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Check out the curved LED screen at Adele's concert in Munich that earned its very own Guinness World Record!



THE WIRELESS ISSUE

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Simple. Not. Wireless Audio on an Island

Shure joins the **WMAS** Revolution

Does WMAS Still Require **RF** Management?

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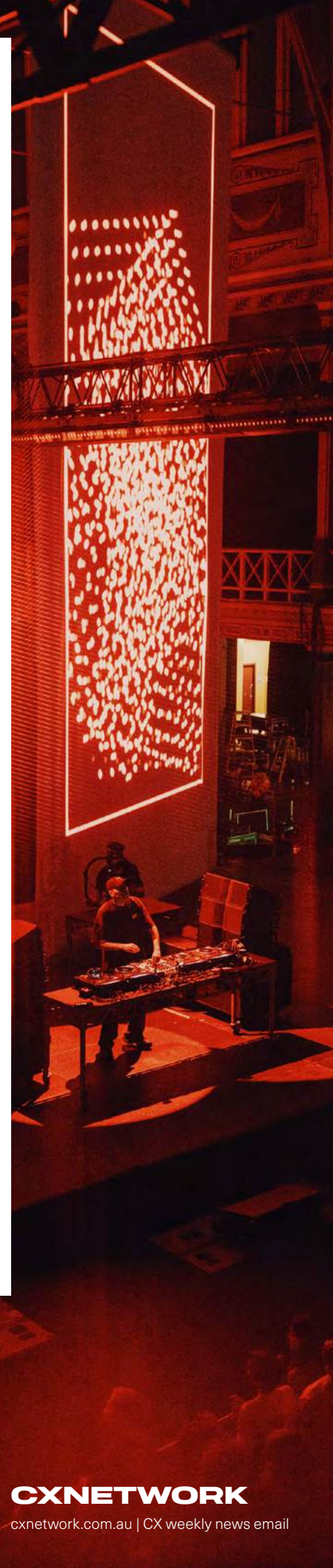
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Contents Photo – Now or Never. Photo Credit: Jackson Loria.

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Support Act releases new report into the wellbeing of music and creative arts workers

A new report, *Mental Health and Wellbeing in Creative Industries Australia 2024*, prepared by Dr Aurora Elmes and Emma Riseley from The Centre for Social Impact Swinburne with support from Entertainment Assist, has been released by the Australian music industry's charity, Support Act.

The report builds on the last survey undertaken in 2022, with 1,518 workers across music and the broader creative industries detailing the challenges they face even in a largely COVID-recovered working environment.

According to this research, it remains challenging for many creative workers to make a liveable income from their creative work.

Almost a fifth (19.6%) of all respondents reported a total annual income that sits below the poverty line (Melbourne Institute 2024) for a working single person.

Opportunity for work, decent employment conditions and adequate income are key issues for creative workers – particularly in light of increased living costs and the costs of doing business. Respondents surveyed were asked about their biggest challenges working in the sector:

- 68.1% said cost of living
- 56.5% said low level of income from working in creative industries
- 51.7% said burnout and fatigue
- 43.2% said job insecurity
- 43% said lack of opportunities due to external impacts like venue closures and festival cancellations
- 42.9% said the high cost of doing business

Support Act CEO, Clive Miller, says of the report, "Music and creative industry workers have experienced so much disruption over the past five years, and this updated survey shines a light on the issues that are impacting their mental health and wellbeing in a post-COVID environment, along with some recommendations from participants about what things need to change to ensure

improved mental health outcomes over the long term."

The report found elevated psychological distress among music and creative arts workers.

Over half of the survey participants (53.5%) reported high or very high levels of psychological distress. While this constitutes a reduction since the 2022 survey results amidst the full effects of the COVID pandemic (66.1%), it is still concerningly high as compared to the general population (15%, Australian Bureau of Statistics 2021).

Dr Ash King, Support Act Wellbeing Content & Programs Lead and Psychologist says of the report, "creative arts workers are diverse and resilient, but many are facing real and confronting challenges that, for many, will impact their quality of work and quality of life.

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1,518 people working professionally in the music and creative arts industries all over the country took part in a survey in March and April of 2024. Here are the key findings.

53.5% had high/very high levels of **psychological distress**. This is a reduction since 2022, but still almost 4 x the general Australian population



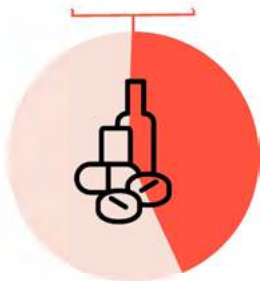
57% had experienced **suicidal thoughts**, which is 3.4 x the proportion of the general Australian population



35% had a current mental health condition, which is 1.6 x the proportion of the general Australian population. **Depression, anxiety and PTSD** were the most commonly reported diagnoses.



43% use **alcohol or other substances** to cope with the stresses of life over the last two years



Almost a 1/5 reported a total annual income that sits below the **poverty line** in Australia



68.1% said the **cost of living** is a **key issue** facing music and creative arts workers



Just under 1/5 said they **felt safe at work** all the time, 43.2% said they had been exposed to **unsafe work conditions** in the last 12 months



Just over half said their workplace or the spaces they work in are **taking steps** to foster a more **physically and psychologically safe environment**



More than half of those who had tried to **access services** (outside of Support Act) said that cost was a **barrier**



These people make it possible for us to enjoy and be elevated by experiences of art and creativity, and if we recognise and appreciate what a vital role they play, we must do better valuing and supporting them."

Dr Ash King further unpacked the report's findings in a podcast with Dr. Aurora Elmes from CSI Swinburne that was launched on October 15.

The report also cited improved safety and conditions of some workplace environments (e.g. investing in equipment or resources, or developing improved processes); increased awareness of the importance of mental health and the impact mental health has on creative work (even if more is needed to be done to address this); and greater investment in First

Nations Arts and Culture, as positive outcomes for the sector.

Dr Elmes said, "While our research found some evidence of industry recovery and lower distress than 2022, creative workers are clear further changes are needed to support creative work."

Many respondents called for systemic and practical changes, including greater financial support and coordinated efforts across creative industries to improve working conditions and increase work opportunities for creative workers:

"We need ground up cultural appreciation for creative industries in this country... A lot of people don't realise how good they feel when

they engage with arts – and conversely, they don't know what they'll miss when it's gone." (survey respondent)

The survey was developed with input from /Craft, AccessEAP, APRA AMCOS, ARIA PPCA, Arts Wellbeing Collective, Australian Society of Authors, Association of Artist Managers, Creative Workplaces, CrewCare, Entertainment Assist, MEAA, Music NSW, Music SA, Music Victoria, National Association of Visual Artists, QMusic, Screen Australia, Screen Well and Theatre Network Australia.

The full report, a summary report and podcast are available at <https://supportact.org.au/individual-support/mental-health-and-wellbeing-support/mental-health-survey/>



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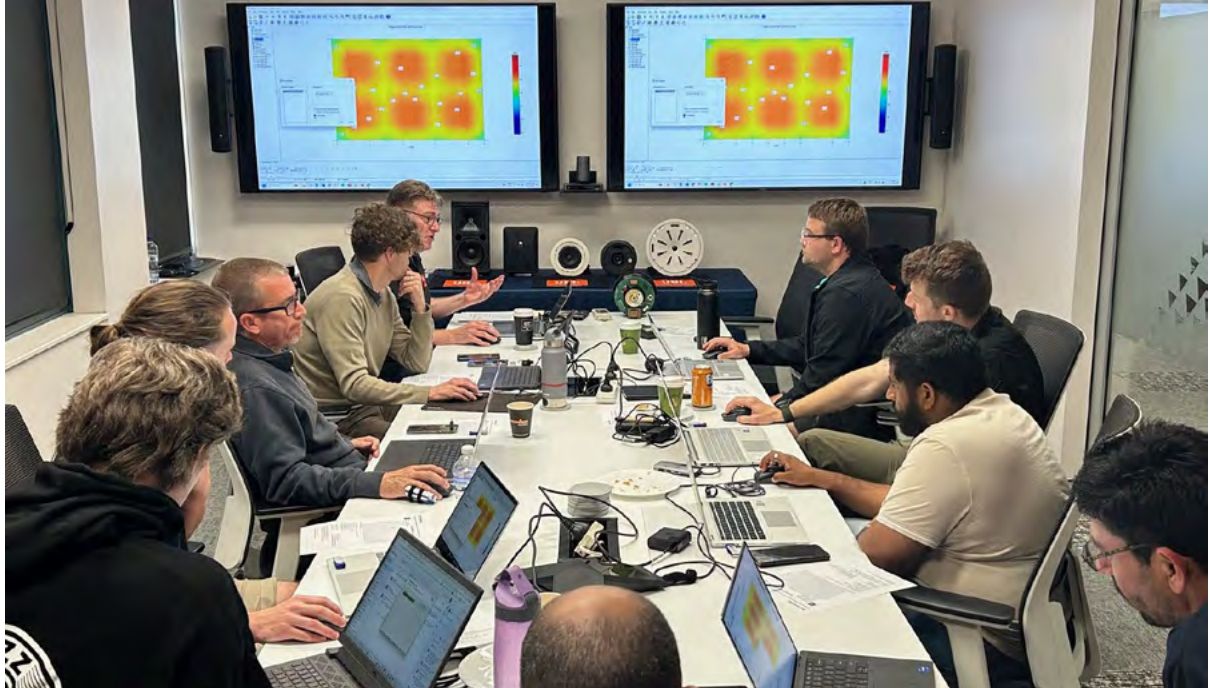
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Showtech Australia Beefs Up Rigging Capabilities with MOVEKET



24 MOVEKET ProStage+ chain hoists go into Melbourne's Regent Theatre ahead of an Australian Ballet production

Showtech Australia, a leading provider of specialised rigging services and equipment in the entertainment industry, has made a significant investment with the purchase of 44 x MOVEKET ProStage+ chain hoists. The purchase of the ProStage+ 1000kg hoists (in both the 24m and 36m variants) represents a key move to align with evolving safety standards while enhancing operational efficiency for upcoming projects.

Tiny Good, Director of Showtech Australia, emphasised the importance of this purchase for the company's future, "These are a new type of hoist that have become a standard in Australia, meeting the D8+ safety requirement, part of the European EN 17206 'Machinery for Stages' standard. Since we had long-term contracts lined up, it was the right time to update our fleet and ensure compliance with the regulations."

Known for its rigorous standards in event rigging, Showtech Australia carefully evaluated multiple hoist models before deciding on MOVEKET. "We chose the MOVEKET ProStage+ hoists for their superior build quality and lightweight design, which outperforms others in their class," Tiny Good explained.

"Even though we paid more, the investment in better quality equipment ensures a longer lifespan and greater reliability, especially when operating in Australia's

demanding touring environment."

The MOVEKET ProStage+ hoists, manufactured in Germany, have a long history of success. "We've worked with LIFTKET, the parent company of MOVEKET, for nearly 20 years," added Tiny Good. "Its products have always been reliable, so when we saw that MOVEKET hoists met our needs and offered a robust design, the decision was easy."

