through the bark. That's something the MKH 8020s - great for capturing ambient sounds - couldn't pick up, so the contact mics really helped create that dimension."

This experiment led to an unexpected discovery. Beverly noticed that certain loud noises, such as the calls of a raven or an owl, were also captured by the contact microphones. "When the raven made a loud enough call, it vibrated the tree, and I could hear it through the contact mic," he explains. "It was a unique way of experiencing how wildlife calls can vibrate the tree itself."

The ability to juxtapose the ambient sounds captured by the MKH 8040 microphones with the internal sounds of the tree via the contact mics gave Beverly a deeper sonic insight into this ancient, living organism. "It's a whole new perspective, and it's conceptually and sonically fascinating to go from the environment outside the tree to the internal life of the tree itself," he adds.

Following a half-year break to protect a rare bird breeding in the redwoods, the pinnacle of Beverly's project came in October, when he and two climbing guides set up rigs at varying heights in one of the trees to record the subtle sounds of the tree canopy.

This required a multi-day process involving tree-climbing gear, crossbows to shoot ropes over branches, and careful planning to ensure minimal disruption to the tree's health. "We started by shooting a fishing line over the top of the branch, which took most of the day. After that, we gradually pulled thicker ropes through and finally set up a climbing rope," Beverly explains. This process took about three days of meticulous work.

At varying heights within the tree, Beverly placed microphones to capture sound events from different vertical perspectives. He explains: "By having two rigs on the forest floor and three rigs in the tree itself, I could switch between different perspectives if something significant happened, like a branch falling or an animal call."

By recording not just at the top of the tree, but also at various points in the lower canopy and at the base, the stark differences in sound

MKH 8040 ORTF Surround

Sennheiser 3D Audio

Tom in tree

between these layers of the tree became clear, as Beverly points out, "The wind sounds very different depending on where you are in the tree. The needles in the lower canopy are much bigger because there's not as much light, and they're trying to get moisture, while at the top of the tree the needles are much smaller."

This vertical perspective allowed Beverly to capture the subtle shifts in wind, animal sounds, and even the creaks of branches at different heights. "The quietness of the redwood groves is remarkable. There are few animal species here, so when something does happen - a branch breaking, an animal call - it really jumps out," he says. "One night, there was a bit of a windstorm that came through and I managed to capture the sound of a giant redwood tree falling. It sounded like an explosion in the distance."

One of the innovative aspects of Beverly's project was his use of 3D microphone arrays. He built a 4.0.2 setup, utilising four MKH 8020 omnidirectional mics in a square formation at the base of the tree, with two MKH 8040 positioned above them. This arrangement was designed to capture the vertical element of the forest's soundscape, adding depth and dimension to the recordings.

"I was really keen to build 3D mic setups with the MKH 8000 Series mics," Beverly explains. "The 8020s and 8040s in this array were ideal for capturing the massive vertical component of this environment."

Additionally, Beverly set up a similar array at the top of the tree to record sounds from the canopy and integrate them into a 3D mix. "The challenge was managing all the equipment, including ropes and microphones, at great heights," he says. "But it was an amazing experience. It's very different from recording in multiple ecosystems miles apart; this was about capturing the nuances of one tree."

"Being in a harness for hours, dealing with batteries and SD cards, while trying to attach everything to the branches - it was tricky," he says. "But the reward of being able to capture sounds from the tree's canopy and juxtapose that with the sounds from the forest floor made it all worth it."

Beverly also spent the night in a tree boat, a hammock suspended nearly 70 metres high. "One of the most surreal moments was when I had calmed down in the hammock and started recording with my MKH 8020s. There was barely anything happening, just the faintest wind gusts moving through the canopy," he recalls. "But that sense of space, being that high up, with distant owl calls and the wind swirling around you - it was incredible. Seeing the stars from the canopy, a lovely sunrise in the morning, and hearing the whole forest wake up with the dawn chorus, it's quite surreal."

Despite the physical challenges, Beverly found the experience deeply rewarding. "It's one of the trickiest setups I've ever done, but also one of the most unique. No one has ever really tried to capture the sounds of a redwood tree canopy."

Climbing in the canopy

Thomas Rex Beverly's project to capture the soundscape of California's redwood trees with Sennheiser microphones is a pioneering effort in nature sound recording. Through innovative setups, including 3D microphone arrays and contact mics, Beverly was able to explore the nuances of the forest's acoustics from an entirely new perspective. This project not only sheds light on the rich and complex sound world of the redwood trees, but also demonstrates the power of high-quality microphones in capturing the delicate sounds of the natural world. Fundamentally, it is a testament to the deep connection between sound and the environment, and the importance of preserving these ancient giants.

If you'd like to help protect more of these ancient trees, please donate to the Sempervirens Fund at sempervirens.org.

MKH 8040 ORTF surround

Recording in the tree

Announced and displayed at ISE in 2024, the revival of the venerable BSS DSP line starts with Soundweb OMNI. Two models, the 512p and 256p, are the flagships, capable of handling 512x512 and 256x256 channels at 96kHz, respectively. They are the most powerful processors BSS has ever built.

Having seen the flagships, expanders, keypads and software teased at successive tradeshows since, I can now report that OMNI is almost here, with units coming off the production line as we go to print. I sat down with David Cribbis of MadisonAV, who is the Solutions Specialist for BSS Soundweb OMNI and its software, AVX Suite, to talk about OMNI development, capabilities, applications, points of difference, and how BSS can win projects back to the HARMAN fold from their entrenched competitors.

Ready for Launch

With the hardware heading into boxes and onto the water, we'll be seeing OMNI here in Australia soon. "We're going to be delivering a couple of projects before the end of the year; they're already locked in," reports David. "Our training and demo gear is also headed our way. AVX Suite, the software package for OMNI, is in the final stages of hardening & QA. I've had a beta copy of AVX Suite since January, and it's come a long way since then since then in terms of capability and features.. There's an OMNI pilot program partner in Australia that's been testing and trialling OMNI for most of 2025. MadisonAV's Technical Manager, Cameron Lucas, and I went to Singapore in August for the Train the Trainer sessions which HARMAN have been rolling out around the world. We are ready to go!"

Latest in the Line

With a 45-year legacy of innovation in DSP and excellence in audio signal processing, it's been a long time between major releases for BSS. "The AV industry's expectations have changed enormously since the release of the previous Soundweb London family," admits David. "OMNI was developed to offer power and scale. The new platform definitely caters for those needs, at the same time as remaining true to the BSS ethos of no-compromise audio quality and appliances that operate 24/7 for five, 10 years, and beyond."

Working at the Big End of Town

With the massive channel counts of the 512p and 256p, the two OMNIs are made for big projects; stadia, university campuses, convention and exhibition centres, theme parks, and large hospitality and gaming venues. Everything about their development has taken place with this in mind.

"BSS wanted to simplify the design process for very large and complex projects, which I think they've achieved," observes David. "With AVX Architect, integrators can manage an unlimited number of Soundweb OMNI processors and expanders within one project file; everything exists on a single software

canvas. Everything in the signal flow, logic, audio processing is on that single canvas. It opens up a new way of designing large, decentralised systems. They've also introduced a first in the industry, which is Dante Private Routing. In AVX Suite, if you want to connect Dante signal between HARMAN devices, you just draw your wire and it makes the connections without the need for Dante Controller or other Audinate software; it just happens automatically. Additionally, OMNI takes full advantage of the new DANTE IP-Core implementation which HARMAN engineers worked closely with Audinate to develop for OMNI.

Raw Power

Compared to previous generations of BSS Soundweb, OMNI is a gigantic leap in terms of power. “For a rough comparison with a Soundweb BLU-806, an OMNI 512's CPU is 60 times more 'performative', which is the term BSS use,” says David. “If you look at the complement of SHARC DSP on board, it's equivalent to the DSP processing power of 48 BLU-806s. Many competitors are using off-the-shelf commercial IT servers built by companies like Dell and HP, but OMNI processors are purpose-built audio appliances. They've been manufactured to have very long lifecycles.”

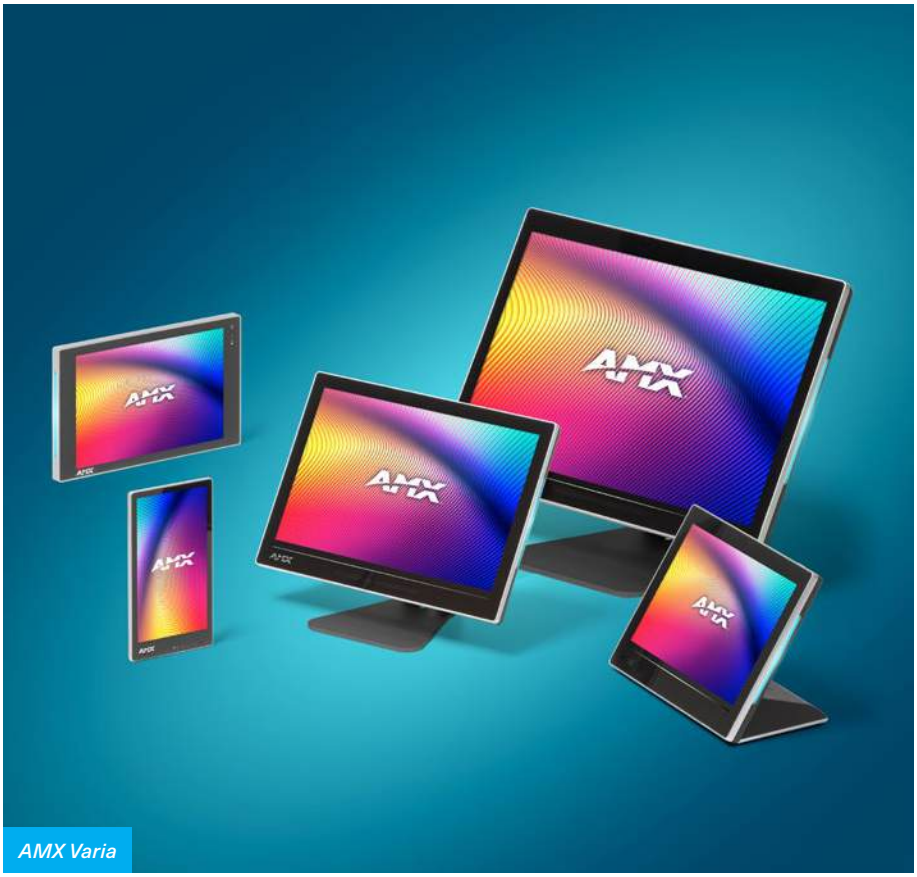
Hands-On

Unlike many ‘black box’ type DSPs, OMNI comes with a range of physical hardware in terms of connectivity and control. “There’s useful hardware features, such as the front full colour LCD display, high precision BNC wordclock, onboard GPIOs, and dedicated chipsets, rather than everything existing in a software stack,” says David. “On the front panel of an OMNI, you can get troubleshooting and diagnostic messaging in plain text that tells you what the messages are, and colour codes them depending on urgency and significance. You can view and adjust IP settings from the front panel, as well as viewing the wordclock source, sample rate, and status.”

Uncompromising Sound

Leveraging the history of BSS and the broader HARMAN portfolio in pro audio, OMNI has been designed with audio quality as a top priority. “OMNI can run at 24-bit, 96kHz over the full 512 by 512 channels,” David confirms. “All inputs on the OMNI Expander feature studio-grade mic preamps, the best that Harman have produced in any product. It’s hardware-based architecture ensures the lowest possible latency audio in its class. If you’re a performing arts venue or a concert hall, you don’t have to relegate OMNI to just doing distributed audio; it can take a feed from the front of house mixing desk and maintain that quality. The level of engineering and the provision of dedicated

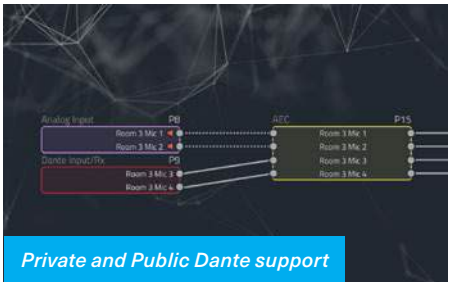
BSS Soundweb OMNI



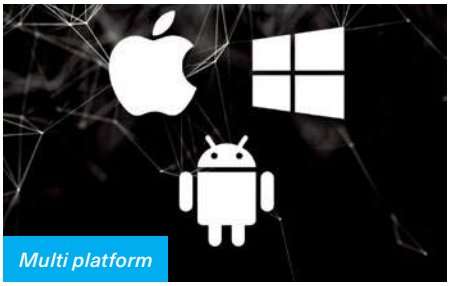
AMX Varia

Inside the BSS Soundweb OMNI

Dante support



Private and Public Dante support



Multi platform

Endless devices

DSP topology

Third party control API

CPUs, DSP processing chips, and FPGAs for every function makes you realise that this hardware is at a different level to any other installed DSPs."

Integration and Control

In addition to the simple but powerful visual logic programming that users of the current London family and other DSP platforms will be familiar with, HARMAN have incorporated advances from their control brand AMX natively into OMNI, including the AMX MUSE control platform into the ecosystem. "OMNI and AMX MUSE were developed in parallel to complement each other and create a complete audio, video and control solution," David states. "The MUSE engine embedded in OMNI provides all the programming functionality of a standalone AMX MUSE controller. It supports scripts written in JavaScript, Python, and Groovy, and also low-code or no-code programming with Node-RED, which is an open source, flow-based programming utility. There's no limit to the number of scripts that can be run on MUSE, and they can all be written in different languages and run simultaneously. Having MUSE on board allows OMNI to interact with any third-party manufacturer's APIs very easily."

"The other reason for including AMX MUSE within Soundweb OMNI processors is to support existing BSS users and offer backwards compatibility with the older BSS and Crown devices that communicate over HiQnet," continues David. "MUSE Controller is doing the translation seamlessly in the background whenever you need to work with an older BSS wall plate or a Crown amplifier that is using HiQnet."