Showtech Australia's collaboration with The P.A. People, which facilitated the sale and ensured that all documentation met local safety regulations, was another critical factor. "We worked closely with Chris Dodds and the team at The P.A. People to ensure the manuals aligned with Australian WorkSafe requirements," Tiny Good said. "That kind of partnership, where they understand our business and the specifics of the safety standards, was invaluable."

As a company with over 40 years of experience, Showtech Australia remains a leader in the event industry, providing rigging for everything from large-scale concerts to sports presentations and ceremonies. Its decision to invest in MOVEKET chain hoists underscores its commitment to safety, reliability, and long-term performance.

"The MOVEKET ProStage+ hoists are just the beginning," Tiny Good concluded. "We plan to purchase more as we phase out older models in our fleet, ensuring that we continue to offer the highest standards in rigging for our clients."

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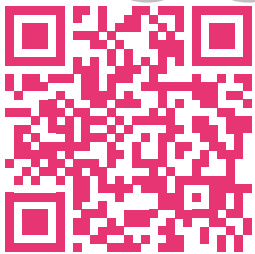
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NYX BULB MOMENTS FOR ANGUS & JULIA STONE TOUR

Australian lighting designer Daniel Gordon – known industry-wide as Gordo – wanted to create a unique lighting ambience that was transportable and transposable anywhere around the globe for the ongoing “Living Room Sessions” world tour by indie folk rockers Angus & Julia Stone.

He turned to 48 of Astera’s powerful and handy NYX Bulb products to help produce this smart, eye-catching, and highly individual aesthetic which packed neatly into a Pele case.

The NYX Bulbs were purchased by the band for the tour and for future use. They pack into a bespoke moulded tray for transit which is fitted into a Pele type 1607 case, weighing around 20kg when full, which is “great for freight” as well as being super-sustainable.

The NYX Bulb lighting concept is built around a theatre show set up. Onstage, 30 NYX Bulbs are (typically) hung on four LX bars over the stage and covered by diamond-shaped paper lanterns. Gordo has four cable looms that

are run out for their quick connection, each terminating in a single plug. The rest of the NYX Bulbs are positioned on the deck attached to various hanging stands, also covered by the same paper shades, so these are dotted all over around the stage at different heights, and look highly effective.

The paper shades pack down flat, so it is literally a “lighting rig in a box” – exceptionally easy to tour, run out, connect and have patched into the control console in around 30 minutes. This speedy set up was essential as Gordo is tech’ing the lights on his own, integrating with the local top rigs each day in the different venues as supplied by the local promoter.

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*6 year limited warranty on manufacturers defects. Only applicable to products that have been inspected and tested as per the requirements of AS3760:2022.

Gordo had really wanted this scenic lighting to help audiences imagine that cosy, intimate loungey vibe onstage for the shows, which have been a massive success.

“The audience members should all ideally feel like they are the only person in the room,” he commented.

A major reason for choosing NYX Bulbs was their smooth colour changing properties, which are controlled from Gordo’s Hog 4 console, which is also on the tour with them, together with the high CRI. Several of the NYX Bulbs are in close proximity to the artists, so they can assist in nicely illuminating the faces of the





brother and sister duo, something that's particularly pertinent for audience photos that then get posted on SoMe channels.

This also reflects an additional pressure on LDs. In addition to ensuring everything looks great live and for any IMAG video on the tour, it also needs to work for cell phone images, and the flicker-free feature

of the NYX Bulb was essential for when the show was recorded or streamed. Gordo is super-fussy about how anything he is lighting looks on camera, and very aware of how lighting affects the shot.

The fixtures' auto-switching power supply also mean they can be used in the US with no problems.

Gordo thought of having the lampshades as he wanted a WOW moment at the start of the show as the curtain lifts after the band start in front of the stage curtain. He wanted something high-impact that accentuated the depth and spatiality of the full space, and the twinkling lanterns "always get a great reaction," he noted.

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“Gordo thought of having the lampshades as he wanted a WOW moment...He wanted something high-impact that accentuated the depth and spatiality of the full space, and the twinkling lanterns “always get a great reaction,” he noted.



Using NYX Bulbs also enabled him to add layers of effects to the pictures with soft colour and liquid intensity chases introducing subtleties and kinetic movement, and the fixtures are used throughout the show in numerous different ways with variable colours, CTs and pixel chases used to evoke numerous moods.

Gordo is delighted with the “highly effective and versatile results.”

He first encountered Astera products during the Covid period whilst lighting some reality TV shows, where they were

constantly present, and he also got to know of Astera’s Australian distributor, ULA Group, around the same period.

Initially, Titan Tubes were the products he was using the most – they are a staple of so many TV productions.





Beforehand he was slightly concerned that the NYX Bulbs would not be bright enough for what he had in mind, but when it came to the reality, he had to reduce them to around 40% output and “they were still bright and effective as ever!”

He has worked with Angus & Julia Stone for about six years, and ‘Living Room Sessions’ is the first major international tour they have undertaken, kicking off in Australia, and then hitting the road extensively across Europe. The London venue was the Royal Albert Hall and in Paris they also played high profile venues, both the Grand Rex and L’Olympia.

The beauty of the NYX Bulb rig was that no matter where they were playing and what was in the house rig, they had this strong and coherent visual identity and continuity that Gordo had worked closely with the artists – especially Julia – in developing.

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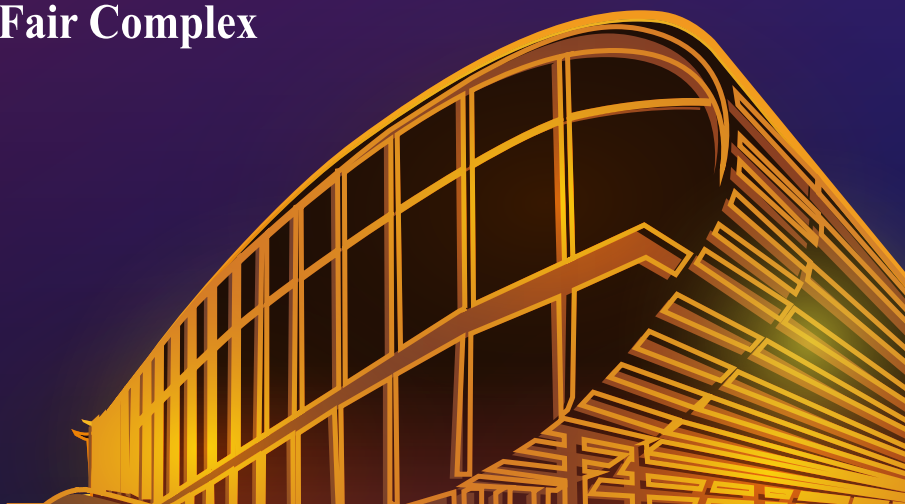
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TAG Builds Dedicated Q-SYS Australia Team to Accelerate Growth

QSC APAC Pte Ltd. and TAG have announced a new dedicated business team to support the growth of Q-SYS in Australia. This team will be dedicated to delivering focused solutions and exceptional support for Q-SYS end users, backed by sales coordination and customer support with QSC headquarters in Costa Mesa, California.

"TAG is widely recognized as one of the premier AV systems distributors in Australia and we have full confidence in their ability to strengthen the Q-SYS business" says Duncan Savage, Vice President and General Manager, APAC, Q-SYS. "Leveraging their exceptional technical capabilities, TAG's Q-SYS Australia team will benefit from unrivalled direct access to Q-SYS product development, roadmaps and advanced technical support. This increased level of engagement uniquely positions TAG to accelerate the development of the Q-SYS business in Australia."

This new team, led by Giles Brading, Q-SYS General Manager – TAG, and Ewan McDonald, Q-SYS Director of Technical Services – TAG, will provide comprehensive logistical, technical and financial services for customers, with a singular focus on Q-SYS products and solutions. This hyper-focused approach will enable the local team to provide direct and immediate market and customer interface in Australia.

"This partnership combines the long-term distribution expertise of TAG with a dedicated team of Q-SYS professionals to deliver the highest level of support, training, service and integration," says Brading. "It is a significant waypoint on the Q-SYS journey in Australia and the best way to serve Q-SYS and those deploying and using it both now and in the future."



Paul Stanley and Daniela Gibson



D2N - Technology Solutions continues expansion with two new key appointments

D2N - Technology Solutions have continued their expansion, and furthered their commitment to the Australian market, with the appointment of Paul Stanley as their new Product Support Engineer and Daniela Gibson in the role of Sales Specialist.

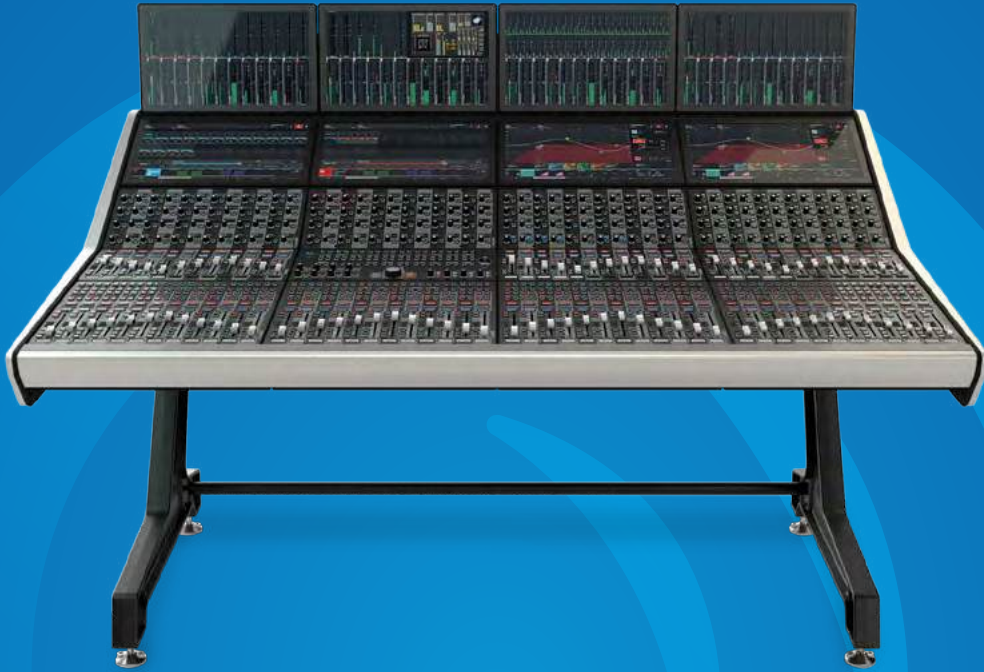
Paul Stanley joins D2N with over 25 years' experience in the broadcast and audio-visual industries. Known for his drive to consistently learn and develop, he has constantly surrounded himself with industry-leading professionals and the world's best brands. Stanley also boasts proficiencies across several highly technical fields including installation, live production and teaching.

Daniela Gibson is a people-focused product sales specialist with over 15 years' experience and her strengths lie in consistently delivering customer results through building relationships, insights and engagement. Gibson also presents with a very high level of professionalism whilst keeping abreast with market trends and competitive landscapes. Her strong ability in maximising client relationships and consistent focus on results ensure all key stakeholders, both internally and externally, benefit from her high standards and attention to detail.

Paul Stanley and Daniela Gibson can be contacted at D2N - Technology Solutions on (02) 9837 6748 or at paul.stanley@d2n.com.au and daniela.gibson@d2n.com.au

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SwimAus Awards 2024

The Gold Coast's Onesol Productions had the pleasure of celebrating with top Australian swimming champions at the SwimAus Awards 2024, delivering an exceptional awards show and honouring the remarkable achievements of our Australian athletes.

The event took place at the Howard Smith Wharves in Brisbane. The Onesol Production team utilised their VuePix Infiled AR3 series LED screen to create a centrepiece on the stage. Spanning over 8.5m, the 3m tall screen created a perfect backdrop for the event, with Brompton processing, controlled by a Pixelhue P10 4K video switcher.

The lighting rig consisted of Astera TitanTubes and ACME Lighting AECO 5 fixtures, enhancing the festive atmosphere of the event.



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Black Box and Amber Technology announce Australia and New Zealand distribution agreement

Black Box, a leading IT solutions and consulting services provider to businesses worldwide, has announced a strategic distribution agreement with Amber Technology, a leading distributor of audio-visual solutions into the broadcast, media and communications, defence, law enforcement, and security markets.

Under this agreement, Amber Technology will be a key distributor of Black Box audio video (AV), keyboard, video, and mouse (KVM), and Internet of Things (IoT) products throughout Australia and New Zealand.

The new distribution agreement enables Amber Technology to offer its customers a large selection of AV, KVM, and IoT solutions

to meet their evolving technology needs while ensuring Black Box's products are readily available in both countries.

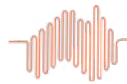
Peter Amos, managing director, Amber Technology, said, "We are pleased to welcome Black Box to our media systems and defence portfolios. This addition allows our team to further expand in our current markets and explore new market segments."

Garrick Simeon, professional products and media systems general manager, Amber Technology, said, "We are thrilled to join forces with Black Box as a distribution and value-add partner in the Australia and New Zealand markets. Black Box is known for its reputation for delivering high-quality AV, KVM, and IoT

solutions. Our customer commitment is to provide best-in-class technology products, and this new partnership with Black Box builds our ability to meet a broad range of customer requirements."

Emilijo Mihatov, senior sales manager, Black Box TPS ANZ, said, "The Australian and New Zealand market holds immense potential for Black Box, and we are delighted to be launching this promising new partnership with Amber Technology. Amber Technology's strong presence and expertise in the Australia/New Zealand technology industry make the company an ideal distribution partner. Together, we offer customers a comprehensive suite of AV, KVM, and IoT solutions that provide exceptional value."

BLACK BOX



Amber TECHNOLOGY

QSC LS118 Subwoofer

The LS118 18" Subwoofer uses a 4000W peak power Class D amplifier to push out up to 138dB peak SPL. It can be set to omni-directional or cardioid radiation modes, with a frequency response of 41Hz - 98Hz. Connections include XLR and etherCON. Multiple mounting points included for flying, pole mounting or ground stacking.

Australia: Technical Audio Group tag.com.au 02 9519 0900

New Zealand: NSL nsl.co.nz 09 913 6212



NEW GEAR

QSC SysNav Software 2.1

QSC have released major update v2.1 for their SysNav (System Navigator) software. Features added include an inventory function which provides a means to create and save systems offline and connect virtual loudspeakers and arrays to physical devices, System Designs including Inventories and DSP settings for arrays and loudspeakers that may be created, saved, recalled and applied to physical devices. Also adds user-adjustable EQ and filters, including a 6-band parametric EQ as well as high-pass filters for use with QSC and generic active subwoofers, and improvements and refinements to the SysNav AIM (Array Installation Modeling) prediction tool including addition of subwoofer stacking deployment options. Includes updated firmware (version v1.2) for LA108 and LA112 Active Line Array Loudspeakers and adds support for the LS118 (4kW, single 18 inch) Active Subwoofer.

Australia: Technical Audio Group

tag.com.au 02 9519 0900

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ADJ H2O Two Water Effect Projector

The H2O Two from ADJ uses a 120-Watt cool white LED engine to produce water simulation effects for projection. The same engine can produce a variety of psychedelic projections in a selection of vibrant colours using a five-position colour wheel (orange, green, blue, yellow and purple), which offers split colours as well as continuous rotation. Can operate standalone or be controlled via IR or DMX.

Australia: ULA Group ulagroup.com 1300 852 476

New Zealand: ULA Group ulagroup.com 09 218 6532



ADJ Hydro Hybrid Beam Shaping FX

The Hydro Hybrid is an IP65-rated moving head that serves interchangeably as a beam, spot or wash. It uses a 420-Watt Osram SIRIUS HRI discharge lamp (6500K) to output up to 14,416 lumens. Motorised zoom allows for a variable beam angle of 1.6° - 17.7° (Beam Mode) or 3.1° - 39.2° (Spot Mode) and an additional variable heavy frost filter softens the beam for wash output. CMY colour mixing is complemented with a 12-position colour wheel, as well as UV and three CTO filters (2700K, 3200K and 4000K). Two gobo wheels feature nine rotatable and interchangeable glass or metal GOBOs or 14 static metal stamped patterns. Includes two rotating prisms – 8-facet circular and 6-facet linear – which are positioned on independent planes and can be applied simultaneously. Control is via wired DMX or wireless DMX using Aria X2 wireless management suite. Caters for remote fixture configuration via Bluetooth and OTA (Over The Air) wireless firmware updates.

Australia: ULA Group ulagroup.com 1300 852 476

New Zealand: ULA Group ulagroup.com 09 218 6532



NEW GEAR



Audio-Technica System 20 PRO Digital Wireless System

Audio-Technica's System 20 PRO is a digital wireless TX/RX system that offers self-managing, plug-and-play 2.4GHz audio scalable to 20 channels. The system's ATW-R1440 receiver can receive up to four transmitters. System 20 PRO uses 24-bit/48 kHz digital audio and comes with AES128 encryption. Transmitters are available in body-pack and handheld microphone configurations. Either transmitter type features two antennas built in, OLED displays, and slide-to-mute switches. The body-pack transmitters feature water and sweat-resistant cW-style locking 4-pin connectors. Optional two-bay charging stations allow the transmitter's NiMH batteries to be charged without removing them from the device.

Australia: Technical Audio Group tag.com.au 02 9519 0900

New Zealand: Jansen jansen.nz 09 377 3663

Ayrton Veloce Profile

The Veloce Profile is an IP65 rated profile. It uses a sealed monoblock 850W high efficiency LED module, calibrated at 6500K, with a luminous flux of 43,000 lumens.

The 13-lens optical system offers a zoom ratio of 13:1 and a zoom range from 4° to 52°, its 180mm front lens capable of delivering an ultra-intensive 4° beam.

CMY colour mixing system uses ultra-fast high-definition discs. An ultra-fast, high-definition single-disc progressive CTO enables precise colour temperature adjustment from 2700K to 6500K. A 7-position colour wheel with special filters completes the palette of colour creation tools.

Spins with infinite continuous rotation on both pan & tilt axes.

Veloce has two superimposed rotating gobo wheels, each equipped with seven interchangeable high-definition glass gobos for creating spectacular effects. The effects section has a monochromatic animation wheel and two rotatable prisms that can be combined, including a circular 5-facet prism and a linear 4-facet prism for creating 3D effects. Includes two frost filters.

Australia: Show Technology
showtech.com.au 02 9748 1122
New Zealand: Show Technology
showtech.com.au/homenz/ 09 869 3293



Bittree Patch32A Dante Patchbay

The Bittree Patch32A is a bridge between legacy analog audio and Dante IP audio. It offers 16 patchable inputs or outputs, 16 Dante inputs, and 16 Dante outputs. Also includes redundant power inlets and Dante ports. Patch32A has jumper selectable input and output levels and jumper selectable 0 DBFS Reference Levels (18dBu, 24dBu, -10dBV).

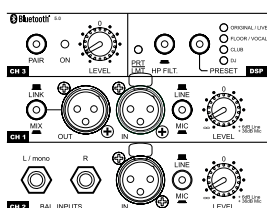
The unit supports 44.1 to 192K sample rate at 24-bit and is AES67 and SMPTE ST-2110 compatible.

Australia: MadisonAV
madisonav.com.au 1800 00 77 80
New Zealand: Madison Technologies
madison.tech 508 788 889



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Elation LIMELIGHT PAR

Colour mixing wash luminaires LIMELIGHT PAR come in 2 configurations: LIMELIGHT PAR S, which uses 7x 60W RGBL LEDs for 5,345 lumens; and LIMELIGHT PAR L with 12x 60W RGBL LED for 8,213 lumen output. These IP65 rated fixtures expand the available gamut with extra Lime coloured emitters.

Variable CCT control channel goes from 2400-8500K and CMY emulation mode is for output colour selection. Both units include integrated preset libraries for specific gel filters.

Zoom range is 5° to 40°, and up to 42° on the S version. Dual yoke for easy floor mounting or rig with a C-clamp or omega bracket. LIMELIGHTS use Aria X2 wireless DMX control.

Australia: ULA Group ulagroup.com 1300 852 476

New Zealand: ULA Group ulagroup.com 09 218 6532



ELATION

NEW
GEAR



Infinity Furion P402 Moving Profile

The Furion P402 Profile is a weatherproof 350W flat field high output LED moving profile with four full curtain framing shutters. The 7400K LED engine features CMY mixing and 8-colour wheel including CTO. Optics include adjustable beam angle of 4.5°-39°, 7 x rotating gobos, a framing shutter system, animation wheel and 5-facet prism.

IP65 rated for weather resistance.

Australia: Clearlight Shows clearlight.com.au 03 9553 1688

New Zealand: Kenderdine Electrical kelpls.co.nz 09 302 4100



ETC fos/4 Fresnel

ETC's fos/4 Fresnel range is a colour-mixing high-intensity LED wash available in three sizes. Integrated zoom range will be 15-51° (5"), 13-55° (7"), and 14-58° (10"). Colour temperature ranges from 1900K - 10,450K.

Includes Neutrik powerCON TRUE1 power cable with power input connector and all control available via DMX. All units include a two-button, 4-encoder user-interface for configuration and USB for software updates. NFC can also be used for configuration.

Australia: Jands jands.com.au 02 9582 0909

New Zealand: Jands jands.co.nz 09 941 9780



Shure ShureCloud

ShureCloud is cloud-enabled centralized management platform providing unified control and management of Shure Microflex Ecosystem devices and IntelliMix Room DSP software licenses from a single user interface.