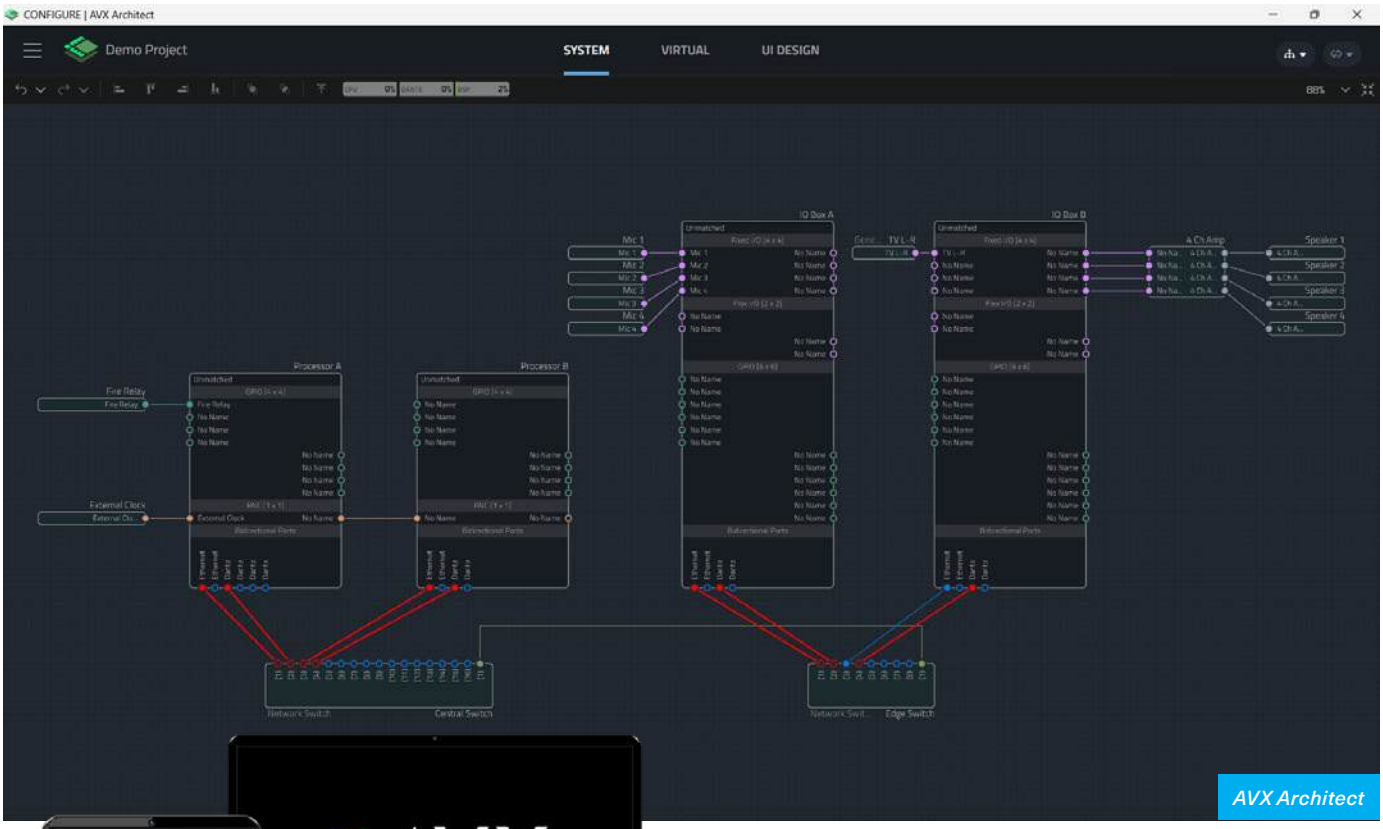
Integrators will be pleased to know that OMNI, MUSE, and future HARMAN products, will be using a completely open, license free control protocol called HControl. "HARMAN made the decision that they don't want to trap people inside a walled garden ecosystem," affirms David. "Everything they've done is now on an open standard, fully published, human-readable API called HControl. Every new product in the Pro AV install HARMAN brands - BSS, AMX, Crown, JBL, dbx - will be using that same API, and they'll all be natively integrated into AVX Suite."

Your Suite is Ready

The AVX Suite is the software that interfaces with OMNI "AVX Suite actually is three components, hence why they call it a suite," elaborates David. "There's AVX Architect, which is where the system connectivity is

AVX Control

AVX suite



AVX Architect

configured, DSP processing objects are added and wired together to create the signal flows, logic is programmed, and user interfaces (UIs) are created.

AVX Control is a lightweight application for running the UI's created in Architect that's available for pretty much any computer, tablet, phone, as well as AMX Varia touch panels. Finally, there's AVX Manager, which handles network settings and configuration, firmware updates, and file management for OMNI and all the new generation of HARMAN platforms.

"AVX Architect has an extensive range of logic objects," continues David. "These live on the same canvas as the audio objects and get wired up the same way. These can be tied to any GPIO preset or object parameter within the project, and they offer a powerful, no-code way of controlling the OMNI system and third-party devices. You don't even need to fire up the MUSE engine for any of that. There's a list of additional processing objects and feature requests which will be progressively rolling out in subsequent updates. By Q2 2026, they should have phase two release out."

With this generational change in BSS technology, David points out that the learning curve on AVX Suite will be minimal; "The drag, drop, and wire open architecture config process is going to be familiar to the programmers of any open architecture DSP. AVX Architect has the feel and usability of an up-to-date, contemporary Windows software application. In the training, we point out some important differences between how things are done in Audio Architect versus AVX Architect; for example, the deployment process is quite different, and there's been a number of improvements to audio and logic processing objects as well. There are some things from Audio Architect that have been retained due to popular demand, such as automatic background compiling. There's never been a compile button on any BSS software; it all happens as you work on your design. We've also kept signal names flowing downstream; you can name an object, and it will keep track of where everything is going."

AVX Manager will work with any of the current and future next-gen HControl enabled HARMAN devices. If they are a HControl device, it will auto discover them. Network configuration and firmware updates will all be handled within AVX Suite, with the ability to manage multiple devices simultaneously.

Powerful DSP

AMX MUSE

David Cribbis - MadisonAV

Get Ready

HARMAN and MadisonAV recognise the importance of training. “HARMAN have already rolled out Train the Trainer sessions,” David notes. “We're building multiple sets of OMNI student stations, which have a processor, an expander, an AMX Varia touch panel, and keypads. When we roll out the training, it'll be face-to-face and instructor-led, which we believe is still the gold standard when it comes to becoming fully conversant in the most time-efficient manner. We'll be taking the training on the road in early 2026 and hitting the major capital cities . With AMX MUSE having been in the market for two years, many people are already trained on that aspect, so the good news for them is that their certification is now more valuable with the release of OMNI.”

David and MadisonAV are ready to take OMNI to a market that is heavily dominated by a major competitor. “The market has spoken, and it wants a full-stack AV platform with integrated control and automation,” concedes David. “HARMAN is going to offer exactly that, but with uncompromised audio performance, and all the good things that come with purpose-built audio hardware, and a single platform that brings together all their very respected portfolio of AV brands with open standards and no licensing whatsoever.”

www.madisonav.com.au/bss-soundweb-omni


OMNI Keypads

by Jason Allen

NRL GRAND FINAL: SHURE VS SENNHEISER

WMAS Ushers in a New Era of Wireless Control

As Melbourne Storm and Brisbane Broncos squared off at the 2025 NRL Grand Final at Sydney's Accor Stadium, there was another match-up happening behind the scenes. Fresh from having their use outdoors approved in the October 1 update to ACMA's low interference potential devices (LIPD) class licence, Sennheiser's Spectera and Shure's AD PSM WMAS (Wireless Multi-Channel Audio System) wireless products were both in use at the ground; Spectera on the broadcast side, and AD PSM for the live entertainment.

Sennheiser's Spectera, which can use two blocks of 6MHz of spectrum to run up to 64 channels of wireless audio and device control from a 1RU base station, was used by outside broadcast provider NEP on the stadium's forecourt to run live broadcasts of Channel Nine's Today Show, Wide World of Sports, and The Footy Show.

On the ground, Shure's AD PSM personal monitoring system was used to provide in-ear monitoring for pre-match entertainment Teddy Swims and their crew. Two units with quad transmitters ran in Wideband Mode (WMAS), sending our four stereo sends each. A dual transmitter sent out two stereo sends in Wideband, and a second dual transmitter ran in Narrowband mode to send a stereo send to the monitor engineer.

The RF referees, Susan and Peter Twartz of Profiles RF Management, had just come from the AFL Grand Final the week before, which did include Shure's AD PSM in-ears system, but not running in WMAS mode as outdoor use was not permitted under the previous LIPD. They were responsible for organising and policing the astonishing numbers of wireless products and their frequencies that are used on both grand finals.

"NEP were operating Spectera from 6:30 am until 1 pm, by which time, inside the stadium, they were already playing and broadcasting football matches," says Susan Twartz. "There was a state championship game, followed by the women's Grand Final, followed by the men's Grand Final." NEP were using eight of Spectera's new beltpacks, which are both transmitters and receivers. They handled the presenter's headset mics, as well as their IFB (Interruptible Fold Back) monitoring sends.

Most of Profiles RF Management's work on these mega sporting events happens way before the day, mapping out frequency allocations and spectrum usage. "There was a discussion, and I agreed with NEP that using Spectera in that application was a good idea," confirms Peter. "I put 6MHz of spectrum aside for them, with a spare 6MHz of spectrum for backup. We tested both and stayed with the first one."

"Finding a 6MHz spectrum hole is not easy, but finding a 6MHz hole at the beginning of the process is relatively straightforward," Peter continues. "Knowing that that was part of the requirement in the plan, I allocated those two 6MHz holes 10 days ahead of giving frequencies to other people and then kept them clear. Finding holes for 16 frequencies later in the game is far easier than finding one 6MHz hole late in the piece. If you've already allocated lots of frequencies, and somebody then comes at the last minute asking to use Spectera, then the answer is 'no'. I'd have to move a dozen other people that have already been given their frequencies."

Spectera has, from a frequency perspective, only one mode. It takes up 6MHZ of spectrum here in Australia, which is the width of one TV channel; in Europe it's 8MHZ. Within that spectrum, Spectera sends broadband data, including control and audio. No matter how many packs and channels you're using, it always occupies 6MHz of spectrum, regardless of how many audio and control channels you are actually using.

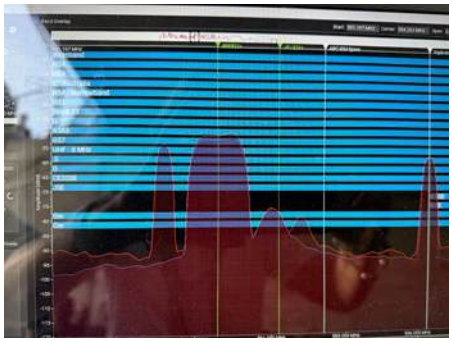
Shure's AD PSM operates quite differently. In Wideband Mode, it transmits in multiples of 800kHz. Each 800kHz can carry four stereo signals, and you turn on as many as you need. "The Shure AD SPM system was good spectral use," observes Peter. "Finding 800kHz of spectrum was easy, and getting four stereo sends in it was good. If we'd been using Shure PSM 1000, in 800kHz, you're lucky to get two stereo sends."

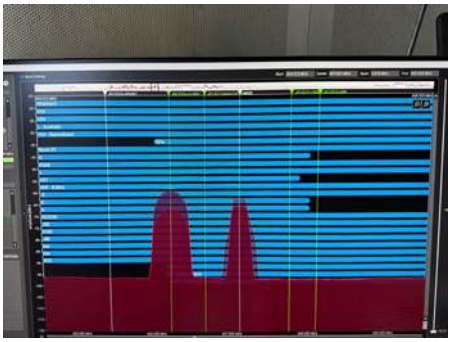
In addition to enhanced channel counts and easy management, built-in antenna diversity increases range. "From a range perspective, it depends on the environment," Peter adds. "800kHz is robust. For Teddy Swims, the transmitters were out on the stage, so range was just not an issue. The downside was that until the gear went on the field and powered up, there was nothing there reserving the frequency. I was very actively monitoring the gaps as the stage pieces rolled out onto the field, and until they got out there and powered up, they were just empty bits of spectrum."

With two totally different approaches to implementing a new technology, how do they sit in the market relative to each other? "I see a relevant application for both products," Peter muses. "From a frequency management perspective, if I know in advance I've got to provide spectrum for Spectera, that's fine. Somebody suddenly announcing they want to use Spectera at the last minute is fraught with challenge. I suspect that where the market will go is that the concert and entertainment market is going to use Shure AD PSM and the broadcast and theatre market is going to use Spectera."

"In broadcast, most talent are wearing head worn or lapel mics, plus ears for IFB," adds Susan. "The other thing is that Spectera offers a totally different workflow. At the moment, when broadcast arrive at site, the first truck has all the equipment in it, and it arrives before the OB truck. The first thing they do is unload a rack full of wireless and wheel it into the stadium. It might go up on the camera platform, or it might be down on the sideline. That rack of transmitters and receivers then gets its antennas cabled out. With Spectera, because the connection from the antenna to the brain can be over fibre, there's no reason for the brain to go into the stadium. The brain can live in the OB truck with the audio connections permanently patched. The Spectera antenna paddle is actually the radio receiver, and what comes in and out of it on Ethernet is bidirectional signal and control."

"Fundamentally, each product is very much the same, but how each manufacturer has implemented what's a very similar RF concept is entirely different," agrees Peter. "And both are quite appropriate to their respective markets. Shure have produced a product that the top end of the touring market has accepted immediately. The same is happening for Spectera in broadcast."





On The Ground – Sennheiser Spectera

Alex Wong is the Senior Audio Supervisor for NEP Australia, and was Audio Director for the NRL Grand Final. NEP's Phil Agnew was the operator on the day, with Alex responsible for programming and set-up. "NEP has been part of the Sennheiser Spectera pilot program, and we've been testing the Spectera system for six months now, indoors."

"At the NRL Grand Final, we had Spectera running DPA headsets and IFBs. We had eight packs there total, with four in use at any time. We'd have four live, with four for guests prepping on the sidelines. We wanted to use Spectera because it allows us to get guests up and running easily on a single pack. Previously, it's been two radio mic packs or more for each guest. That makes it a bit harder, because we have to juggle more frequencies, packs, and hardware. Using Spectera to do exactly the same thing makes the workflow much, much, easier. It's also a lot easier to manage and test before we even get on site."

When NEP do get on site, the workflow improvements continue; "One of Spectera's big strengths is that it's a very quick system to deploy," says Alex. "We were using Dante at the NRL, but we've also used the MADI I/O. We're down to a couple of Cat5s to get it into the audio console, and it gives us a lot more redundancy than we've had in the past. Even though it's one base station doing all the work, we get dual power supplies plus main and redundant signal flows. When we get on site, all we're doing is running out a single Cat5, putting an antenna near the stage, and another to cover the crowd area, and that's it. It's all powered off the base station. It changes the workflow completely. You spend a lot less time building and getting it to work, and more time fine tuning and making it sound good."

With everything running on data, there are no more RF cables to manage. "It's very flexible, because we can convert it to fibre and then we can run an antenna anywhere. We don't have to worry about RF cable, and all the traditional things like signal loss, and different cables and cable lengths. It actually feels a little like you haven't done enough work. You set it up, it's up and running, and you feel like you should be spending more time dragging cables around."

Workflow improvements are great, but what about the all-important sound quality? "The IEMs, especially in stereo, sound like they're cabled," enthuses Alex. "It doesn't sound like a radio; it sounds amazing. The mics sound much better than the previous systems we've had. It doesn't feel like there's any compansion, they just sound a lot more natural and dynamic. The feedback we've had from the talent is they don't struggle as much to hear and didn't have to turn their IFB up as far as they normally would."

Management has also become easier, creating more peace-of-mind. "You can see on the web UI or the application if the packs are getting into an area where the signal strength drops off, but it readjusts itself and comes back up. It's a very intuitive, quick system to learn. Being able to monitor and control in the truck, adjusting gains, seeing all the frequencies, the battery levels, and even seeing when there's an earpiece plugged in or not, takes a lot of stress away."

Alex sees a big future for Spectera in NEP's projects. "It's the first time we've felt comfortable putting the base station in the van instead of the field. Australian summers are pretty hard; sticking big processors out in the sun's probably not the best. It also opens up other improvements to workflows, where we can stream directly to and from the hub, straight out of the box. Depending on the job, we might go through a local mixer to generate some real-time in-ear mixes. But for some jobs, we just do mix minus, and that could be a box that sits on the other end of the network on the other side of the country, and we just stream directly to it."

On The Ground – Shure AD PSM

Chris Skin is an Audio Systems Engineer for JPJ Audio and was responsible for the entertainment and presentation wireless on the day; “We did all the mics for sports presentation and the performance leading up to kick-off,” explains Chris. “Included in that was Teddy's Swim's main and backup mics, which we ran redundant with two separate units. There was a separate set of ears, which we had as a remote set-up on field. They transmitted from behind the stage straight at Teddy, and were just for him. We had our sports presentation wireless elsewhere. All the Shure AD PSMs were set out in the centre of the field, receiving their input via analog outputs from Yamaha RIO racks connected to a Dante network. In terms of spectrum allocation, PRM looked after that for us, and we used two of the modes which the AD PSMs provide; Narrowband, which we used for the monitor engineer’s cue pack, and Wideband for Teddy's ears and his band. The connectivity, flexibility and integration of this new tech was seamless.”