ShureCloud provides real-time remote management access so users can manage, monitor, remotely update, and control devices and licenses from anywhere. Device monitoring enables users to view device status and performance in real-time to ensure optimal operation. Users can also push updates to ensure all devices are running on the latest firmware.

Users receive instant alerts of issues, enabling quick resolutions with minimal downtime. A user management application within the platform lets customers invite, manage, and control internal access to specific parts of the ShureCloud platform.

ShureCloud also provides a robust suite of security features using accepted standards such as GDPR, TLS 1.2 MQTT, and HTTPS. Data encryption ensures secure communication between devices.

Australia: Jands www.jands.com.au 02 9582 0909
New Zealand: NSL Group Ltd www.nsl.co.nz 09 913 6212



Studio Technologies Model 5682 ST 2110 to Dante Bridge

Studio Technologies' Model 5682 ST 2110 to Dante Bridges are designed to interconnect SMPTE ST-2110 audio channels with Dante audio-over-Ethernet. Model 5682-01 allows up to 32 audio channels to pass in each direction, while the Model 5682-02 supports up to 64 audio channels. Both units are compatible with the SMPTE ST 2110-30 standard for PCM audio signals and the ST 2110-10 standard for signal timing. Both units feature three Gigabit Ethernet (GigE) connections each for ST-2110 and Dante.

Australia: MadisonAV madisonav.com.au 1800 00 77 80
New Zealand: Madison Technologies madison.tech 508 788 889



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THE 2024 AFL GRAND FINAL PRE-GAME ENTERTAINMENT



Photo Credit: Mushroom Creative House - Brian Purnell

Katy Perry Roars in Melbourne with Mushroom

It was the Big Day in September for AFL fans on the 28th as the Sydney Swans and Brisbane Lions squared off for the Grand Final. Sadly for the Swans, Brisbane ended up crushing them by 60 points, but the real winner was the pre-game extravaganza produced and delivered by Mushroom Group.

2024 was the fourth year of Mushroom producing the pre-game show, (note that Mushroom Events have been the production designer and supplier since 2012 or “post Meatloaf” as some like to say) and they continued to deliver. With Robbie Williams’ excellent turn in 2022 followed by KISS’s rock bombast in 2023, Katy Perry had big acts to follow, and turned in a performance that was universally praised.

In a move that some pundits said gave the Brisbane Lions an unfair advantage, Katy spectacularly entered the field standing atop a futuristic cyborg vehicle, piloted by a hidden driver within, belting out ‘Roar’. A long silver train flew behind it, reminiscent of the iconic scene in Priscilla, Queen of the Desert. She dismounted and went straight into ‘Dark Horse’, flanked by professional dancers, and made her way up one of the incredible centrepiece set’s ramps.

Hits including ‘California Gurls’ and ‘Teenage Dream’ were in the mix, flanked by two new songs from her new album 143. A barely-kept secret emerged from within the stage on a lift – our own Tina Arena, who duetted on ‘I Kissed a Girl’ before Katy in turn duetted on Arena’s ‘Chains’. The whole spectacular concoction was brought to a pyrotechnic climax with mega-hit ‘Firework’ as pyros blasted the MCG.

The critical verdict was in almost immediately on digital media, with rave reviews coming in from sport and media journals alike.

My favourite was from “Australia’s Oldest Newspaper”, the satirical Betoota Advocate, who bare minutes after the smoke had cleared, posted a news story headlined ‘Okay, That Was Pretty Sick’, and the first line of which was “Yep, credit to the head honchos at the AFL, that was f%^\$g awesome.”

To say there was lot going on in the roughly 18-minute show is an understatement. The 200 dancers at one point all carried massive silver inflatables (more on the unintended consequences of that later), and there was AR in the broadcast and on the big screen at the ‘G. For the first time ever, lighting got DMX control of the MCG’s famous light towers, spelling out ‘K’ and ‘P’, as well as doing chases. And of course, lots and lots of pyro.

I sat down with Technical Producer Travis Hogan after the fact to talk about how it was all done, what was hidden under the stage, and just what the go was with those inflatables. We start with the amazing stage:

The 2024 AFL Grand Final Pre-Game Entertainment in Numbers

750+ wheels to get the stage and production on and off

300+ crew for the move on and off

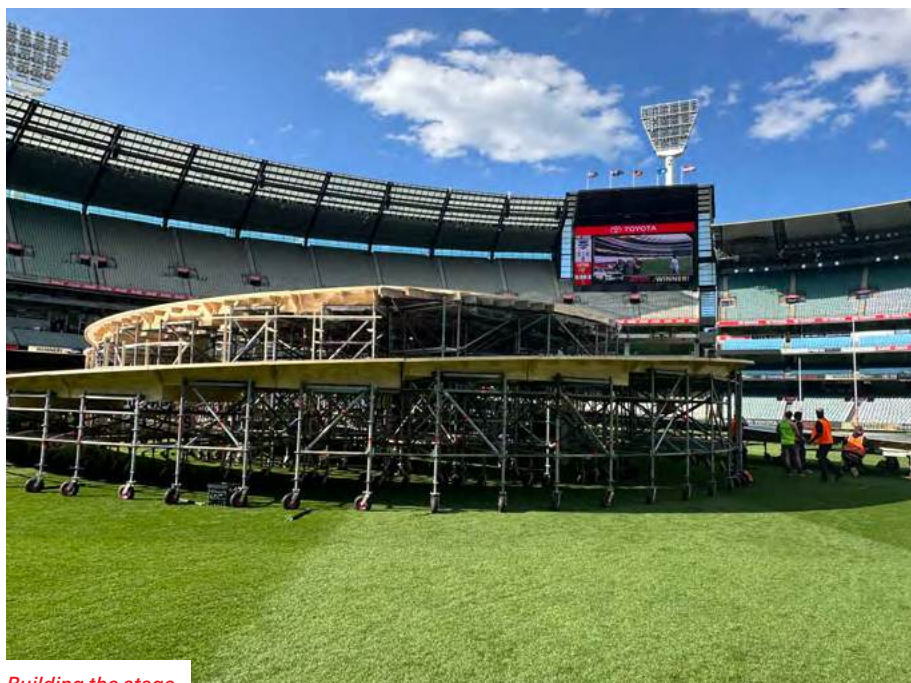
200 dancers on field

Staging and production delivered in 25 semi trailers

40+ tons of production



Building the stage



Building the stage



Photo Credit: Mushroom Creative House - Mackenzie Sweetnam

“The stage was a piece of art; it was beautiful,” enthuses Travis. “The concept came from the US-based creative team of The Square Division in consultation with Silent House, who are Katy’s creative team, and then the whole thing was a collaboration between all of us.

51 stage pieces wheeled out and bolted together. We partnered with Cliftons to build the structure, and they employed some specialist builders. They made a male and female join, and that’s how it all lined up so perfectly and quickly. It was very, very impressive. Several stage builders we approached to build it said that it was too difficult, but Cliftons grabbed the ball and ran with it.”

The beautiful clad structure concealed quite a lot of tech and people underneath. “We had CO2 systems on the stage, with pop up CO2 vents that are like sprinkler heads,” continues Travis. “We brought them from America specifically. Because we had people under there, we had to install CO2 monitoring and alarms, and there was a paramedic standing by with oxygen for the dozen people that were under there. In addition to Tina Arena, there was a lift operator, Tina’s audio technician Danny Olesh, and half a dozen scaffies either side, ready to start breaking apart the stage because that had to happen from the inside. We had to put a comms aerial under there because the stage and the set pieces were interfering with RF. With Tina, we figured out that she would have to have been under there for an hour if we wanted to keep her a secret from the crowd, so I decided to load her in five minutes before the show. I just walked her up and lowered her down using the lift.”

The 'futuristic cyborg vehicle' Katy entered on was custom made in Melbourne to creative's concept. "It was basically a four wheeled vehicle with driver and mechanic with a fibreglass shell," relates Travis. "The driver was one of Katy's people, which I was much more comfortable with, and the mechanic was in there just in case anything went wrong. There was a camera on the front so they could see, and they both had comms so we could tell them to go faster, slower and stop. All up, the vehicle section was much easier to do than I thought it was going to be."

Which brings us to the part that wasn't. "Those metallic inflatable discs were by far the hardest part of the show," admits Travis. "When I first heard about them from creative, I thought, flippantly, 'no problem, I'll put them in a room.' Our Production Manager, Simon Johnson, brought me back to Earth. 'How big is this room, Trav?' he asked. 'Is it the size of Rod Laver Arena, cos if not, they won't fit.' I asked 'What about a couple of semis?' and Simon says 'You'd need seven'. This is why Technical Producers like me need Production Managers like Simon, because they bring us back to reality."

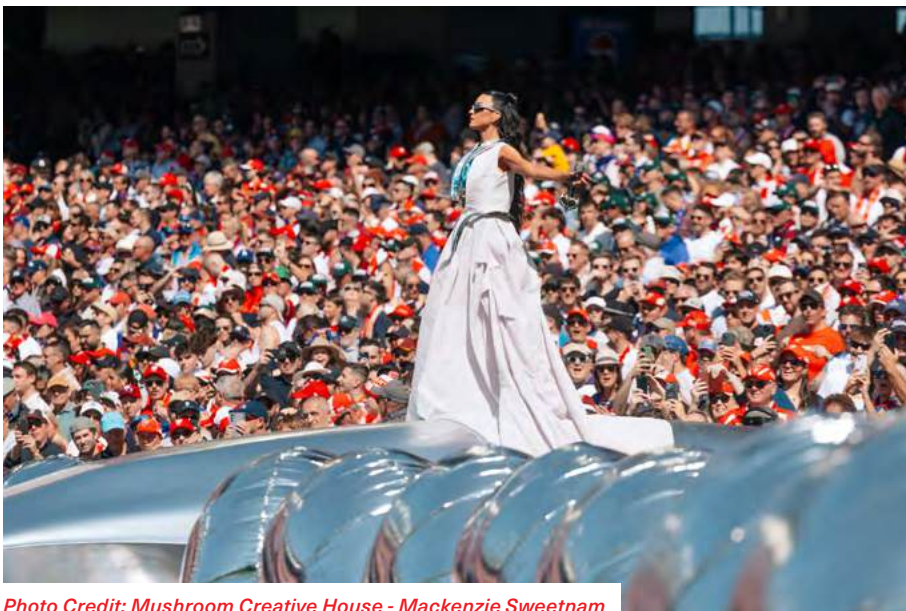


Photo Credit: Mushroom Creative House - Mackenzie Sweetnam



Photo Credit: Mushroom Creative House - Mackenzie Sweetnam

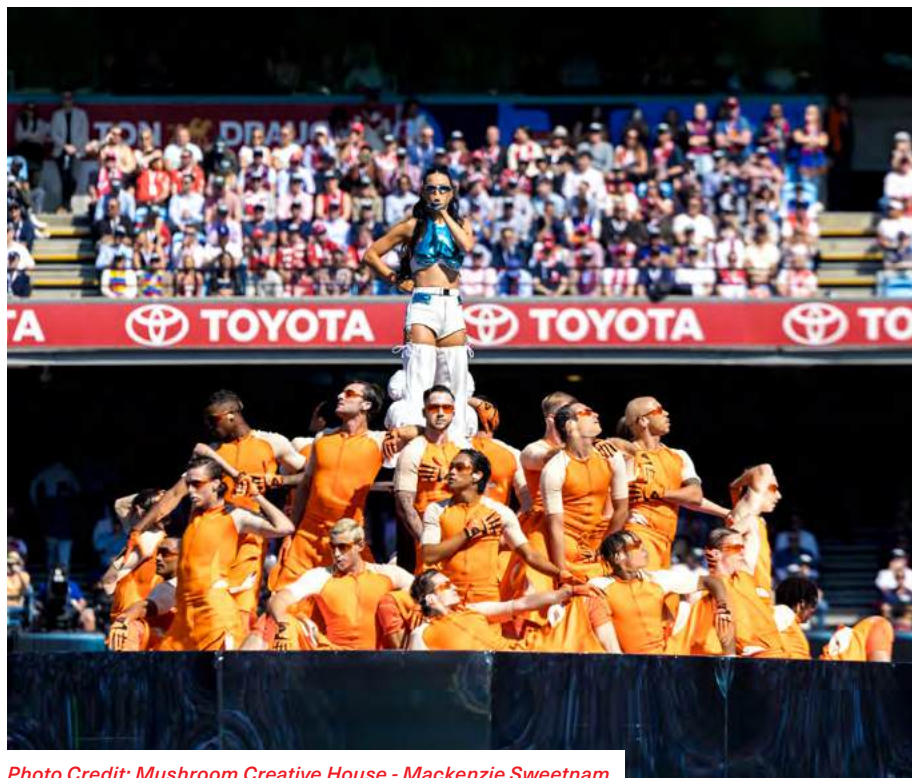


Photo Credit: Mushroom Creative House - Mackenzie Sweetnam

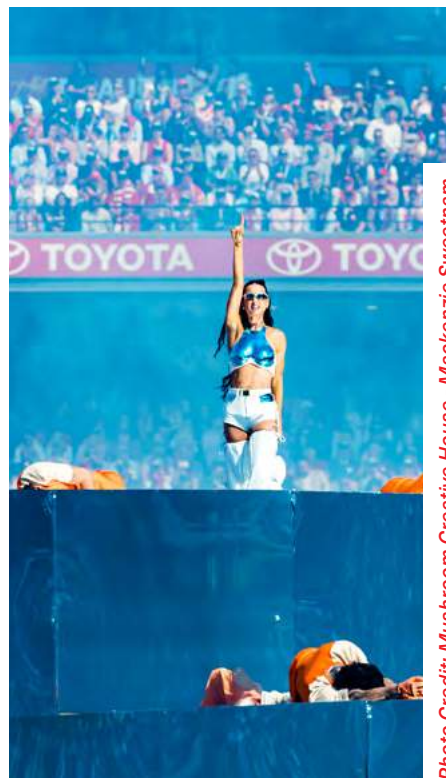


Photo Credit: Mushroom Creative House - Mackenzie Sweetnam



Photo Credit: Mushroom Creative House - Mackenzie Sweetnam

The infamous inflatables backstage



With 174 inflatables with a two metre diameter and nearly a metre in depth filled with compressed air, there was of course nowhere to store them if they were inflated, so they had to be inflated and deflated constantly through rehearsals. As is custom for the Grand Final, there were 90 ADF personnel on hand to assist, and that became part of their volunteer work.

The inflatable drama didn't end there. The first time they went into the stadium, comms started going down. "Anytime they went anywhere near anyone, their radio comms went down," sighs Travis. "So we had to bolster up the comms aerial system and rethink how we were transmitting and receiving. Seriously, they were the biggest challenge of the whole show!"

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Less problematic was lighting. "The whole lighting spec was 144 Chauvet Professional Color STRIKE M strobe/washes on dollies, controlled by grandMA3, and provided by PRG," confirms Travis. "And we also got to address the MCG's floodlights, making 'K', 'P', patterns, and chases; that's the first time it's ever been done. The technical infrastructure to do it has been there for a while, but it's always been something that's been closely protected by the MCG for lots of good reasons. This year, through a series of meetings and negotiations, we managed to get it through, and there's been a hell of a reaction to it. People loved it!"

Other elements included the AR overlay for broadcast with new infrastructure from Champion Data, a local sport graphics specialist. The original digital content was supplied by Silent Partners out of the US, working with Mushroom and Katy's team for two weeks. The spectacular finale's pyros were dominated by high-flying coloured smoke (along with some traditional fireworks), provided by ShowFX.

"It was a challenging but successful production for Mushroom Group," concludes Travis. "We've got the AFL, the media, and people in entertainment arguing about which of the last three of our Grand Final shows have been the best. We could not be in a happier position!"

Simon Johnson (centre) wrangles inflatables at rehearsals



Understage CO2 infrastructure



Credits

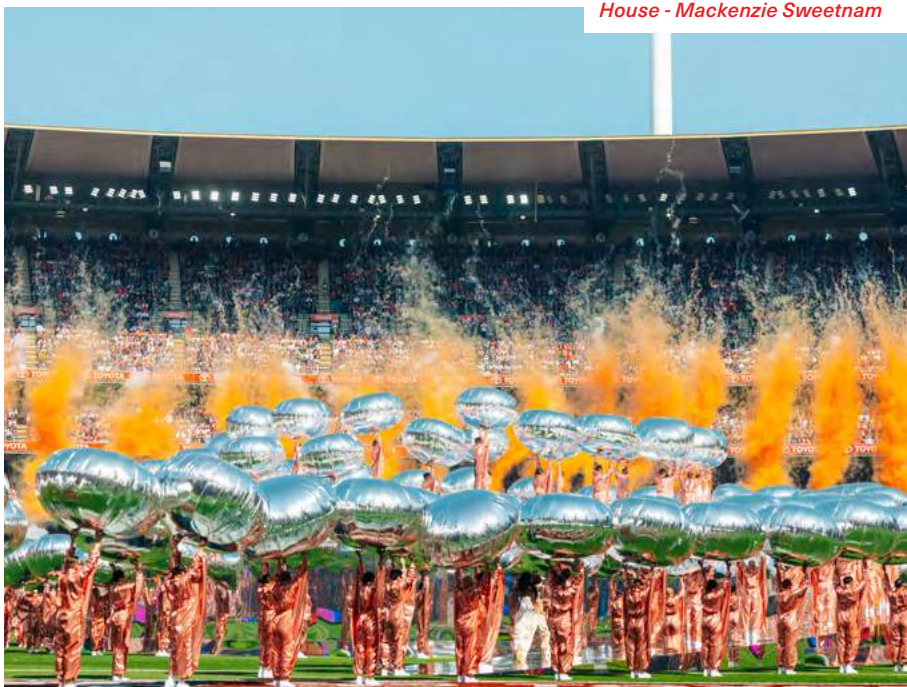
- Technical Producer - Travis Hogan
- Creative Producer - Tom Macdonald
- Project Director - Anna Toman
- Production Manager - Simon Johnson
- Local Choreographer - Yvette Lee
- Television Director - Gary Deans
- Production Coordinator - Ann Gibson
- Television Director - Gary Deans
- Audio Director - James Kilpatrick
- Playback - Ryan Fallis
- FOH Audio - Tim Milikan
- Pyrotechnics - Allan Spiegel, Rohan Thornton
- LED Content - Dave Hase
- Lighting Director - Chad Spencer
- Stage Managers - Hayden Vassallo, Stephen Moor, Chris Newman, Jeremy Nolan, Josh Green



Photo Credit: Mushroom Creative House - Mackenzie Sweetnam

Suppliers

- Producers – Mushroom Events and Mushroom Creative House
- Artist Creative Team – Silent House and the Squared Division
- Staging – Cliftons
- Audio – JPJ
- Video Servers – CT
- Lighting – PRG
- Additional staging and staffing – Prostage
- Stage Finishes – Linear LED
- Special Effects – ShowFX
- Content – Silent Partners & Hase Creative
- Labour – Gigpower/Australian Defence Force
- Communications – Articulate
- RF Management – PRM
- Automation – ShowTech
- Augmented Reality – Champion Data
- Custom Sets – A Blanck Canvas





Technical Fitout set to commence at Christchurch's The Court Theatre

Artist Render - Colombo St to Gloucester

From a ruin, to a shed, to a custom designed full production house

The Court Theatre will celebrate a landmark moment at the end of the year as they move into their long-awaited, purpose-built home in the heart of Ōtautahi Christchurch. The new three-storey Court Theatre is being built on the corner of Colombo and Gloucester Streets, part of a Performing Arts Precinct, one of the anchor projects in the Christchurch Central Recovery Plan.

The \$56 million theatre comprises a 377-seat main playhouse auditorium, a 120-150-seat studio theatre, front-of-house facilities and is a full production house, funded in partnership with Christchurch City Council. Recently announcing their first exciting season commencing May 2025, we spoke to Ross Gumbley, Artistic Adviser/Lead Director, and Flore Charbonnier, Transition Project Manager. They describe the ups and downs of the thirteen years since the original Court Theatre was irreparably damaged in the 2011 earthquake and their technologically ambitious vision for the future.

The Start of the Ride

Forced to leave their home of 35 years, The Court Theatre Trust initiated a fundraising campaign to construct new facilities at a location in Addington, about 15 minutes drive from Christchurch city centre. Thanks to the generous support of donors, The Court moved to a temporary facility, affectionately dubbed

'The Shed' due to its original purpose as a grain storage silo. They miraculously opened to the public in December of the same year after a sixteen-week build. Ross recalls, "It was a heady time and a rushed move, but The Shed was a lifeboat for us."

With the many challenges the temporary solution posed, there came opportunities. Ross smiles wryly, "There is nothing like designing a theatre space to inform your next design! Working out of The Shed made us really think about why the original Court Theatre had been so successful. We've been going since 1971 so obviously something was working and we realised it was the intimate spaces that had shaped our theatre company's development over the years. The audience were so close that they were swept up in the performance. At The Shed a 16 metre proscenium opening forced the audience away."

Creating an intimate experience became the driver for the project team tasked with

designing the new theatre and they used the years spent 'camping' in The Shed to conduct extensive research. Ross was especially influenced by UK theatre producer Iain Macintosh's book 'Architecture, Actor and Audience', "Iain was fascinated by the different responses to the same performances whilst touring and concluded that theatre architecture was vital to the success of a performance."