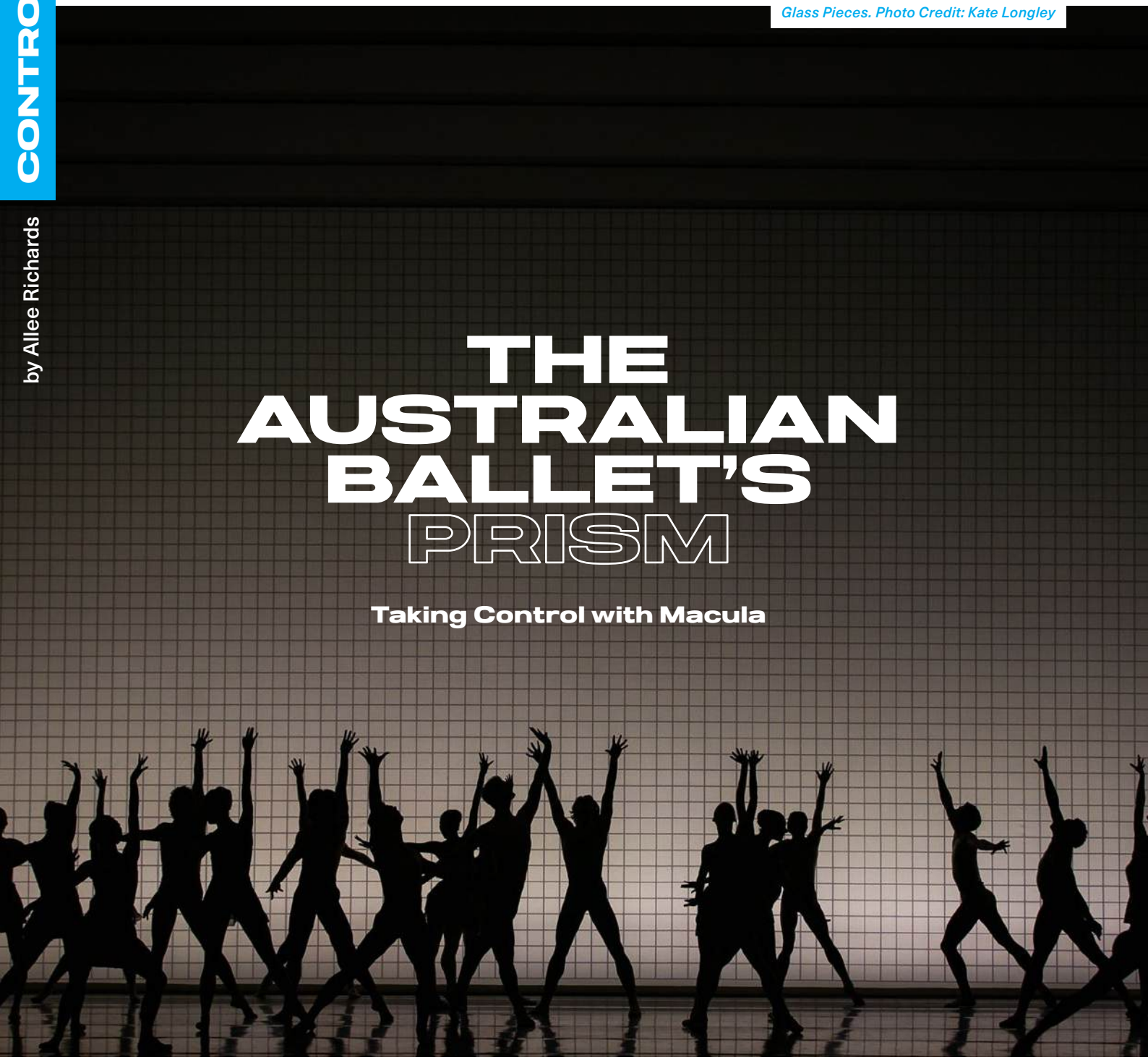
Shure AD PSM already has more options on the market than Sennheiser, with both dual and quad channel transmitters available. Both have antenna diversity built in. “It’s great that it has diversity, but we didn't really use it to its full potential at the NRL,” relates Chris. “We only had one antenna set up, whereas we could easily have had two or more, if Teddy was entering from another end of the field, for example. Looking at the different modes, there's so much you could do with it. They're so flexible; for example, in a stadium show, you could have your artist walking in from the dressing room with an antenna shooting down there, and one facing the stage, and you're covered, without having to run everything over fiber.”

Chris sees the real advantage in the workflow improvements; “The great thing for us was the ease of setup and the seamless frequency management. With Shure’s ShowLink control, we are now able to reset things like gain or frequency and not have to re-sync the packs all the time. It's fantastic for making our busy, busy day easier; I've already got a million other things to look after! If anything needed to change, we could just punch it in and it goes seamlessly straight across to the packs, and we can hand out the pack straight away.”

And how does the new system sound? “It’s night and day compared to the previous flagship IEMs; they’re incredible,” praises Chris. “You can tell the difference straight away, and it sounds like they’re wired. The talent is saying the same thing.”

Chris agrees with Peter Twartz that Shure’s AD PSM will be quickly and widely adapted by the concert and touring market. “Sound quality, workflow, ease of use, peace of mind, saving rack space and weight, it’s all a massive thing for us. Widespread adoption is not going to take long once people start to get comfortable, and with Shure, it's all run by the same Wireless Workbench software we already know.”

by Allee Richards



Glass Pieces. Photo Credit: Kate Longley

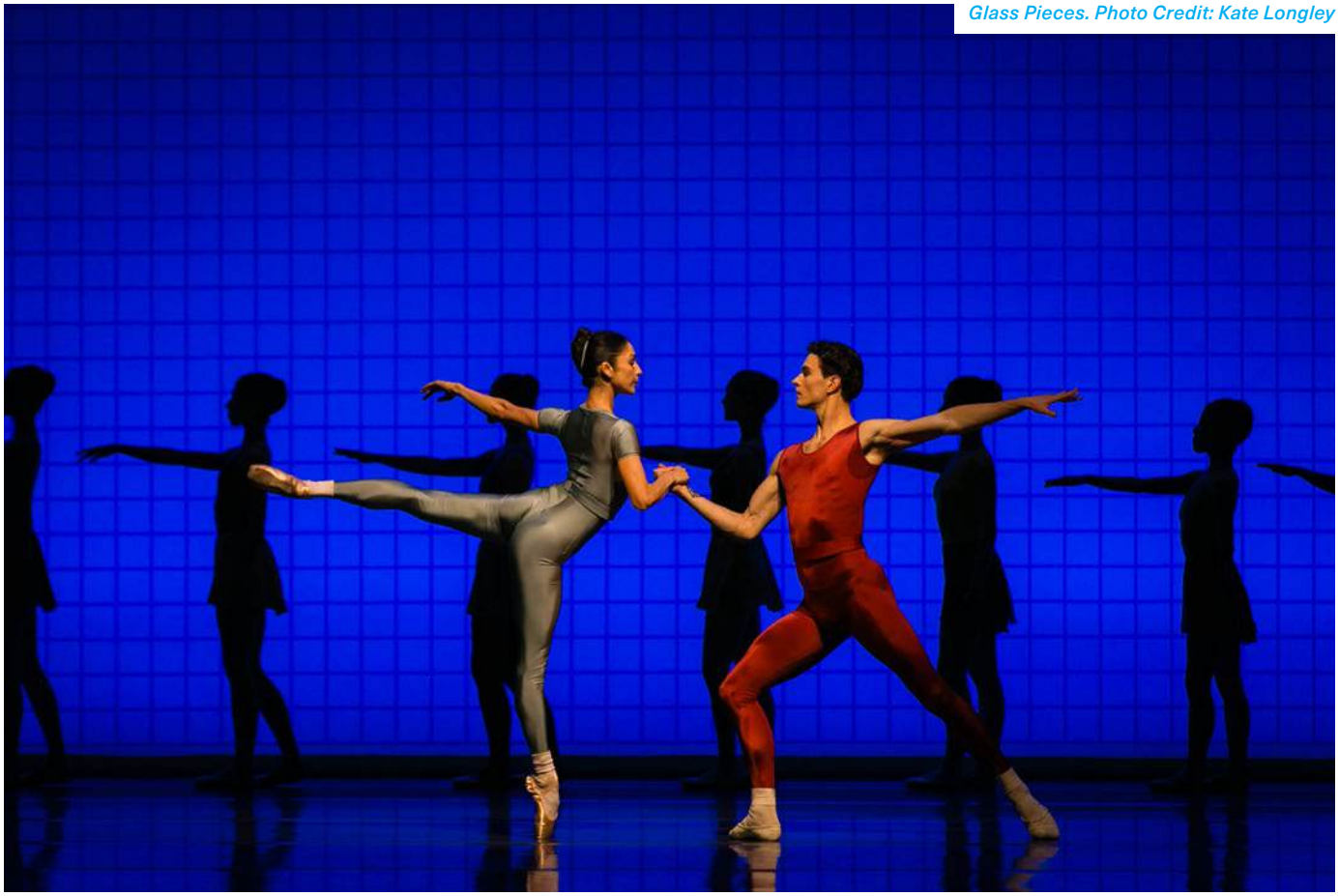
THE AUSTRALIAN BALLET'S PRISM

Taking Control with Macula

The Australian Ballet opened their recent season at Melbourne's Regent Theatre with Prism, a triple bill of contemporary dance by renowned choreographers William Forsythe, Jerome Robbins and Stephanie Lake. While followspots are part and parcel of any ballet season, Prism employed remote followspot technology, using three Macula Remote Followspot systems.

Instead of operators steering traditional lamps, three NDI cameras were mounted onto moving-head fixtures - Martin Mac Viper XIPs - rigged on onstage LX bars. The camera feeds were delivered via Ethernet to the Macula operator stations, giving each operator a real-time view of the stage. A separate Ethernet connection carried the control data via sACN, running between the lighting console, the Macula controller, and the fixtures. This data was then converted back to DMX through conventional DMX nodes. In this way, regardless of how many Universes the show required, the system could be scaled without the need for physical DMX ports on the Macula unit itself. Resolution X supplied a full Luminex switch and node package, utilising multiple VLANs for NDI feeds and control over sACN.

Macula systems can operate in two modes. In direct mode, the operator has full control over all fixture parameters. In integrated mode (as used for Prism), some parameters are controlled by the operator – pan and til,t of course, are the bread and butter of following a target – while the console retains control of others, such as colour. Precedence for each attribute is determined assigning HTP and LTP values, and the DMX streams from console and operator are merged into a single output to the fixture. Each Macula system is typically assigned its own Universe to prevent confusion or data clashes. Setting up such an intelligent system naturally involves more troubleshooting than simply plugging in a conventional followspot, but once the Macula rigs were up and running, they operated fault-free throughout the season.



Glass Pieces. Photo Credit: Kate Longley

The decision to use a remote system was design based. Traditionally, followspot positions are front of house, high above and behind the rear balcony seating. Having the remote spots rigging close to the orchestra truss position allowed the dancers to be lit from a steep angle as opposed to the more traditional angle. This was particularly important for 'Facades', one movement of the Forsythe piece – which featured a pas de deux downstage of a line of dancers backlit in silhouette.

A similar approach was attempted in the ballet's 2024 season of Oscar, where the Macula system was paired with a larger moving-head. While that fixture was chosen for its bright output, its slower responsiveness created a noticeable lag between operator input and the light's movements. As a result, the remote setup was abandoned in favour of traditional spots shortly before opening night.

Going into this season, The Australian Ballet's technical department were keen to learn and succeed. Prior to bump in they conducted a shoot-out at their Production Centre. The dimensions of the Regent's stage were taped to the floor and a truss flown to height. A combination of different remote spot systems and moving heads all trialled. The Macula system was chosen both for its superior responsiveness to other systems on offer and also ergonomics. Once it was decided to use Macula, another shoot-out took place at the ResX warehouse where various moving heads were trialled. Both the MAC Viper XIP and MAC Ultra Performance were adept at following the target, with the Viper XIP eventually selected.

Each operator system is set up with a screen displaying the onstage feed and two handlebars. Each handlebar features a fader that can be programmed to control any parameter, and switching between parameters on the faders is easy to do during a show. For Prism, operators used intensity on one fader and iris on the other. One handlebar also features a small control panel with fifteen buttons that can be programmed as presets. For instance, a fade up time could be programmed so all lights come up at the exact time, or a difficult or precise pick up at the top of the scene could be recorded as a position preset. Given a programmed lighting position succeeding relies on a performer being on their marks, as a seasoned dome op myself I

Glass Pieces. Photo Credit: Kate Longley

would always choose to find my targets, as is my skillset. Especially given a major asset of the Macula system is the infrared camera that allows the operator visibility onstage during a blackout.

Operators on Prism were positive overall about Macula, especially in regard to ergonomics. Given Macula screens were able to be adjusted to each operator's preferred height and angle and the position of the handlebars easily adjusted, nobody finished the season with a crooked neck or shoulders. The Macula's flexibility with adjusting the tracking speed meant each operator could adjust their station to their desired settings. The position of the cameras onstage allowed for visibility into the wings, which made pick-ups on entrances smoother. Unlike some of the more hefty, traditional lamps, the Macula system did not heat up and create temperature control issues in the dome room.

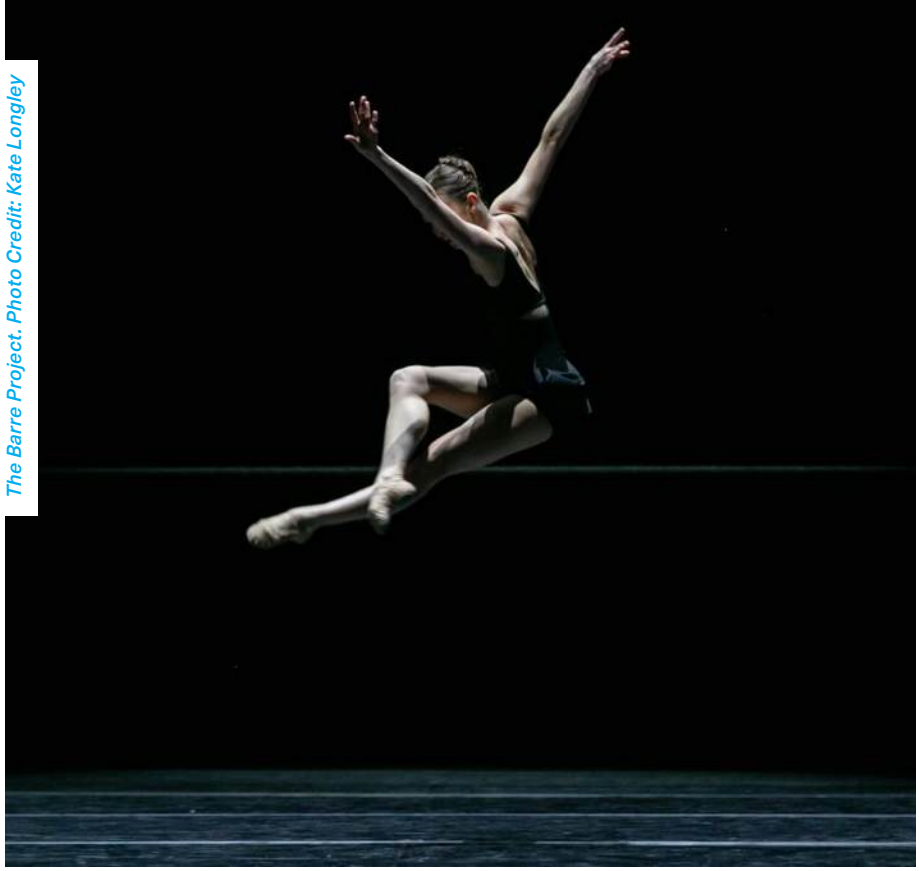
Apart from what they could see on their screens, operators had no direct view of the stage during the season, which required some adjustment. Not wanting to rely solely on the camera feed to judge their levels, as the feed may not exactly match what was happening in reality, operators had to read the percentage values of their lights when moving together or apart in pas de deux. This was not always easy when also trying to follow a target, so any assistance from the board op, who did have a

Seven Days. Photo Credit: Kate Longley

Seven Days. Photo Credit: Kate Longley

Seven Days. Photo Credit: Kate Longley

The Barre Project. Photo Credit: Kate Longley



The Barre Project. Photo Credit: Kate Longley

The Barre Project. Photo Credit: Kate Longley

view of the stage, was valuable. The overhead camera angle, viewing the show from above rather than as the audience saw it, also meant operators never fully realised the end result of their work.