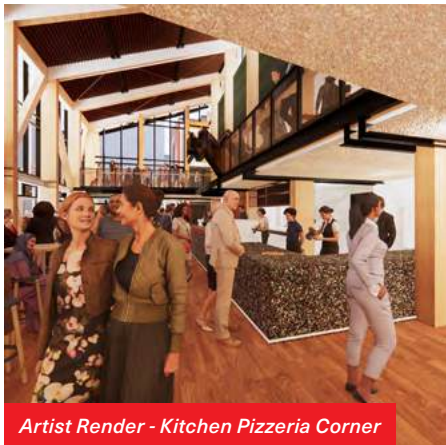
The team spent time with Sydney Theatre Company, as well as utilising their extensive contacts in the UK to visit numerous theatres. They compiled a wish list and realised that all the concepts that they wanted to 'pinch' had been designed by the same architects, globally renowned Haworth Tompkins, "Unbelievably we got an immediate introduction and from that point everything just seemed to fall into place. After what we had been through following the earthquake, it was like a torch in the darkness."



Artist Render - Main Theatre



Artist Render - Dressing Room



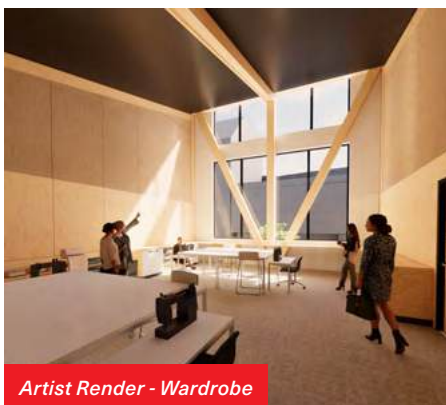
Artist Render - Kitchen Pizzeria Corner



Artist Render - Lane Corner



Artist Render - Education Studio



Artist Render - Wardrobe



Artist Render - Studio Theatre

Haworth Tompkins led the project from concept design before handing over to New Zealand-based practice Athfield Architects during preliminary design. During detailed design, the two architect companies and The Court team collaborated with Charcoalblue who consulted on the technical facilities design.

The Worst Time in History to Build a Theatre - or Not?

The team began the design process just as New Zealand went into lockdown. Initially thinking this would be a disaster with two UK based companies in the mix, it turned out to be a positive experience for all. Flore explains, "The sense of crisis meant everyone simply parked their egos at the door. We established a 24/7 work regime, meeting at seven in the morning or seven at night. We would discuss issues before we went to bed in NZ and wake up the following morning to find that somebody in the UK had found a solution

and there was a new drawing in the inbox. It was incredibly efficient and a reflection of the strong relationship between the Council, The Court Theatre, our architects and the wider consultant team."

An equally incredible achievement was achieving everything on the initial rider even with supply chain issues and increased construction costs. Ross reflects, "When you have been without a studio theatre for a decade, or are using a rehearsal room with dodgy acoustics, or splitting the company and rehearsing off site, you end up with a pretty extensive wish list. We were committed to providing our actors and creatives with the very best."

"The budget has certainly creaked and we have responded by sucking the theatre in. The footprint has compacted and the building is working really hard. There is no fat in the design as you can tell when you see the kilometres of cabling and pipe work running through the walls."

The Technology - No Holes Barred

Focused on intensifying the actor and audience relationship, the heart of The Court Theatre is the 377-seat Stewart Family Theatre, with three levels of seating tightly wrapped around a semi-thrust stage, with high levels of flexibility and deep integration of technical facilities.

The stage engineering system, supplied by Australian company The P. A. People, includes a modular stage floor which can be adjusted to a range of levels with under stage access to the wings. The seat mounting is cleverly integrated to allow the first four rows of seating to be removed as required, bringing the audience even closer to the action. Ross is particularly excited about the accompanying automated flying system with electric winches, "We are going from people running around in the rafters, essentially with fishing rods, to the first fully automated system in New Zealand. It will transform our production design."

Ross is also looking forward to moving to the new rehearsal room, "The rehearsal room in The Shed had the most horrendous reverb, meaning actors would think they were adequately projecting their voices, until we moved into the theatre. We want to have exactly the same signals in the rehearsal room as in the main stage and have recruited Jon Farren from Marshall Day as our acoustic consultant to advise our contractor Hawkins."

Other suppliers include L-Acoustics, working with local company BounceNZ, on audio and the new PA systems for both auditoria. Lighting procurement has been complicated by the advances in technology during the theatre's planning stages and the request for tenders for lighting has only recently been released. The team spent three months working with distributors testing out options, "We were looking at a 50:50 split between tungsten and LED but now we will be almost exclusively LED since it has evolved so much." Flore adds that some halogen lamps will be coming with them from The Shed until they reach end of life.

The theatre is also leaping head-first into the age of digital communications. Flore explains, "Technical Manager Giles Tanner has worked extensively with the consultants to achieve next level connectivity of the building with all the audio-visual and lighting capable of talking to each other. For networking and control we are using LS Group (lighting) and Barton Sounds (AV)."

Ross reflects that the technical design has been hugely influenced by guidance that Roger Watts, Principal Architect at Haworth Tompkins shared way back at the beginning, "He advised us to remember that the majority of people who will work in this building haven't even been born yet. We've tried to give the future as many options as possible by providing rudimentary rigging power and data in all the spaces."

The theatre company will take over the building for completion of the technical fitout and transition of their operations in December.



Flore

Bringing the Community in, Literally

All aspects of the working theatre, including set-building, costume-making and rehearsals, will be based on-site. With plans from the start to make these traditionally back-stage activities more visible to the public, the design incorporates a panoramic window that opens onto busy Columbo St, "We have purposely located the set assembly and painting dock so that they can be clearly seen from the street, hoping that this will entice passersby in for a coffee and of course to our ticket office!"

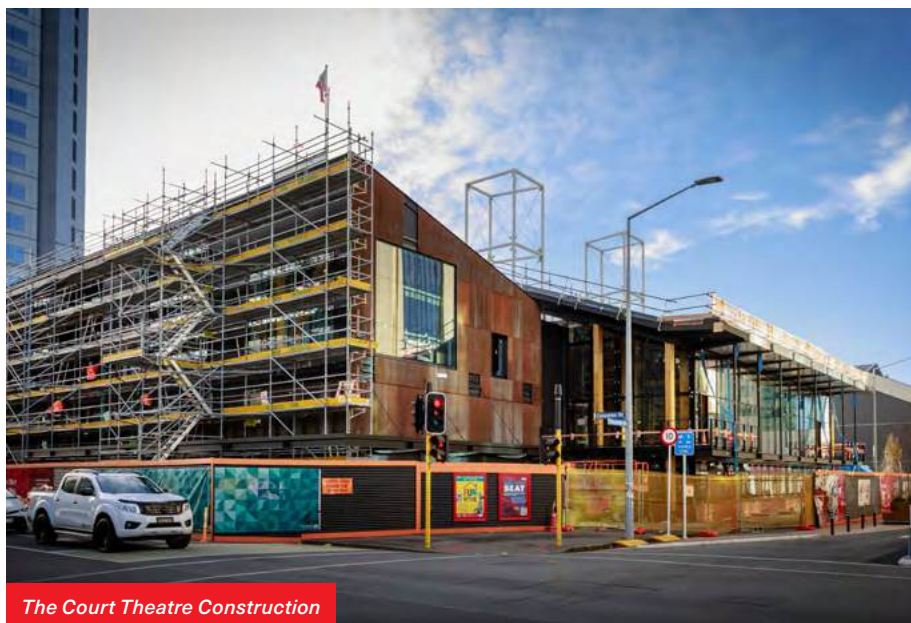
The Court Theatre will also run an extensive education programme targeting everyone from ages five and up. Flore is passionate about training and nurturing the next generation, "We know that our performers and creators are the best in the business and so are the perfect people to provide those training opportunities. We want to offer young people a sustainable career path and we hope that our world class facilities and equipment will encourage our talented youth to remain in New Zealand and not go overseas. The programme will be hybrid, encouraging participants to train across all areas of the industry including audio-visual and lighting technology, stage and costume design, and production."



Ross

The End of One Journey, the Start of Another

The theatre is set to open on May 3 2025, almost 53 years to the day since the first production. For Flore and Ross this will be the end of an epic journey that started with a strong earthquake. Flore may smile when she says that the highlight for the administrative staff is going to be views of the outside world after having spent over a decade working in Portacombs, but you can see how emotional this journey has been for both of them. Ross sums it up, "We are truly thankful to the Christchurch City Council for their support and faith in us and helping make this happen. We are going from a rehearsal studio where we can still see our breath at three in the afternoon to what I believe is going to be the best theatre space in Aotearoa."



The Court Theatre Construction



Artist Render - Upper Turanga

MIX ~~ANTI~~-THEORY



Got a favourite mix theory that you like to tell people about when you're working in the studio? Bin it.

Mix theories are developed by people of all musical persuasions, levels of experience and notoriety. They impinge on our space from every angle, theorising about everything from the highly technical to the downright nonsensical. Their techniques, best practises and 'solutions' are ubiquitous; you only need to go to YouTube to discover literally millions of them.

But why do we listen to the mixing theories of others? What part of our own musical journey involves the desire to gather knowledge in this way? Presumably this searching – which perhaps is the case with almost any learning – is inspired by the belief that we can learn something from others by adopting, adapting, or absorbing external experiences and repurposing them in our own work. There's some truth to this of course. The history of recorded music is littered with countless examples of it – we all learn something from others.

But to what extent can we absorb the complex thoughts, processes, likes and dislikes of other mix engineers when we're utterly removed from their musical context (and clearly not privy to their internal musings)?

We're not mixing their song with their tools and preferences in mind, we're mixing ours, in a whole different context with our own skills, likes and dislikes in play. Why would we ever consider replacing our own ideas with a wild prediction of what Joe Bloggs might do to our mix if he were in our seat?

In a mix session, it's generally unhelpful to imagine what another mix engineer might do based on what you may have heard them say in an interview. Moreover, taking another engineer's specific instructions literally – on how a vocal should be EQ'd, or how long a reverb should be on a snare drum, or which elements to parallel-compress to achieve the 'perfect' mix – is farcical. If you're listening to people who tell you things like that you should run a mile.

No engineer steeped in the art of mixing will ever tell you specifically what to do, because it's utter nonsense to suggest that there's a 'perfect' compression ratio for kick drums, a failsafe approach to mixing R&B, the 'right tone' for guitars, or a 'best' technique that applies in every circumstance. People who make these sorts of claims are simply pushing their own barrow. I mean, even Google Maps gives you alternatives on how to get from A to B... on a road network, where the path to your destination is literally set in concrete! Imagine how many alternative routes there are when there are no roads...

Mixing is a creative process, with no defined map. When you embark on a mix, often you start without even knowing the destination: you travel on your own path, and when you 'arrive', there's not even a signpost to prove it.

Are we there yet?
Who knows.

Sound Is Complex, Language Around Sound Is Not

As is perhaps evident from the very terms I'm using here, language is largely incapable of defining sonic imagery in even the most rudimentary ways. Even if expertly deployed, words are inadequate at elucidating the infinitely complex nature of sound, preferences of taste, musical likes and dislikes and so on. You only need to look at how often someone describes something as sounding 'warm' to know that. Warm means nothing.