Remote followspotting may never replace the dome entirely, but Prism showed that the technology is ready for centre stage.

MACULA

by ENTTEC's Damon Nash

THE ART OF CONTROL

How ENTTEC's S-PLAY Simplifies the Complex

"The first product I ever built was a show recorder, the DMX PlayBack, back in 1999," recalls ENTTEC founder and director Nic Moreau. "At the time, it was unheard of to be able to record a lighting sequence into a small box and play it back later. But the idea stuck. Why shouldn't lighting control be simpler?"

Two and a half decades later, that idea has evolved into something far more powerful: the ENTTEC S-PLAY, a smart light show controller designed to take the pain out of complex lighting systems. Whether it's an art installation, an architectural façade, a venue, or a city precinct, the S-PLAY gives designers complete control over their creative vision, and lets them automate it with ease.

One Box to Rule Them All

Nic laughs when asked how the concept for the S-PLAY came about. "In any modern project, you're given a pile of systems to integrate: lighting, triggers, sensors, network protocols ... and, of course, a tangled mess of cables. You end up wondering how on earth it's all supposed to work together."

That's the problem S-PLAY was built to solve. At its core, it's an all-in-one show controller with a clean timeline interface that lets users record, schedule, and trigger cues without needing a rack of extra gear.

But ENTTEC hasn't stopped there. The S-PLAY recently made an unexpected appearance at OpenAI's DevDay 2025 in San Francisco, where it was showcased as part of a demonstration connecting ChatGPT to a live lighting system.

That same integration is now being explored by ENTTEC's engineers through the Model Context Protocol (MCP), a new open framework designed to link AI models with real-world devices. The result? Artificial intelligence that can create, modify, and trigger lighting sequences on the S-PLAY simply through natural language.

It's an early glimpse of what could become a defining shift in control technology: lighting designers and technicians communicating directly with their systems - no code, no complex setup, just conversation. "It's a bit of a geeky concept," Nic smiles, "but the implications are huge. Imagine describing a mood or scene to an AI, and watching your lighting rig instantly bring it to life."

For ENTTEC, this isn't about replacing human creativity - it's about giving it new tools. The S-PLAY continues to do what it was designed for: making control smarter, simpler, and more connected than ever.

With two DMX ports, Ethernet for Art-Net and sACN, and relays and inputs for sensors or switches, the S-PLAY can integrate almost any device into one seamless control system. For larger projects, the optional ENTTEC I/O Extender expands those capabilities even further.

Smarter Shows, Fewer Headaches

From his desk in ENTTEC's Melbourne office, Nic demonstrates the S-PLAY's intuitive web interface. "You can program everything from your browser," he explains. "Record cues directly from ENTTEC LED Mapper (ELM) software or another lighting console, or build effects right in the unit - gradients, sweeps, patterns - without any external software."

Users can build up to 200 playlists from 200 cues, triggers, and events, scheduling them to run automatically or react in real time. "You could have a Monday morning ambience cue, a Friday night party mode, and a special holiday show," Nic grins. "Basically, your venue runs itself."

For interactive environments, those triggers really shine. Motion sensors, pressure pads, or switches can make lights respond to audience movement: perfect for art installations, themed attractions, and experiential spaces.

Control, Your Way

Perhaps Nic's favourite feature, though, is the custom user-interface builder. "You can design your own control page and let your client load it on their phone or tablet. They only see what you want them to see - a few buttons to start or stop sequences, for example - and they never have to dig through menus."

The S-PLAY also scales effortlessly. Each unit can control up to 32 universes of Art-Net or sACN data, and multiple units can be linked in perfect sync across a network. Need more universes? Just add another S-PLAY.

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Designed and Built in Australia

While ENTTEC is now a global company with offices in Australia, the UAE, the UK, and the USA, the S-PLAY remains proudly designed and manufactured in-house in Melbourne (Production also takes place at ENTTEC's Dubai facility to serve the EMEA market.)

"Being local gives us a real advantage," says Nic. "Our customers know they can call us and talk to an engineer who helped design the product. That hands-on Australian service and support is something we take seriously."

The company's roots stretch back to the early 2000s, when ENTTEC first made its mark on the entertainment industry with innovations like the DMX USB PRO interface and the Pixelator control system. The S-PLAY represents the culmination of that expertise, refined over decades of making complex lighting networks simple.

From Playback to Possibility

ENTTEC's show controllers have come a long way since that first DMX PlayBack box. Today's S-PLAY series includes four models - the Nano, Mini, Lite, and flagship SP1-1 - offering scalable solutions from small interactive exhibits to massive architectural installations.

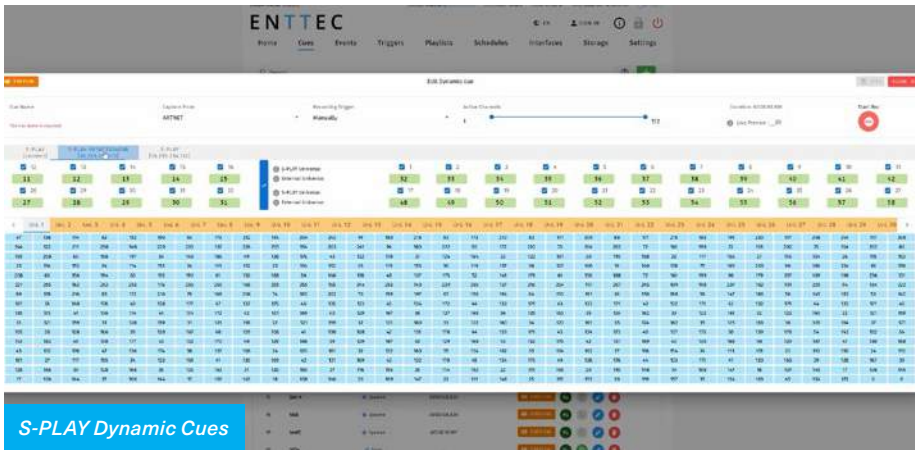
Each model runs on the same software platform, with intuitive browser-based programming and reliable playback. As Nic puts it, "Whether you're running one universe or thirty-two, the idea is the same: make it simple, make it reliable, and make it fun to use."

Control Made Simple

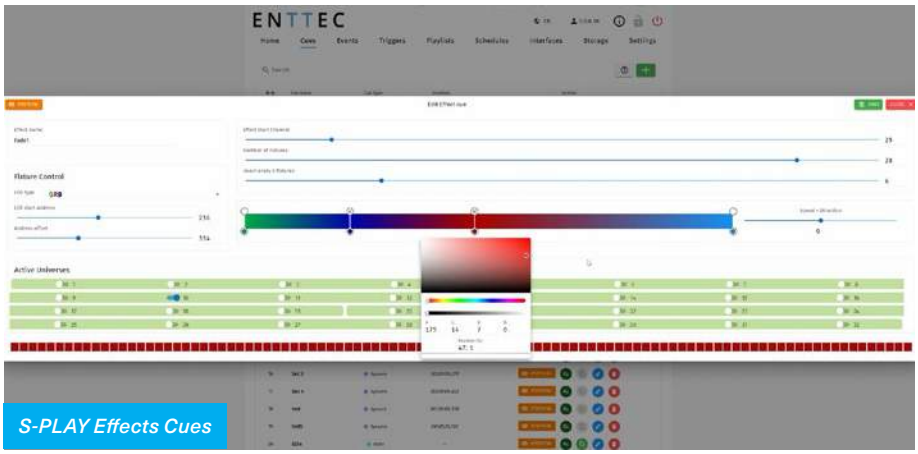
For a company that's spent 25 years pushing the boundaries of lighting technology, ENTTEC still holds onto its founding philosophy: empower creators with tools that just work.

"Automation shouldn't be intimidating," Nic says. "The S-PLAY is about letting people focus on their creativity instead of the cables. It's control made simple — and that's something we're really proud of."

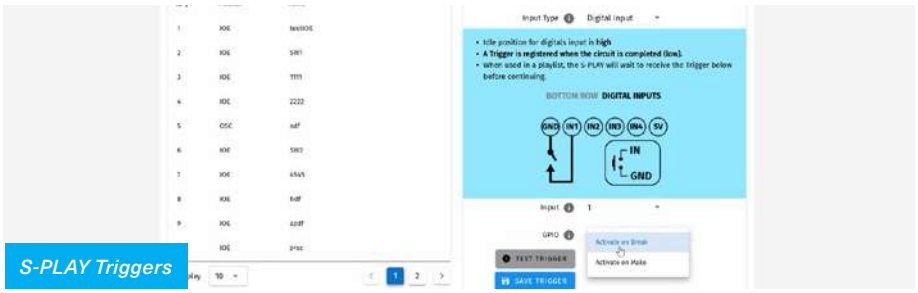
Learn more about the S-PLAY range at enttec.com



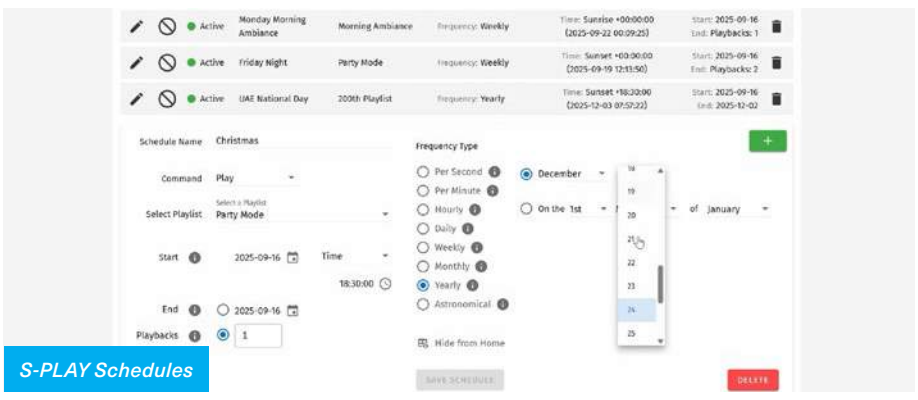
S-PLAY Dynamic Cues



S-PLAY Effects Cues



S-PLAY Triggers



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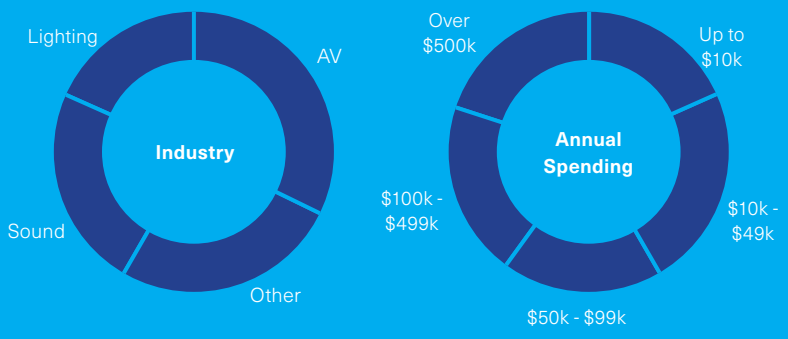

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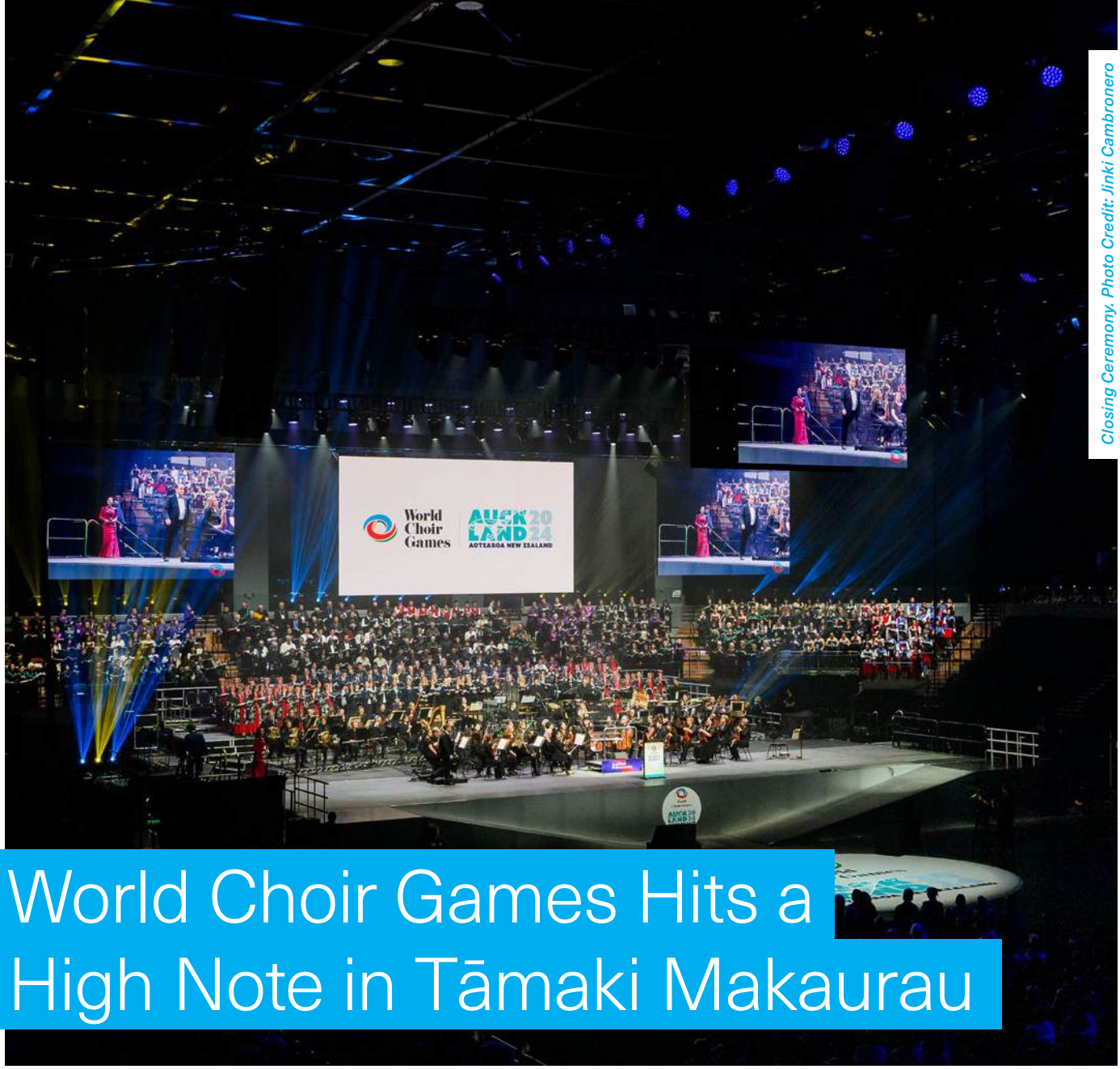


Closing Ceremony. Photo Credit: Jinki Cambronero

World Choir Games Hits a High Note in Tāmaki Makaurau

Behind the scenes of a global music event

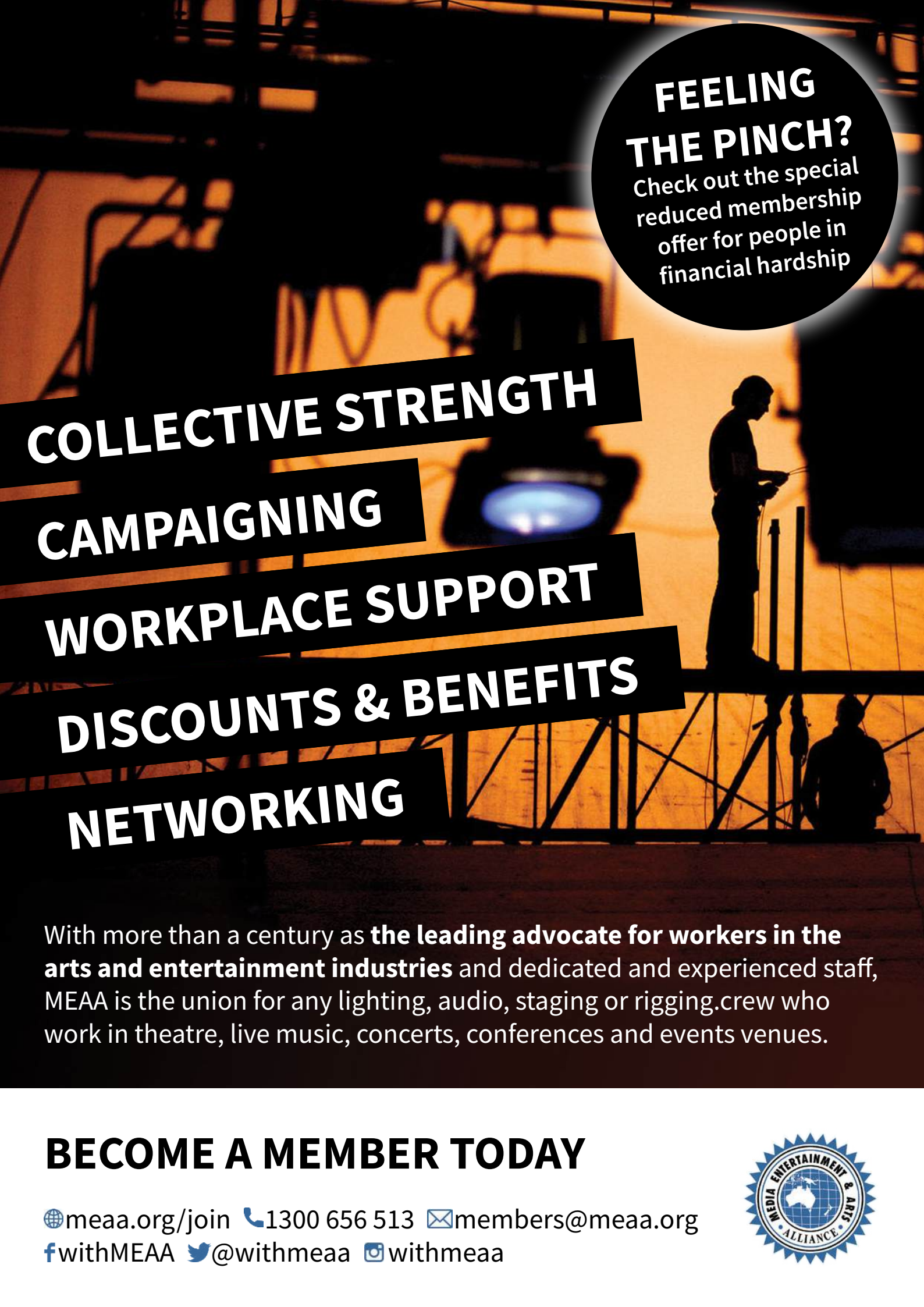
When the curtain lifted on the 13th edition of the World Choir Games in Tāmaki Makaurau Auckland in July 2024, the scale and ambition of the production was clear from the first note. Heralded as the 'Olympics of singing', the event saw more than 11,000 choristers from 42 countries converge on Aotearoa for a global celebration of voice, community, and culture. But before a single harmony rang out, a large-scale technical and creative effort had already played its part.

Executive Director Kylie Sealy (Q Theatre Limited, New Zealand Comedy Trust, Te Taumata Toi a Iwi), Artistic and Games Director John Rosser (previously Chair of the New Zealand Choral Federation), NZ Major Events and Tātaki Auckland Unlimited successfully tendered for the event back in 2020. They were joined by a local organising team of 56 to deliver an 11-day programme. It involved more than 100 crew and 360 volunteers and comprised six core venues, over 800 performances, 54 Friendship Concerts, and six ceremonial events, including a spectacular opening ceremony at Spark Arena. The Games would go on to win 'Major or Mega Event of the Year' and 'New Zealand's Favourite Event' at the 2024 NZEA Awards.

Opening night: Aotearoa choral history unleashed

The concept for the opening ceremony, titled 'Welcome to Aotearoa New Zealand' was to tell Aotearoa's story of collective song. "Choirs at opening ceremonies invariably involve a revolving door approach, wheeled on and off the stage," explains John. "We wanted to create a spectacle with light, sound, movement and cultural elements to showcase the choirs in the five stages of the development of choral song in Aotearoa – birds, arrival of Māori, Europeans and Pasifika, and the melting pot that song is today."

John brought in Director Malia Johnston (Show Director for the World of Wearable Art, director of the opening ceremony for the FIFA Women's World Cup 2023 and founder of dance organisation Movement of the Human). Production Manager Pak Peacocke, known for his work on NZ Fashion Week, Christmas in the Park, Aotearoa Music Awards and NZ Comedy Festival, combined John and Malia's vision with the detailed template for the official ceremonies provided by German-based client INTERKULTUR.



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Pak's planning for the opening ceremony began with the footprint required for the opening, closing and four award ceremonies, all to be held at Spark Arena. The space needed for a 600-person choir, the Auckland Philharmonia, plus front of stage singers, dancers and presenters pushed the Spark Arena to its limits. Pak recalls, "We went through three iterations to identify the most financially efficient solution, ultimately using the bleachers and pushing the stage forward with creative use of stage risers by Stage NZ to give the appearance that the choir was on one seamless platform."

Three screens with IMAG support were provided by Big Picture, audio by NW Group and lighting by Simon Garrett's Spotlight Systems, "Once we persuaded the client to shift from 200 physical flag raises at the award ceremonies to using a digital image on the middle screen, technically it was quite a straightforward event," chuckles Pak. "The team that Kylie and John had pulled together, plus a helpful and approachable client, made the Games an absolute pleasure to work on. The tech and creative teams were all local and even though it was a global event, we felt like a family."

After months of planning and rehearsal, thousands of newly arrived performers gathered to watch Ria Hall entering the arena on a sculptural waka followed by kapa haka, dance, and choral music, in a 40 minute cross-cultural spectacle.

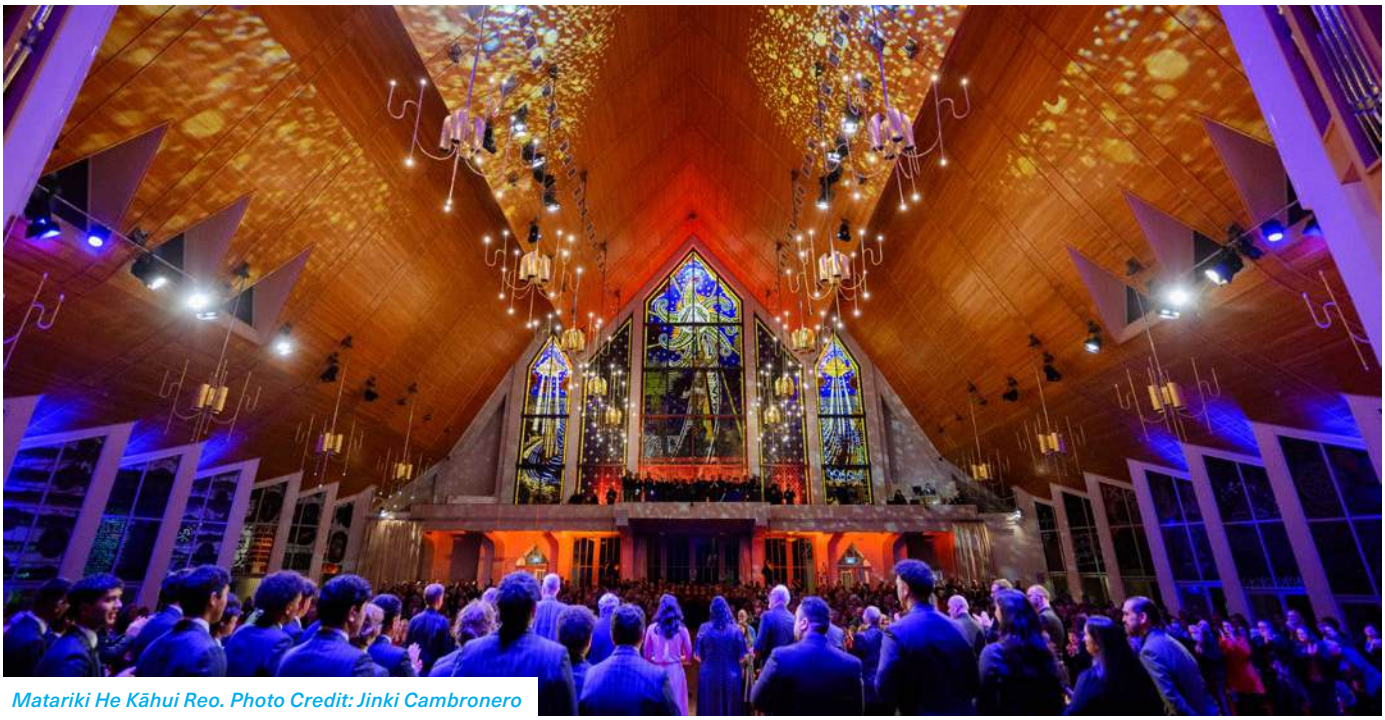
And meanwhile, across town...

While the opening ceremony drew the spotlight, it was just one part of a complex logistical puzzle. Over 11 days, more than 490 separate events unfolded at 30 venues across Tāmaki Makaurau, including workshops, concerts, street parades and awards ceremonies. Venues encompassed St Matthew-in-the-City, Auckland Town Hall, Q Theatre, Tāmaki Paenga Hira Auckland War Memorial Museum, the Aviation Wing of the Museum of Transport and Technology, and the Auckland Botanic Gardens.

Kylie reflects on the challenges, "The production requirements were relatively light due to the mainly acoustic performances with some requiring basic amplification. We relied largely on the venues for technical services and they all did an amazing job. In comparison to other events I have delivered, it was the breadth and scale of the logistics that blew me away. We were sorting everything from getting instruments through border control, to sourcing enough keyboards, to providing transportation amidst Auckland traffic to rehearsals and performances, to finding accommodation for upwards of 60,000 room nights. We wanted to ensure that all these highly passionate choral groups who had travelled from all over the world, experienced the best of Aotearoa."

Showcasing Aotearoa

The World Choir Games is more than a competition; it is a cultural exchange. This was reflected in the Friendship Concerts where choirs 'popped up' and sang across Auckland and in the Celebration Concerts that brought together some of the top competing choirs alongside groups from Aotearoa and the Pacific to present several incredible evenings of collective singing.



Matariki He Kāhui Reo. Photo Credit: Jinki Cambronero

Photo Credit: Jinki Cambronero

Photo Credit: Jinki Cambronero

Photo Credit: Jinki Cambronero

Opening Ceremony. Photo Credit: Jonas Persson

Young Peoples Chorus of New York City. Photo Credit: Jonas Persson

A highlight was 'Matariki He Kāhui Reo', a choral work performed entirely in te reo Māori by eight local choirs at Holy Trinity Cathedral over two sold out nights. With compositions by five Māori composers and lyricists, across 10 movements, the event fused tikanga Māori with Western choral tradition, requiring John to navigate both logistic and cultural demands.

"We succeeded in locating the choirs in different parts of the church whilst ensuring line of sight to the conductor. Lighting was excellently managed by the church's local team. Sound was simple as it was mainly acapella with only one movement requiring an organ and the church itself provided the acoustics. My focus, other than people wrangling, was ensuring that we were presenting the story of Matariki in an accurate and culturally appropriate way, and I collaborated closely with my Māori colleagues from the start."

For John this was the climax of the Games, "Years in the works, as I had initially developed the concept for the 2020 World Symposium on Choral Music, cancelled due to Covid, Matariki He Kāhui Reo was a high point for me. I believe that this was the most significant event in New Zealand's choral history. The audience, predominantly international guests, were enraptured. People commented that it was the greatest choral concert they had witnessed."

The closing ceremony brought the full spectrum of the Games to a dramatic close. Pak reflects, "Every couple of years you do one show where you sit back and think 'wow this is good', and it reminds you why you put up with all the stresses and the hours of the job. At the end of the closing ceremony, I had one of those moments. The 600 strong choir and the orchestra were going full steam, performing a 12-song medley of global pop hits with 10,000 predominantly trained singers standing up and joining in. The energy in the room was incredible."

A Resounding Success

Across its 11-day run, the World Choir Games 2024 delivered more than 800 performances in 28 competitive categories, spanning children's choirs, chamber ensembles, jazz, gospel, pop, spirituals and indigenous music. A total of 131 medals were awarded by 36 international judges across two ceremonies at Spark Arena, with four Aotearoa choirs named as category winners and 13 medals earned by New Zealand groups.

Beyond the silverware, the Games demonstrated Aotearoa's ability to host and deliver a cultural event of immense technical, logistical, and artistic complexity. With its blend of innovation, cultural grounding, and flawless execution, the 2024 edition has set a new benchmark for international events on our shores.

RÜFÜS DU SOL

Photo: Pete Done

Shines on Tour with L-Acoustics K Series Concert Sound System

After a temporary break from a world tour that has straddled three continents, Grammy Award-winning EDM trio Rüfüs Du Sol will resume their global trek with a run of November shows in their native Australia and elsewhere. The journey, in support of the group's most recent album, Inhale/Exhale, and its subsequent remix iterations, has included some of Rüfüs Du Sol's biggest headline shows yet, including California's Rose Bowl Stadium, Guadalajara's Estadio Tres de Marzo, New Jersey's Red Bull Arena, and Texas' Q2 Stadium. Everywhere that Tyrone Lindqvist (vocals, guitar, keyboards), Jon George (keyboards), and James Hunt (drums) have travelled, crisp high-energy sound with robust low-frequency energy has followed, thanks to a huge L-Acoustics K Series system provided by Miami's Unreal-Systems.

The size and scale of the loudspeaker setup varies according to the venue. The tour's shed-level design has 40 K1, 16 K2, a dozen A10, and 40 KS28 subs, all powered by 27 LA12X amplified controllers, while the stadium-sized system comprises 48 K1, 16 K2, six Kara II, 14 A10, four L2, five L2D, and 64 KS28 plus 16 K1-SB, driven by 56 LA12X and nine LA7.16. The Rose Bowl system – considered the "statement show" of the recent North American tour leg – brought together 64 K1, 16 K2, six Kara II, 14 A10, six L2, seven L2D, and a massive bass combination of 76 KS28 and 40 K1-SB subs, powered by 72 LA12X and 17 LA7.16.