So how then does a famous mix engineer impart his or her wisdom onto you in any meaningful way, other than by having you listen to examples of their work? They can describe techniques, divulge what gear they use, and even what signal chains they deploy on certain instruments, but I am yet to discover anyone who can describe to you how their inner thought processes work during a mix.

By speaking about their experiences, mix engineers are far less likely to provide you with priceless information about how a mix works than they are to confuse you with vague theories of what made a particular instrument sound great (to them), in a mix that they may have created decades ago (that's not yours). A mix engineer is not, by default, a linguist or a philosopher, and even if they were, the chances of them describing the art of mixing to you in enlightening terms is on the anorexic side of slim.

I'm not suggesting that there's nothing to be gained by listening to a conversation with your favourite mix engineer on YouTube, or indeed, by having that chat in person given the opportunity – of course there are benefits to that. But be aware that there's a great deal of hidden text lurking behind these sorts of conversations (maybe you'll buy their plug-ins) and if you're not careful, what you'll find yourself absorbing, along with some anecdotes and a technique or two, are a pile of theories that, when deployed yourself later, will do your mix more harm than good.

Mixdown (Fall) Theory

In short, nothing threatens a mix quite like a theory, whether it be your own or someone else's. They impose unconscious intellectual barriers against listening that are often ill-conceived or inappropriate. Statements like: "You should always keep bass guitars dry in a mix," or "I never use mix bus compression because any compression that's laid across a whole mix is bad compression." All these theories do is paint you into a corner.

The way mixing is described by language, written or verbal, can be a fast-track to a deep misunderstanding of what you're hoping to achieve when you sit in front of a stereo image (or inside an immersive one). Words can trick you, deceive you, and sometimes convince you that what you're doing is the 'wrong' thing or a 'bad' thing. And by the way, don't think for a moment that you're immune from deluding yourself. We all do it.

Words like 'good' and 'bad,' 'right' and 'wrong' are moral terms. We're not talking about ethics here, we're mixing music, so how and where do these terms apply? And while we're on the subject, consider the idea of the 'perfect' mix. The perfect

mix is about as meaningless a term as the 'warmth' of tape. Give a multitrack recording to all the engineers on YouTube who claim to have the 'perfect' compression setting for vocals and all the latest plug-ins to smooth 'bad' resonances and they will all achieve a different result. QED: mixing is, by definition, a subjective artform, and these people are selling snake oil out the back of their bedroom studio for their benefit, not yours.

When you find yourself using terms like 'bad' etc – and if you're like me you always will – don't beat yourself up about it, just be mindful that it happens and aware that this sort of language can unconsciously bias your impression of a mix.

Techniques, Not Theories

What matters most when you're learning the art of mixing is mastering the art of deep listening while simultaneously developing techniques that can turn your ideas – the ones sparked by your imagination, not someone else's – into reality. Imagining a sound is one thing, knowing how to transpose your ideas into a sonic ingredient and deliver that into the ears of listeners, is quite another.

Learning how audio gear works, whether software or hardware, digital or analogue, is critically important. It takes considerable amounts of time training your ear about how compressors, plug-ins, mics and speakers, rooms and consoles all work. No-one knows it all, not by a long shot, and with the amount of gear hitting the market these days, no-one ever will.

But ironically, for all the social media networks out there that allow us to share information, and for all the new gear that can in some cases perform sonic feats that were beyond the scope of only last year's technology, let alone last century's,

music has tended to grow narrower and more generic. Not at the fringes, mind you. There's some amazing work being done out there. But at the centre, mixes are growing more generic as everyone shares techniques, uses the same pre-recorded drum sounds, and tries to conform in genre-specific ways. While new software (and some hardware) grows in capacity, the parameters of our mixes seem to be narrowing, almost like we're shrinking under the weight of a collapsing star.

But if this metaphor has any validity to it, the next thing that's going to happen is that the music industry is going to explode – outwards. When that happens, artisans out there who have focussed on their own techniques and developed their own sound, consciously or otherwise, will be pushed into the light. Music styles and forms can only collapse inward for so long...

So I urge everyone reading this to consider your own development, by calculating how many hours you're spending watching YouTube or posting on forums, and using at least some of that time to sit on your own at the helm of your mixing setup and explore sounds in ways that haven't been suggested to you by someone else.

What's the point in the end of trying to sound like everyone else particularly when you're trying to make yourself heard? Do you really think the best approach to standing out from a crowd of millions, all of whom are wearing red shirts, is to wear a red shirt?

Do yourself a favour, wear something else.

Andy Stewart owns and operates The Mill in the hills of Bass Coast Shire, Victoria. He's happy to respond to any pleas for recording, mixing or mastering help... contact him at: andy@themill.net.au



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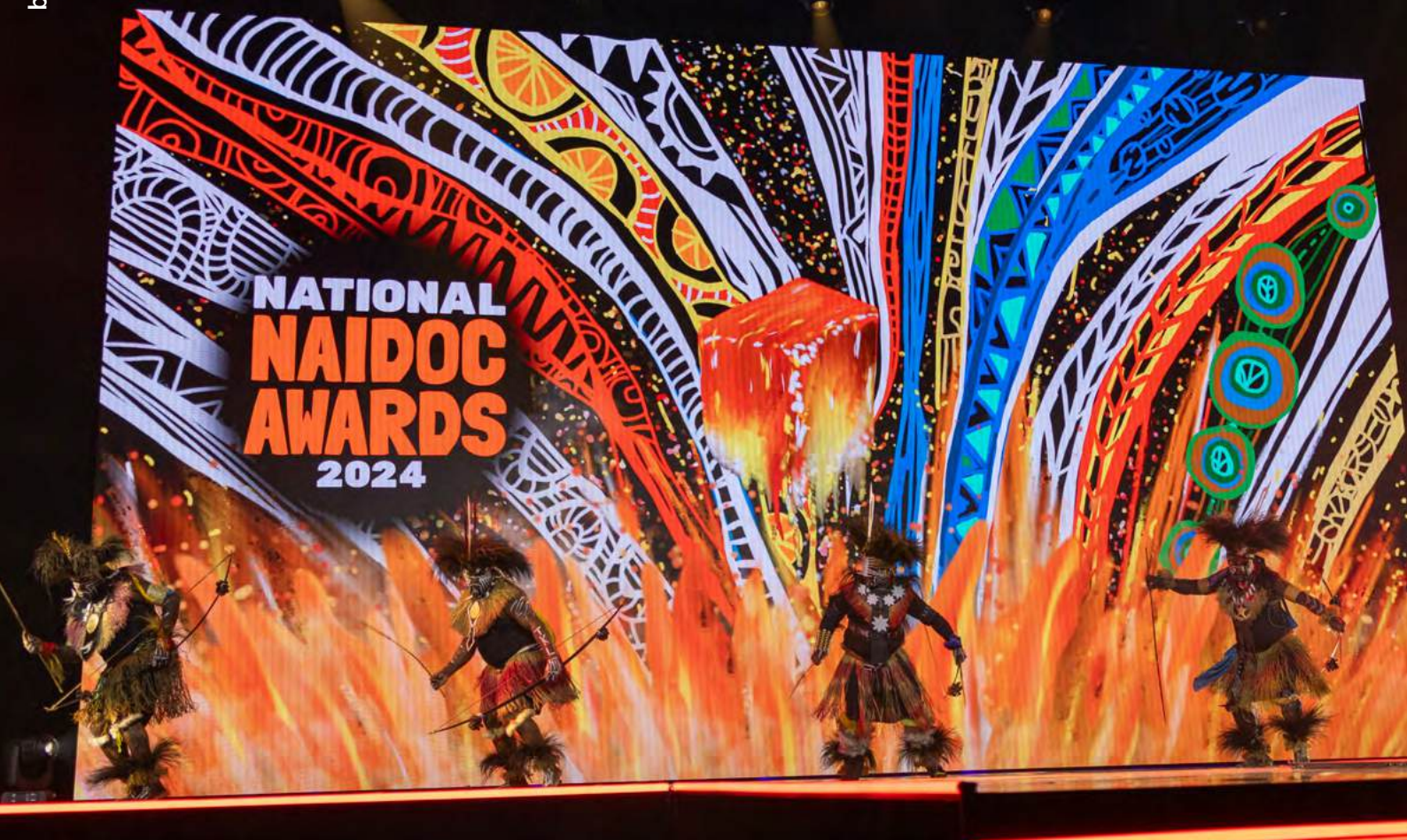
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Novatech's Big LED Looks at the 2024 NAIDOC Awards



Held each year at the culmination of NAIDOC Week, the NAIDOC Awards celebrate indigenous excellence in culture, leadership, art, sport, and community. The 2024 ceremony was held Saturday 6 July in Tarndanya/Adelaide at The Adelaide Convention Centre, hosted by Steph Tisdell and Rob Collins. Broadcast live on the ABC, around 2,000 live guests saw Auntie Muriel Bamblett win NAIDOC Person of the Year and Auntie Dulcie Flower AM receive a Lifetime Achievement Award, before a spectacular reveal of Jess Mauboy and her band to cap off the night.

Production design and event management was by Wrapped Creations, an indigenous event company out of Perth and Karratha, Western Australia, headed by CEO David Yakas. Wrapped engaged Adelaide's Novatech Creative Event Technology to supply spectacular LED screen solutions for the event, including the ingenious engineering behind the Jess Mauboy reveal.

Along the sprawling space of the combined F, G, and H Halls of the Convention Centre, Novatech installed two massive 36 x 4 metre ROE Visual Vanish LED screens flanking the sidewalls, showing IMAG, PiP and AUSLAN interpretation. On the main stage, the main LED screen was 10.8 x 6 metres, made of ROE Visual CB3 panels. To the side of the main screen stood three LED pillars, 1.8 metres wide by 6 metres high, also constructed of ROE Visual CB3 panels.

"Wrapped Creations designed the staging to have the house band on stage right, and the presentations on stage left," explains Ashley Gabriel, Director of Sales and Marketing at

Novatech. "There was a thrust for people to come up to a centre stage, and beyond that, they just wanted a clean look. They wanted to hide all of Jess Mauboy's backline and gear so it would be a surprise when she closed the show. We had some discussions and came up with a solution."

The solution was to split the main LED screen into two halves, 5.4 metres wide by 6 tall, and mount them on a track so they could roll away, hiding the band and Jess upstage for the reveal. When the time came, a stagehand each side simply pulled the screen apart, and Jess and the band fired up!

"The track we used was Bomac Altrac from Melbourne; they manufacture a lot of equipment for industries like mining," reveals Ashley. "Wrapped Creations came up with the idea of having an animated graphic of dot-painted hands moving the screens, as the hands image was part of the NAIDOC Week messaging. Between the video content, great timing by the stagehands, and a fantastic shot from the ABC, it looked great on screen!"