The entire system runs on a Milan-AVB signal path with a third layer of AES redundancy hitting each amplified controller. Fallback setup and management is particularly efficient with Milan Manager to handle the AVB network configurations. Front-end input is also managed over AVB, with analog backup, feeding main and backup L-Acoustics P1 processors at FOH.

All About That Bass

The LFE proved the most challenging aspect of the system design, according to Systems Engineer Johnny Keirle, system designer and engineer for Adele, Benson Boone, and the Super Bowl, as well as RDS, as the trio is known to fans. "The biggest challenge is delivering the low-frequency impact and coverage required for live EDM," he explains. "Unlike pop and rock shows, where low end is typically transient-based, RDS has sustained sub content alongside percussive transients, so we lean more on the ground subs than I usually would."

This required experimentation to balance coverage and impact. "Sheds present challenges with variable real estate for ground subs, steep seating, and concrete construction, while stadium shows demand much larger coverage across all axis with potential time-arrival variations, and multiple source interactions," he describes.

Ground-based KS28 subs are deployed in cardioid configurations wherever possible, says Keirle, while flown cardioid KS28 are deployed in end-fire configurations with the K1 main and side hangs. For the Rose Bowl system, the audio crew deployed an additional dozen K1-SB in an end-fire configuration behind the main hangs, and the increased ground sub lineup of 36 KS28 was deployed in 18 positions of subwoofer pairs running in cardioid.

Sometimes it all gets too much...

The *Support Act Wellbeing Helpline* is a free, confidential counselling service that is available to anyone working in Australian music who needs to talk to someone about any aspect of their wellbeing.

The L-Acoustics K Series systems are also able to help manage LFE challenges. K1 allows engineers to manipulate coverage characteristics in lower-frequency ranges, offering better control over flown LF propagation, as well as over interaction between the flown LF sources and ground LF sources. Extending the line source by adding K1-SB above the K1 main hangs further improves low-frequency control.

"The K Series flexibility across diverse venue types and sizes makes it ideal for a tour spanning intimate sheds to massive stadiums. The adaptability of the system, alongside the precision of Soundvision modelling, allows confident deployment across vastly different acoustic environments, knowing the system will perform as predicted regardless of scale or venue characteristics."

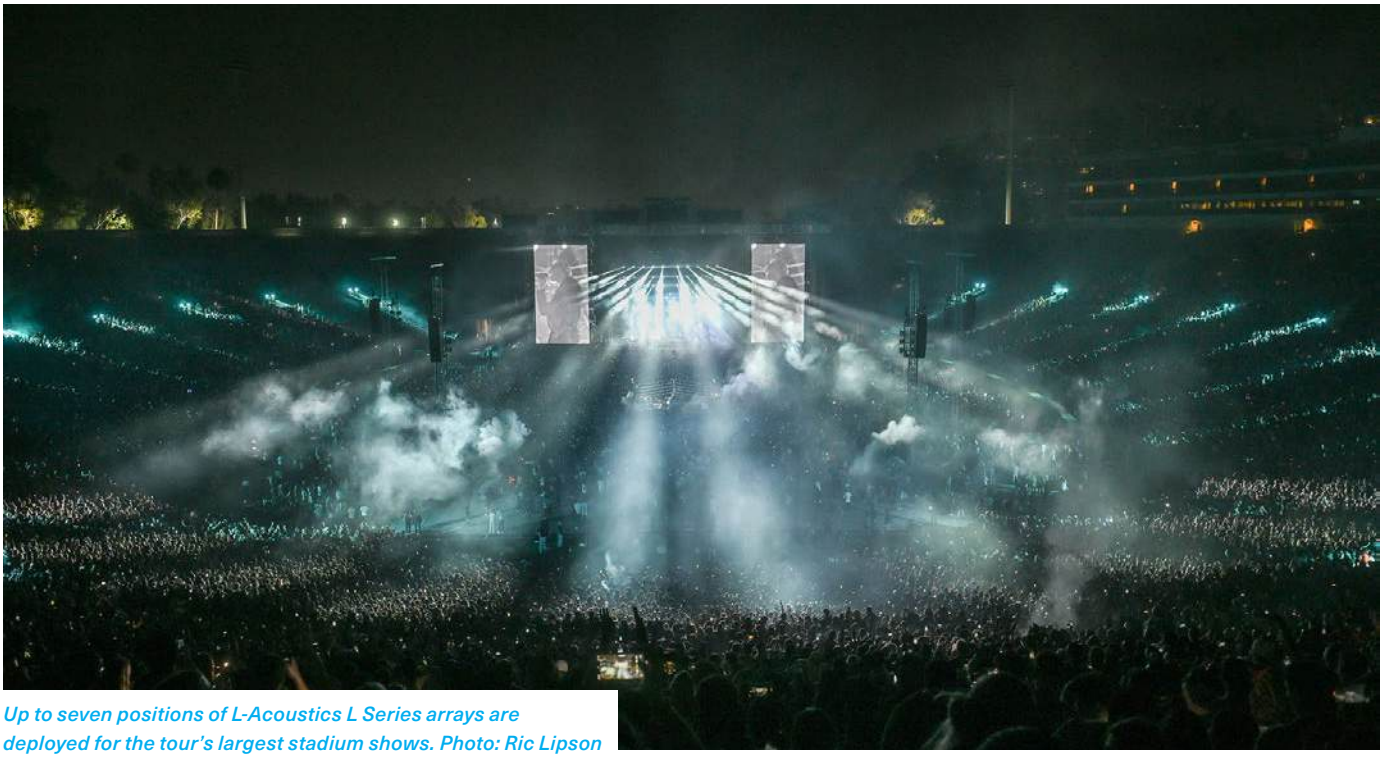
L Series is a Switch Hitter

The entire system acts as a sonic toolbox of sorts, allowing Keirle to choose components on site to best suit each environment, with the L Series acting as the go-to elements for many of the fill deployments. For instance, he says, the stadium shows use up to seven positions of L Series: two hangs of L2/L2D rear arrays, four positions of L2/L2D delays, and a standalone centre L2D hang.

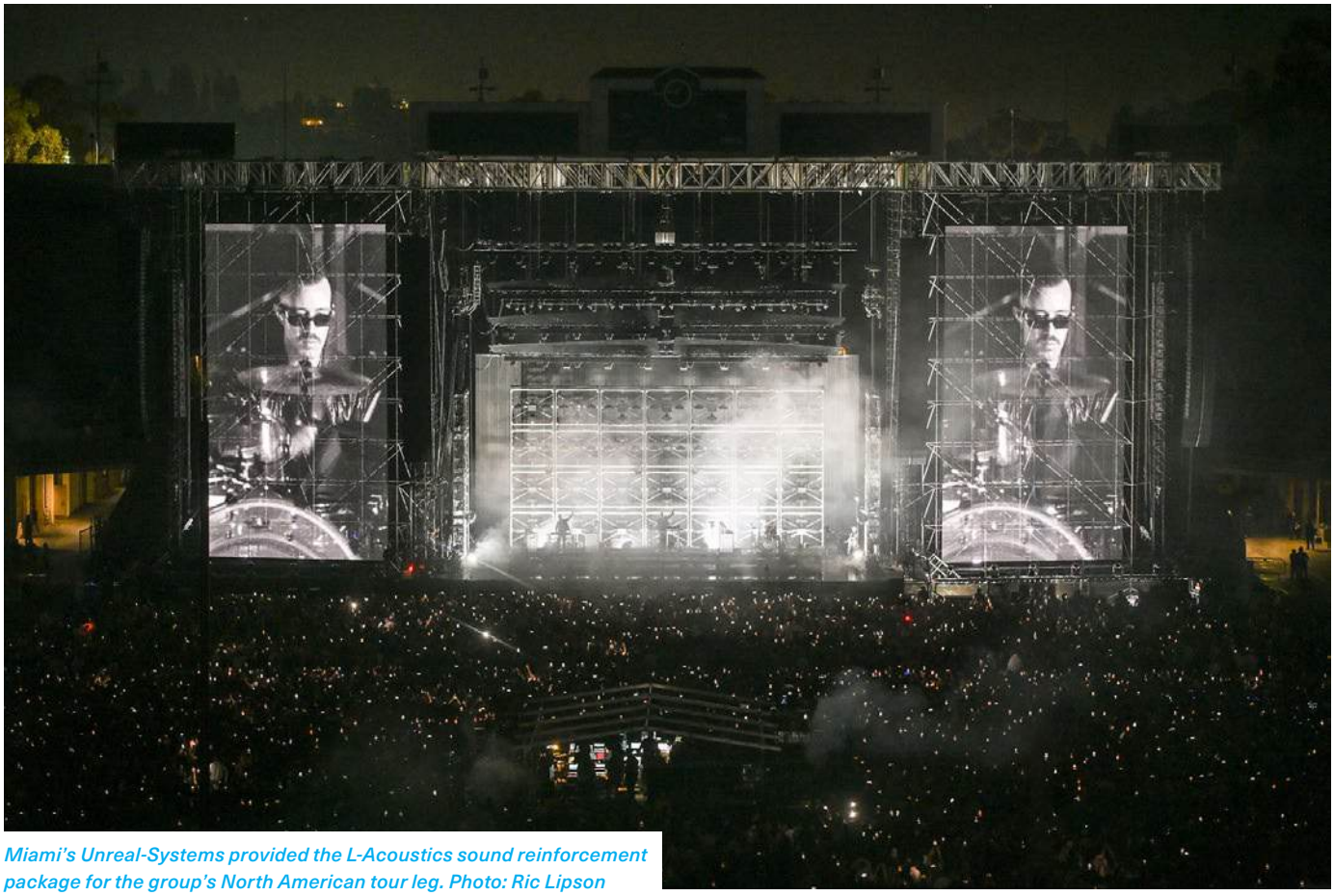
"The cardioid polar pattern of the L2 is particularly valuable in delays, matched with cardioid-configured KS28 subs, and the voicing matches well with the K Series main system," he says. "For the Rose Bowl, where we were limited with tower capacity, three L2 were flown per side, with four KS28 on the ground, deployed as two cardioid stacks in an end-fire configuration. We were fortunate to be traveling with the full stadium system for the whole American run – we could pick and choose different PA elements for each venue as suited best."

Australian EDM trio Rüfüs Du Sol is currently touring the world with an L-Acoustics concert sound system

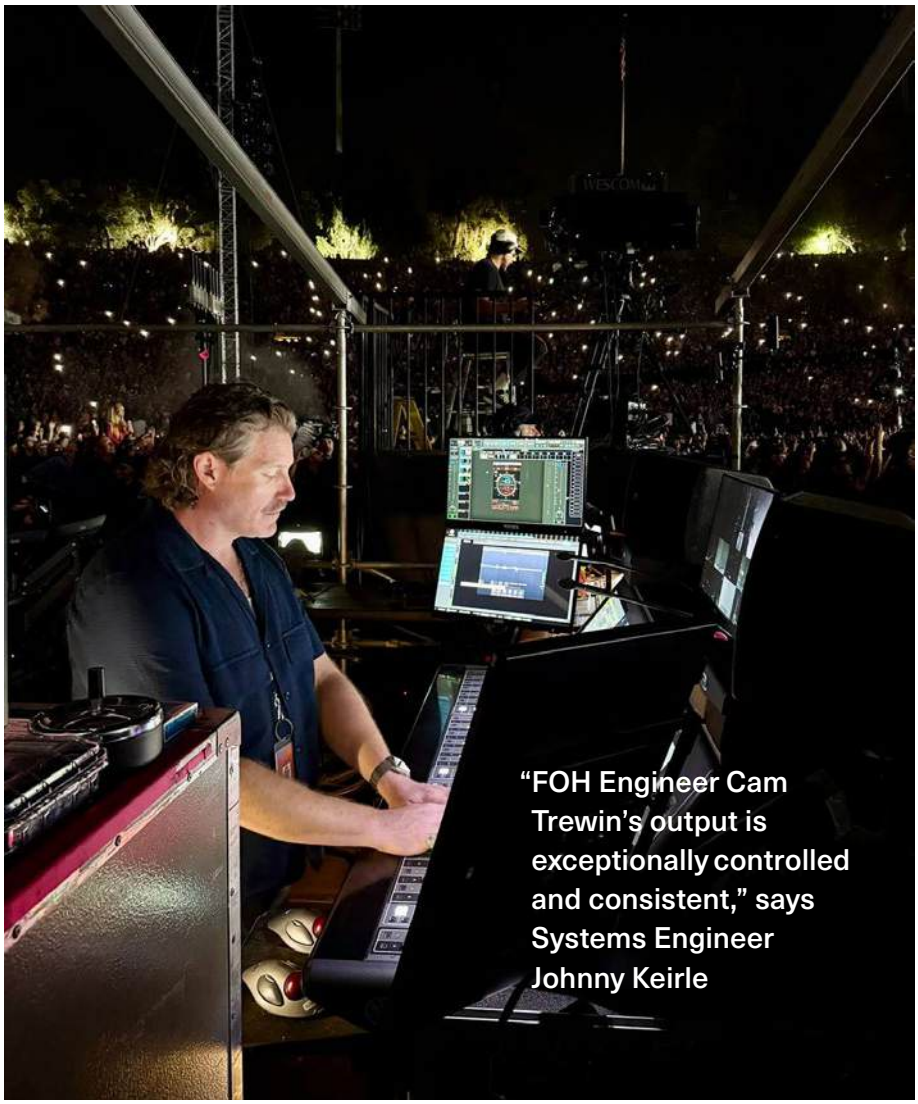
L-Acoustics L Series delay hangs perfectly complement the tour's K Series main arrays. Photo: Ric Lipson



Up to seven positions of L-Acoustics L Series arrays are deployed for the tour's largest stadium shows. Photo: Ric Lipson



Miami's Unreal-Systems provided the L-Acoustics sound reinforcement package for the group's North American tour leg. Photo: Ric Lipson



"FOH Engineer Cam Trewin's output is exceptionally controlled and consistent," says Systems Engineer Johnny Keirle

In fact, all of the L-Acoustics products perform critical roles. "Some venues present particularly challenging and resource-demanding conditions," he says, describing extremely harsh environments for HF propagation. "Again, I rely on the tools in Soundvision, with some custom calculators to know how sources will perform, even in challenging atmospheric environments," he says, noting that many stadium shows are very exposed to wind. "The density and coherence of the K1 HF wavefront has been essential to maintain stable coverage and SPL at higher frequencies."

As the tour carries on in Oceania, the L-Acoustics loudspeakers will continue to prove their value. They also underscore the fact that, despite its reputation as a bass-heavy format, EDM has plenty of nuance that a system like this can reveal. "There is a huge amount of detail in the RDS live mix," says Keirle. "FOH Engineer Cam Trewin's output is exceptionally controlled and consistent, meaning I can confidently and precisely dimension the entire system for linear reproduction at high SPL. Smaller or less powerful formats wouldn't deliver, and the layers of detail in the mix would get lost. This is a system that can, literally, do anything we ask of it."

For more details on Rüfüs Du Sol's upcoming tour stops, visit www.rufusdusol.com.
Unreal-Systems can be found online at www.unreal-systems.com.

Atlas Studios designs for The Cat Empire, ahead of expanding to Europe

The Cat Empire brought their new studio album, Bird in Paradise, to life on stage this August and September. Known for their high-octane performances and global fan base, they performed a show brimming with energy, passion, and soul-stirring music.

Melbourne-based Atlas Studios, comprising Matt Jones and Thomas Herterich, delivered a stunning and original lighting design on a limited budget. The lighting was as joyful, colourful and lively as the band.

“We have always been given a lot of free rein with The Cat Empire,” commented Matt Jones. “Among ourselves, however, we wanted to deliver a design that was different from the other designs we had done for them in the past.”

The design that Atlas Studios needed to create was a touring package that could be easily toured and fit into a wide range of venues around Australia. The touring package design they settled on needed to meet the usual common criteria for many Australian touring bands - it had to be budget-friendly, easily accessible in all states around Australia, and it needed to be flexible enough to suit the diverse genre of music for which The Cat Empire is known.

The touring package was crucial in maintaining a relatively consistent look and feel from show to show throughout this run, while also enabling seamless integration with venue house rigs. The floor package needed to fit into venues of all sizes whilst not taking up too much stage space - particularly for a band with as many musicians as The Cat Empire.

“We knew roughly what venues we would be playing in, so we were able to factor in most venues' limitations in the floor package,” explained Thomas Herterich. “We needed to keep in mind the ‘tour-ability’ of any design we came up with.”

The design ultimately took inspiration from The Cat Empire's recent album artwork, which is vibrantly colourful and features a heavy emphasis on floral elements.

“We utilised 20 Astera NYX Globes with custom flower surrounds, 11 of which were hung at random spacings and heights across the back of the stage, which were spaced between 5 x 5m custom floral vines,” said Thomas. “Each custom vine incorporated 100 full RGB LED bud lights, each individually controllable. The remaining nine Astera NYX Globes with custom floral surrounds were placed around the band on stage.”

In addition, there were 12 Martin MAC Ones, hung in clusters of three, on verticals with the vines. Across the back of the stage, there were five MAC Aura XIPs, four MAC Vipers, 10 ShowPRO Fusion Bar QXVs and four CuePix Warm White Blinders.

On the downstage edge of the drum riser, there were an additional six MAC Ones, situated between more custom floral pieces that dressed the front of all the risers.

On either side of the stage, there were three SGM P5S to provide side colour wash for the band.

"One of the biggest challenges for The Cat Empire is their rather extensive catalogue of songs to program!" commented Thomas. "The band do not use a click track, so there is no possibility to incorporate timecode into the show, as there is so much fluidity in their performance. They will often run with an instrumental riff that can be longer or shorter, depending on the crowd's vibe. For this reason, we incorporate a busk element into all songs to cater to this, and also maintain a wholly separate busk page that allows for any back-catalogue songs that might be added to the setlist unexpectedly."

All of Atlas Studio's shows are programmed on MA Lighting grandMA3, and The Cat Empire was no different. With the ability to adapt to varying house rigs made so much easier with grandMA3, it was an obvious choice for them to continue using a product and platform they love and trust.

"The show was programmed by Ben Kocsis and was fully live, with no timecode," added Matt. "Each song is fairly structured to continue to provide the consistency between shows, with busk elements added into the songs as needed."

The touring package was supplied by Phaseshift for the Melbourne show, and Chameleon supplied the shows in NSW and Queensland. The custom floral set pieces were created and provided by Kate Beere. The custom LED bud lights were manufactured and provided by Josh Heron.

In-house rigs were used to lift the touring package, and they varied across venues.

With growing requests coming from the UK and Europe, Atlas Studios is now expanding its presence in that region to better support and facilitate its growing client base.

Credits:

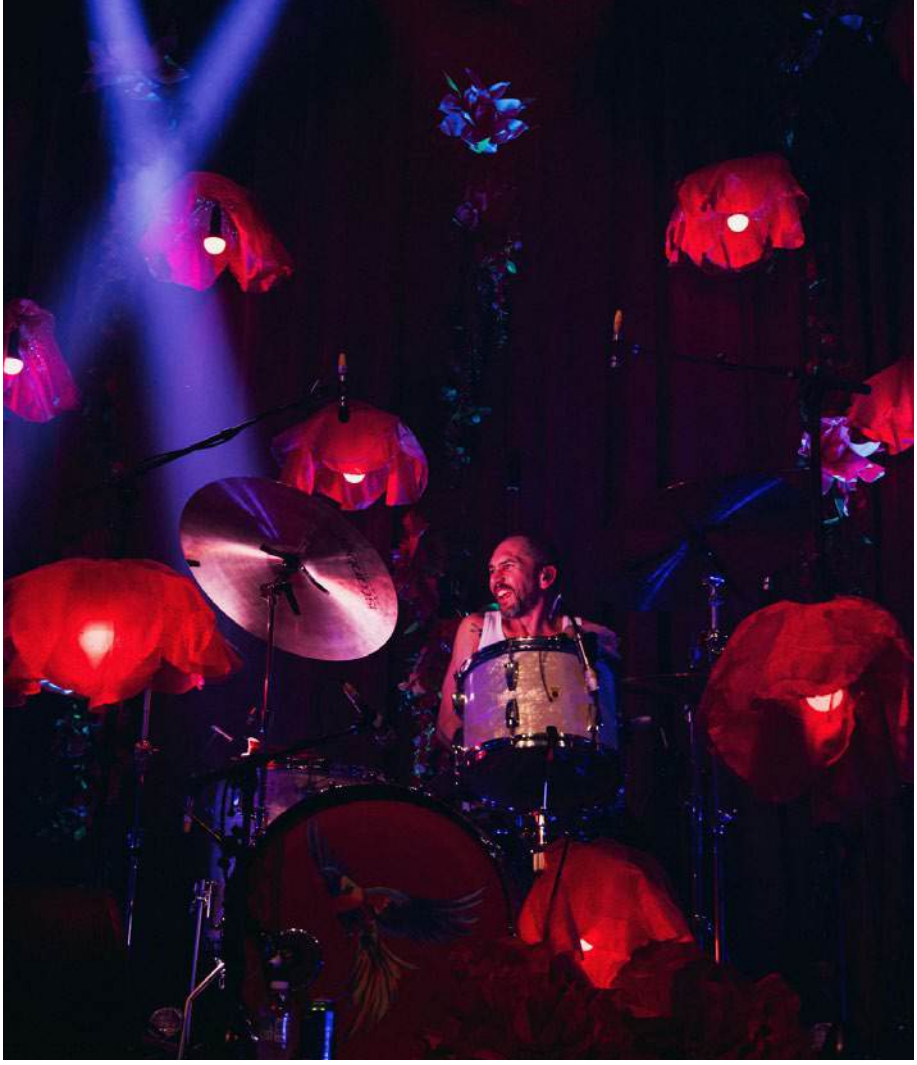
Lighting and Production Design:
Atlas Studios

Lighting Designer and Director:
Thomas Herterich

Assistant LD and Programmer:
Ben Kocsis

Lighting Suppliers:
Phaseshift and Chameleon

Set Design:
Kate Beere



by Kurtis Hammer

ACME TORNADO

The ACME TORNADO sits somewhere between a next level 1m bar light, five moving head lights in one, and a top-of-the-line, high-end effects light.

The TORNADO has five individual light heads featuring precise pan and tilt movements. Each head can be controlled independently with five 120W RGBL LEDs as its main light source, complemented by a ring of 120 0.5W RGB LEDs. It is a really interesting fixture.

It's something you never knew you needed until you started playing with it. At first it is hard to figure out exactly what to do with it until you muck around with it and suddenly the possibilities are (almost) infinite.

Construction

It is IP66 rated, which I love. Such is the case with many of the newer ACME fixtures, and you can really tell it is IP66 rated. Being IP rated not only makes it more resistant to dust and water, but to touring and going in and out of the back of a truck.

The TORNADO is solid and well built. Build quality and robustness is something that is often missed or compromised on many effects-style fixtures that are not strobes or UV cannons. You could probably drop this onto a stage deck and you might do more damage to the deck than to the light – I did not test this!

It is 1m long, 192mm deep and 350mm high. The 1m long footprint is really smart and well thought out. It is heavier than you think. It caught me off guard when I first tried to pick it up. At 30kg, it's definitely a two-person lift.

The TORNADO would work well en masse. You could make a wall or a tower out of them, and would be best used in a place where you can see the physical fixture. They would be great as eye candy behind a band, as a ground row, or to frame a LED wall or truss.

Optics, Colour, and Brightness

The optics are broken down into two parts. The first is the five 120W RGBL LEDs that make up the moving head light. The second is the smaller ring lights which contain 120 0.5W RGB LEDs. The 120 RGBL LEDs give a good range of colours including a nice white. It projects well. Brightness is a respectable 1,000 lumens. The smaller RGB LEDs do a good job as back lighting/eye candy type lighting.

LED life expectancy for the ACME TORNADO is 20,000 hours. That means you could run a unit for eight hours a day, every single day, for nearly seven years.

You get some good rich looking colours out of these lights. It is something that ACME did not compromise on when developing the TORNADO. Even the smaller lights give you good colour.

At its narrowest point, it gives off a nice tight beam and has a good wide throw when zoomed out. It has a 10:1 zoom ratio and it's a smooth zoom in and out.

Applications and Features

Pan range is 59° and tilt range is 221°. The five individual light heads with pan/tilt movement can be controlled individually. I do wonder if they missed an opportunity to make the lights have infinite pan and tilt, which I think would have been very useful given the type of light it is. The outer circle of each light head has 24 LEDs, which can be controlled individually. It's the individual control that gives the ACME TORNADO its versatility.

As it is IP66 rated, its built for production houses. Take them onto any gig, they will be fine. You can do eye candy, you can do a beam/spot, you can do colour washes, you can pixel map them and run content through them, you can use them to frame a LED wall, you can use them high, low, front or back. You are really only limited by your imagination. The more you play around with the ACME TORNADO, the more possibilities you will see.

They would be best suited for live shows and corporate gigs but would do just as well for TV and film. These would be at home in a night club or at a school. The uniqueness and usefulness of the light are its best selling points.

Control and Programming

This light is a little tricky to get your head around at first. It does not really fit into the

conventional mold of any other fixture on the market. I did not quite know where to start when looking at the light, but once you get the hang of it, it's a lot of fun. You can do so much with these. The real limitations are your imagination and programming (skill and time).

Control protocols include the usual suspects: DMX512, RDM, Art-Net and sACN as well as onboard control. There are five different DMX channel modes, 41ch, 71ch, 75ch, 85ch and 170ch. I was surprised to see that for a light that could do so much, the largest DMX footprint it had was 170 parameters. It feels like much more when you are playing with it. That said, if you want to use this light properly, you would run it in its full extended mode.

You can swap it out anywhere there is a 1m long bar light in your standard lighting rig and replace it with the ACME TORNADO for a much more versatile and high spec look.

It draws 935W of power, which is a lot. Many full size profiles and wash lights do not even draw that much. It's a very thirsty fixture, especially when you consider that it is not really something you would have as the backbone of a standard entertainment lighting rig. This is not a problem if you have access to a lot of power, otherwise it could be worth flagging as you can only get two to a 10A circuit.

Verdict

I really changed my mind and my perception of the ACME TORNADO as I was reviewing it. I came into this thinking I was reviewing a cool looking niche effect light. I came away from this thinking I was looking at a very versatile, very well thought out fixture with a lot of possibilities.

If you are looking for a little something to make your lighting stand out, give the ACME TORNADO a whirl (pun intended).

Product Info:
en.acmelighting.com/item/TORNADO

Distributor Australia and New Zealand:
www.ulagroup.com

The Specs

Main light: 5 x 120W RGBL LEDs

Outer circle: 120 x 0.5W RGB LEDs

Total lumen output of fixture: 13,000 lumens

Beam angle: 3°-30°

Field angle: 4°-35°

Control channels: 41/71/75/85/170

Pan movement: 59°

Tilt movement: 221°

Width: 1,000mm, depth: 192mm, height: 350mm

Weight: 30kg

by John O'Brien

Navigating the Medi-Go-Round

Disability is **not inability**

A sniffle, a cough, a scrape or a bump - these maladies we all face at some time or another. Viruses and bacteria are all around the natural world. Most we avoid but sometimes our immune systems get circumvented, and we catch a bug. Then there are physical injuries like flesh wounds, strained muscles, broken bones or worse.

Gigs and events are inherently risky endeavours. They are analogous to temporary construction sites, with all of the dangers implicit in building. Add in the fatigue from crazy long hours sustained over days, weeks and months, the mental and emotional toll of never being home and separated from loved ones, maybe even some substance issues, and it's a hazard waiting to happen.

With all those intrinsic perils, it's only a matter of time before you get injured, come down sick or just lose the plot. Ideally, not all at once.

Triage and diagnosis

There are ways to get through your malaise.

First step is ascertaining how serious it is and how seriously you need to take it. This is called 'triage' in the medical world but basically means assessing the urgency of your ailment and prioritising treatment options towards the best outcome.

Dr Google is both your friend and foe. While it can provide some decent answers if you ask the right questions, it is also risky to then assume you have condition XYZ because a few symptoms match up. From there, it's a slippery slope into hypochondria and unnecessary angst.

There's a reason why doctors have such lengthy and rigorous training. It's because they have to understand so many different biologies, pharmacies, and conditions, then use that knowledge to make an instant judgement on 3-5 minutes of consultation. I'd rather trust that process than a tech titan caring more for clicks than facts.

So, stop being a hero and go to the docs before you end up in an ambulance.

Why does it hurt when I pee?

Correct diagnosis relies on accurate representation of symptoms. Just as it really helps to get a little more detail than 'my monitors sound like crap' from the performer, it really aids the medicos if you can describe what you are experiencing, both clearly and concisely.

Understanding the lingo helps in dealing with any industry. Now that managing my health, medications and their contra-indications is my full-time job, it is little surprise that I am getting good at it. But the pay is lousy (i.e. negative), so I keep scribbling for you to cover my bills.

What's your pain level (on a scale of 1 to 10)?

This question gets asked by every practitioner for every separate affliction. I've heard it so many times that I feel like replying 'this one goes up to 11'. It is a fair question, but I personally perceive pain logarithmically and the system expects a linear answer. Pain is such a subjective matter anyway. Two people can have the exact same injury and completely different pain responses. Smart science nerds are still trying to understand exactly how this

proprioceptive loop plays out so differently for some people.

Neurologically, it's all about the relationship between nerves and the brain. This is relatively easy to cater for with injury, whether traumatic or not, but that relationship gets muddied when the pain subsists and becomes chronic. The body builds coping mechanisms to protect the affected area/organ and the mind accepts this as the new normal, even when initial symptoms may have subsided.

This is where being clear and concise helps as a patient. Patience as the medicos go through their routines is another virtue. Do it often enough and you already know what question is coming next and prepare your answer in advance.

Getting specialist help

My rheumatologist has a laser sharp mind and can cut through any ramblings or inconsistencies in what I report. She is also the most efficient and diligent medical specialist that I have ever encountered. She often sees answers to problems outside of her scope (my aching joints) well before the relevant specialists do. She sends follow up reports to me and my GP within 24 hours of consultation. Unprompted. Most other consultants give you little but a bill, and certainly never follow up unless explicitly requested to. Thank you, Sharon.

If all medicos were this good, my job as a patient would be so very much easier. With a good team of professionals taking care of the 'keeping my body ticking' aspects, I could focus more on dealing with the mental and emotional aspects of chronic ailments.

When you get a good doc, do your best to hang on to them.

Preventative Maintenance

You can do the 'body as temple' thing. There are a lot of benefits to this approach, not the least being feeling good on a daily basis. Eating well, getting regular exercise and not being too stressed are all good aims.

But, as we age and our once bullet proof bodies fail, it's still worth getting a regular checkup, no matter how well you look after yourself. Just like an oil change at 30,000km on your car, you should test your poo at 50 years of age. If you're also a bloke, you should get a PSA (prostate specific antigen) blood test to check for prostate cancer – no dropping pants and bending over required anymore! Catching a treatable anomaly early is far preferable to long and painful sessions in an oncology ward.

Our publicly available medical system is not perfect. but it is a whole lot better than in most countries. That doesn't always mean the absolute best or most timely treatments though.

If you can afford it, private health insurance sure has benefits. I cannot afford it and have been rejected by several surgical specialists who will not touch anyone without private cover (regardless of their ability to pay). Instead, I languish forever on public waiting lists.

Organisation

One of the biggest chores as a permanent patient is managing appointments and medications. Families, carers, doctors, pharmacists, pathologists, nurses and specialists all need scheduling. Transport also needs arranging and scheduling. Without centralising this information somewhere accessible to all who need it, this can be a real grind. Our household calendar gets regular updates for this reason.

Webster packs can help with organising medications. These work OK when the scripts are regular but a nightmare when dosages and/or treatments are often changing. I have my own method of three bags: one for a.m. meds, one for p.m. meds and one for pills both morn and eve, as well as pro re nata (unscheduled) meds.

I'm a spreadsheet nerd at the best of times, and my meds list is no different. It assists immensely to keep track of dosage, frequency and scripts. Many entrust this to a pharmacy, but I've had mixed results with that, so opt to manage it myself. I try to keep a current printed copy on hand as well.

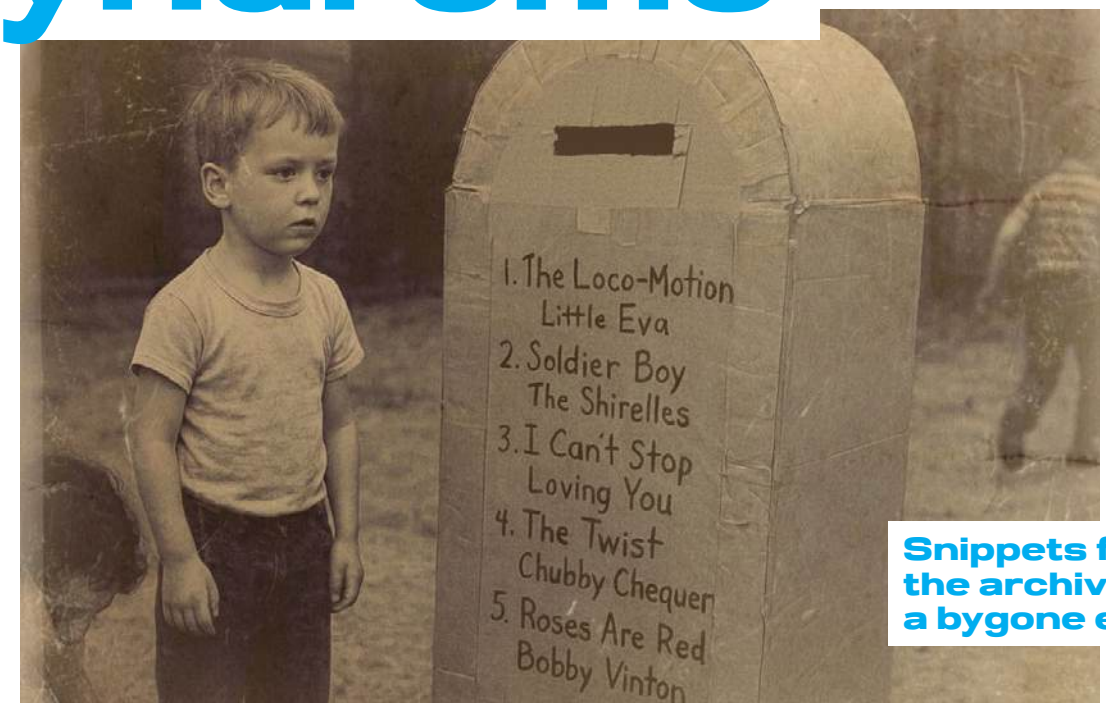
Lessons from the sick bed

You can't change history, just learn from it. You can influence the future, but only by your actions in the present. In that presence, a combination of hope, patience and persistence is a valuable ally in all of our circumstances. It is particularly poignant when confronted with life changing health issues. A sense of humour does help to lessen the emotional injury.

Next time you are poorly, try and see your sorry self from the outside and do your best to laugh at that. It works wonders for healing.

The Man In The Box Syndrome

by Brian Coleman



Snippets from the archives of a bygone era

AI Music Videos: *Who's Really In Control?*

Communicating with AI bots during my recent attempts to generate an AI music video clip took me back to a haunting childhood experience when Bobby Davis, a creative kid in my street, fashioned a cardboard TV packing box into a virtual jukebox. Inside the box he hid with a battery-operated record player, prompting me to drop sixpence in the coin slot and select a song. Decades later, with AI holding all the tools to produce a music video clip without leaving my home studio, I've had to relive the spectre of interacting with an inanimate object, bizarrely trying to reason and humanise conversations with it.

If you wanted to make a cheap music clip in the 1960s, you might have taken a look at Bob Dylan's' Subterranean Homesick Blues', which was shot in 1965 on black-and-white 16mm film in the back alley of the Savoy Hotel, London. The clip is a continuous shot of Dylan flicking through a sequence of cardboard cue cards displaying deliberately misspelt song lyrics. However, as inexpensively as a clip like this could be made, there were few incentives for fledgling bands to make music clips in the 60s or the 70s and beyond, as there was no accessible screen media where these could be shown. Video clips were solely the domain of the recording companies that sent them to television music programmes as promotional material for their recording artists.

Things changed dramatically in the music video world with the rise of YouTube in 2005, when anyone with a camera could capture a band or a single artist or even use simple visual effects to make a music clip and upload it to a worldwide market. Now, with AI video generation in the hands of home studio buffs, sophisticated video clips that traditionally used VFX (visual effects), such as the Rolling Stones' 'Angry', where vintage footage of the Stones comes to life on billboards, can be approximated with AI, but not necessarily with the same precision.

Although VFX has been around for some time now, including some free versions available for the domestic market, it's a steep learning curve mastering industry-standard compositing tools, including chroma-key, masking, compositing, and tracking techniques. AI generation tools simplify the process by using text or image prompts or both. While AI simplifies and accelerates the process, VFX in the hands of professionals still reigns supreme. In 2015 I interviewed a VFX artist for an article for IF (Inside Film) magazine. He had worked on the pipeline of major VFX films, including animated features. I asked him what kind of characters had to be hand-drawn. He said, "Brian, they don't draw anything!" That's not entirely correct, as some of the anime and 2D cartoons do have a hand-drawn element before they become digitised. While not an exact analogy, CGI (computer-generated imagery) and VFX work similarly to the relationship between an AI image generator and an AI video generator.

I've always preferred to watch a simple video of a band or artist performing rather than CGI or VFX creations. The music video world hailed

Peter Gabriel's 1986 'Sledgehammer' video that featured a variety of visual effects, including stop-motion and clay-motion effects where his face morphed into an array of pulsating fruit, and, for good measure, they threw in a scene with a pair of oven-ready dancing chickens. While this video left me fighting the urge to gag, Gabriel's 1987 (almost live) performance of 'Sledgehammer' in Athens is one of my all-time favourite video clips.

Richard Marx' 1992 release of the song 'Hazard', with the lyric,"I swear I left her by the river," begged for a narrative-type video to be made. Marx's music concept came to him in a dream, which he coupled with a fictional murder mystery that became a narrative-driven short film. In my travelling sales rep days in the early 90s, I noticed a downhearted Asian girl working in an outback truck stop, which became my muse for a narrative-type song. I had some discussions with a potential partner who toyed with financing a music video, which never came to fruition because of the expenses involved. Now, some 30 years later, I was able to do the entire video on my home computer using AI video generation and some video and audio editing software.

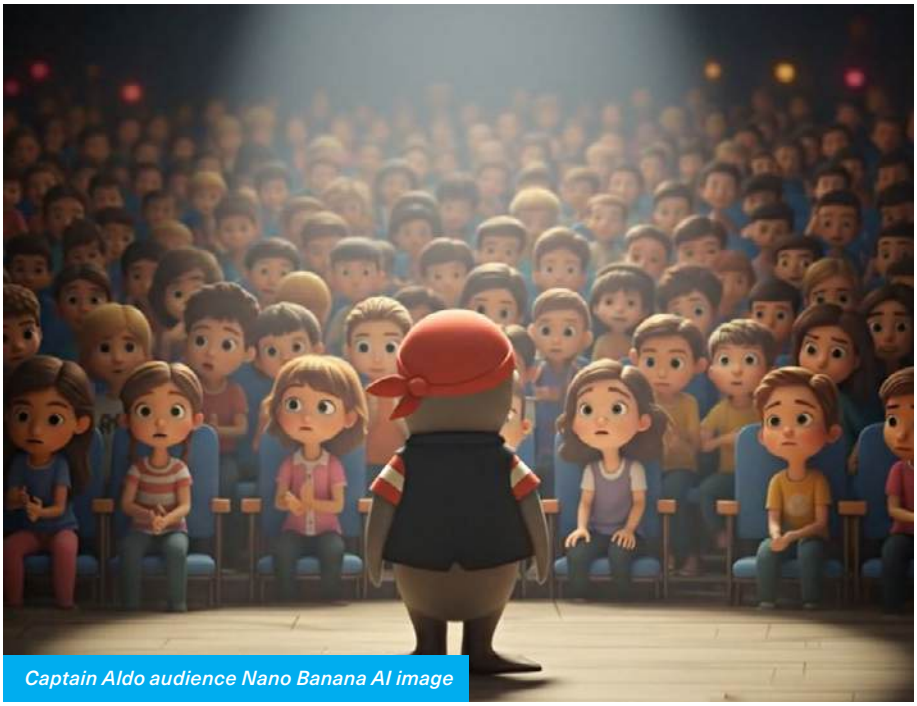
Boracay Beach AI image

Veo 3 screenshot

With credit card in hand, I signed up for a 30-day free trial of Google AI Pro, which incorporates its image generator Nano Banana (Gemini 2.5 Flash Image) and Google's Veo 3 video generator. For those who haven't dabbled, it's a good idea to initially use a text prompt in Nano Banana to get the image you want (you have virtually unlimited attempts at this). I also used ChatGPT image generator to get different perspectives. You then upload the AI image to Veo 3 along with a prompt of what you want the image to do in the video. Sounds simple, doesn't it? Well, the process is very simple, but getting exactly what you want isn't.

As advanced, and sometimes mind-blowing, as AI video generation technology is, it is still in its infancy, and if you think you are going to get seamless AI videos like those on show on various YouTube channels and TV ads, you may come away disillusioned. A lot of those creators are using plans that cost around $370 AUD per month. The initial frustration is that the basic Google AI Pro plan ($32.99 AUD per month) limits you to three videos (Veo 3 Fast) per day, each capped at eight seconds, with a total of 50 videos per month at 720p resolution. Google AI Ultra subscribers have access to 1080p and 25,000 monthly credits. Another frustration is that if you are a whiz on the QWERTY keyboard and happen to hit the 'enter' button to start a new prompt line, the generator takes this as a start-up with no warning, and you've just burned one of your three daily eight-second videos on the basic plan.

I could go on endlessly about how Nano Banana and other image generators can't quite generate exactly what you envisage via a prompt, but the fact that Nano Banana



Captain Aldo audience Nano Banana AI image

Captain Aldo AI-generated image by ChatGPT

allows virtually unlimited access is somewhat forgiving. There is a lot of talk about how AI generators can compose songs and generate artists singing those compositions. However, at the time of writing, Veo 3 cannot generate a character singing an original or cover song from an uploaded audio file.

One of my first attempts at image and video generation was an animation project. After hours of image prompts, I was able to get a satisfactory representation of a character from my former children's show, Captain Aldo (an anthropomorphic seal). One of Captain Aldo's songs, which was brilliantly sung and recorded by a former cast member of the show, could not be utilised by Veo 3. The workaround was to write the prompt in verses. Veo 3 then generated the character singing (kind of) my lyrics with one of its own trite melodies. I then uploaded it to my video editor and ran the original audio on another track. Then began the painstaking task of changing the speed and time-lapse of the video for the lip-sync before finally deleting the stodgy generated track.

In my opinion, a video editor is essential to blend the various video segments together, and while Veo 3 can generate spoken audio in sync with a character, it often gets confused if more than one character is in the scene, so you get a comedy of errors with the wrong character speaking someone else's lines. Another problem is the audio sometimes sounds metallic or even robotic. There is also a problem with accents as well as inflections, which are the rise and fall of pitch in speech that can convey emotions; errors in this regard can also become comical. I found the workaround for this was using the antiquated film method of ADR (Automated Dialogue Replacement), which is dubbing a voice over the original audio in an audio editor. You can then even replace your own voice in perfect sync by uploading it to a serious AI voice generator.

Outback Truck Stop AI image

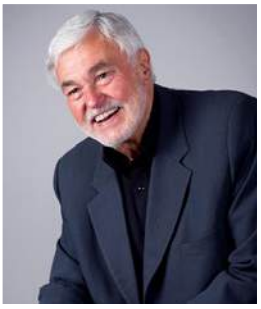
For my narrative-type music video clip, Capricorn Dreamer, Nano Banana created several amazing images, including my despondent Filipina protagonist staring through her workplace window at a neon-lit outback truck stop. It also crafted flashback scenes of her walking hand in hand with her former true love on the beach in Boracay, Philippines. For the Boracay beach scene, I uploaded the image to Veo 3 with a prompt to transition from this scene to her fleeing in the night from a bamboo beach hut after learning that her lover betrayed her. I didn't bother with an image for the bamboo hut scene; I gambled with just the prompt, and the Veo 3 video amazed me with a cinematic scene better than I'd imagined. However, in another scene my protagonist serves coffee at the truck stop and then walks ghost-like through a bench seat in the diner. After generating numerous scenes, it's your video editor's job to insert your song and make the clip, and although each scene is only eight seconds in duration, you can slow them to any speed in the editor for a slow-motion effect or to fit them to the song lyrics.

Things are changing rapidly in the AI world, and in late August 2025 came Google's Australian release of its AI production toolbox, Flow (previously not available in Australia). There is, of course, the costly Google AI Ultra plan that includes Flow, but there is also a free subscription that comes with 100 credits if you have a Google account. An eight-second video with or without audio will cost you 20 credits, so you have five free videos per month that utilise their new beta version of Veo 3 Fast with 720p resolution; 1080P is only available on the Ultra plan.

I'm enthusiastic about AI image and video generation, and yes, film clips have come a long way since we saw Bob Dylan flick through his song lyrics scribbled on sheets of cardboard acquired from a shirt laundry. But after suffering through a torrent of infantile AI blunders, the 'man in the box' delusion left me thinking that some of these errors were contrived. This brought out the worst in me, and I found myself sarcastically telling Botzilla that it wasn't quite ready to take over the world. Of course, AI never responds in anger; it always apologises profusely, biding its time, quietly sharpening the axe in the knowledge that I'm on some dissident file awaiting futuristic AI retribution.

The ACETA Archive of Excellence©

Colin Stevenson
Audio Engineer



David Bell
Business Professional

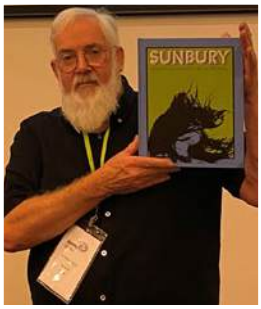
John Fowler
Lighting Engineer

Jon Lemon
Sound Engineer

Mark Kennedy
Drummer

Michael Barabasz
Speaker Designer

Murray Tregonning
Audio Engineer



Peter Evans
Lighting Engineer

Phil Manning
Guitarist

Roger McLachlan
Bass Guitarist

Roger Savage
Audio Engineer

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