To help convey the concepts to the various and numerous stakeholders involved, Novatech's Principal Designer and Innovator, Christopher Bolton, created a series of renders as part of his design of the room that encompassed the layout of the screens, the stage set, and a comprehensive lighting design. Using Unreal engine, the renders enabled speedy turnaround and visualisation for everyone involved to approve the designs and overall look of the room.

A lot of work went on behind the scenes to balance the needs of the live event in the room and the broadcast. The event's Technical Director Darren Tempany, from TechPlus Live in Perth, contributed to the design, worked with all suppliers on site, and called the show. Novatech's Christopher Bolton, worked with the Adelaide Convention Centre's lighting crew to ensure the ABC's needs were met, while the Adelaide Convention Centre handled lighting and audio.



“The main technical issue you have to be careful of when filming LED screens is moiré,” continues Ashley. “That’s a shimmering effect that makes the pixels look like they’re moving on camera. We chose ROE Visual LED CB3 LED panels with 3.75mm pixel pitch, processed with Brompton processing. After testing colour, balance, and brightness, the ABC loved the look.”



STUNNING VISUALS FOR NOW OR NEVER

FROM NOVATECH

Now in its second year, Melbourne's cutting-edge Now or Never festival promises "an exploration of potential futures through a carefully curated program of pioneering audio and visual art, performance, visionary thinkers, digital culture, and commissioned work." Funded by the City of Melbourne, one of the highlights is the conversion of the Royal Exhibition Building in Carlton Gardens to a concert venue, with four nights of bold, loud, and totally unique musical performances.

From Thursday August 22, the shows included multi-instrumentalist Eartheater (USA), techno from Sandwell District (UK), producer Erika De Casier (Denmark), Melbourne-born and Iceland-based experimental musician Ben Frost, local Wiradjuri woman Naretha Williams, celebrated electronic musician Clark (UK), and Italian techno DJ Donato Dozzy playing a night co-hosted by Untitled Group.

Such an electric and eclectic programme needed inspiring and innovative visuals to go with it. Having acted as technical supplier at the REB's first year of Now or Never, Novatech Creative Event Technology were again chosen by Production and Technical Managers Gig Control to supply audio, lighting, and

video to the event, but with a brief to do something quite different visually.

Having tamed the acoustically challenging REB in 2023 with draping and an expertly deployed L-Acoustics PA, Novatech chose to roll out more or less the same system, with a couple of minor tweaks. Gig Control's Nathan Aveling was in charge of all creative design, including lighting and video, and created a 'spine' for lighting that extended from above the centre of the stage, running down the length of the audience, covered in 66 GLP impression X4 Bar 20s, supplemented by trusses around the room running 44 Ayrton Perseo S IP65 moving heads. A further 24 GLP impression X4 Bar 20s were on upright truss.

With 2023's visual highlight being an enormous ROE Visual Vanish LED screen, Nathan decided to go for something different; very different. "We started talking about going from LED to a projection-based design," says Leko Novakovic, Managing Director of Novatech. "We have Wahlberg high-speed DMX controlled roll-down screens, and we discussed how we could use them. Nathan wanted to do both front and rear projection; the front could be doing backgrounds, and then the rear could be doing punchy overlays. And sometimes we could take away the screens completely and just blast the architecture of the room with projection."

Nathan and Novatech agreed, and the design progressed. But Nathan had a

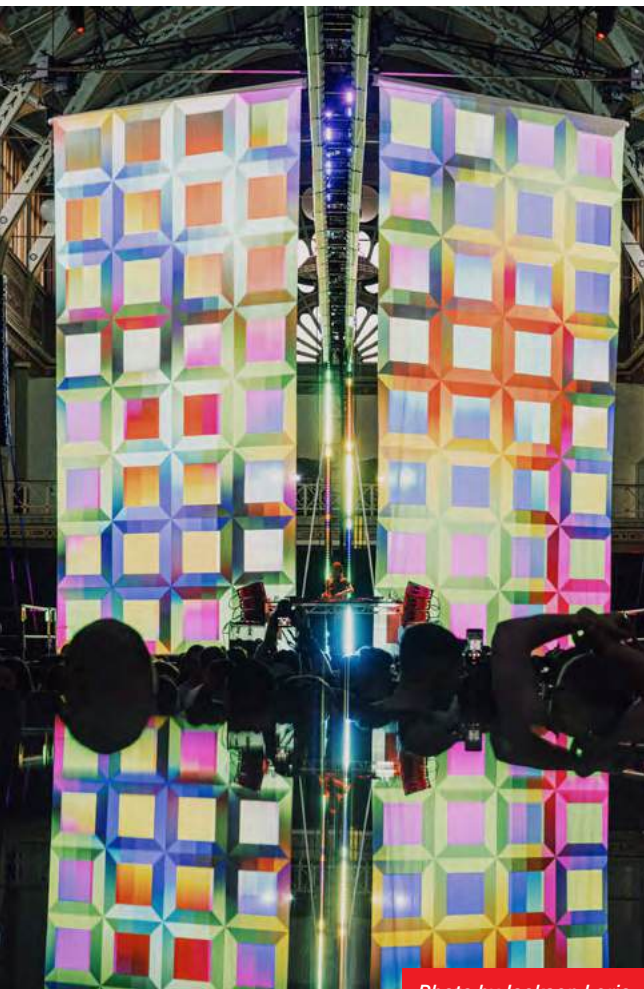


Photo by Jackson Loria



Photo by Now or Never

design challenge for Novatech. “A roll-down screen works just like a blind in your house,” explains Leko. “You hang up a tube of material, then you tell it to go up and down. But Nathan said, ‘no, I don’t just want the screen to go up and down, I want the bottom of the screen to stay at stage level, and the top of the screen go up and down too.’ I knew it had been too easy up to that point!”

With some great input from Showtech Rigging, who are in-house at the REB, Nathan decided they could use Novatech’s Wahlberg DMX-controlled winches to in turn fly their roll-down screens in and out. ShowTex Australia helped Novatech source a projection surface that would look equally good being front and rear projected at the same time.

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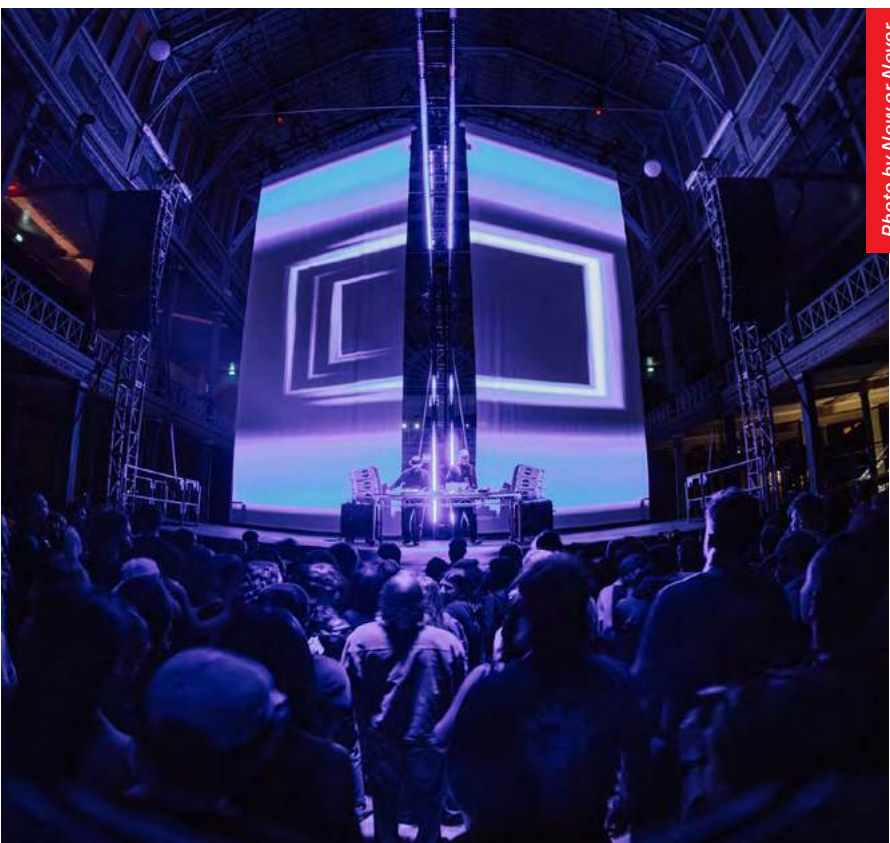


Photo by Now or Never



Photo by Duncan Jacob

This incredible system allowed the screens to roll down the entire height of the vast REB, a total of twelve metres for both of the six metre wide screen surfaces. They could then move, grow, retract, change aspect ratio, and more, with projection, screens, and winches coordinated and controlled in real-time, allowing for astonishing projected effects.

The front projectors were six Barco UDM 4K22s, three per screen, rigged around 40 metres from the front. Rear projection was from four UDX 4K32s with two per screen, positioned around 12 metres behind. Two disguise 4x4 Pro media servers ran content, and could alter the projection canvas in real time in reaction to the screen movement. "We got the disguise servers talking to our grandMA3 lighting console, which was also controlling the Wahlberg DMX winches and the Wahlberg DMX roll-downs. The disguise coordinated with the screen movement, and sent a black mask as the screen dropped, so you wouldn't see any projector overshoot."

Credits:

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- Novatech – Lighting, Rigging, Projection, Automation, and Audio suppliers
- ShowTex Australia – fabric projection surfaces



Photo by Duncan Jacob



NIDA Prepares Students for The Future with Meyer Sound's Spacemap Go

Sydney's National Institute of Dramatic Art (NIDA) has been training the next generation of actors, creatives, and techs since 1958. Always staying ahead technologically, NIDA equips its BFA (Technical Theatre and Stage Management) students with the knowledge and skills to create innovative productions from graduation and into the future.

As part of this goal, NIDA recently upgraded the PA in its Playhouse Theatre to be capable of mixing with Spacemap Go, Meyer Sound's spatial sound design and mixing tool, which runs on the backbone of a Meyer Sound Galileo GALAXY processor. After a remarkably short learning curve, both staff and students are now creating productions using the system. I asked NIDA's Technical Operations Manager, Ben McPharlin, about the path to going immersive, and how he sees theatre practice developing with the new workflow.

"When I joined NIDA in December last year, The Playhouse Theatre had five Meyer Sound ULTRA-X40s in LCR mode, with two surrounds in the room and a couple of JBL subwoofers that were left over from the previous install," explains Ben. "When looking at replacing the old JBL subs, a Meyer Sound 2100-LFC was the best option. Other system processing was considered with purchase of the 2100-LFC, however realising that a Galileo GALAXY would unlock the ability to use Spacemap Go with a Meyer Sound PA, we pitched the idea to Paul Prestipino, our Head of Sound Design and Senior Lecturer, and went ahead with the Galaxy at the same time as the 2100-LFC, giving us room to increase the speaker count over time as needed. Soon after this upgrade, we were in discussions about doing a multi-channel sound project with the Technical Theatre and Stage Management students."

Ben added two Meyer Sound ULTRA-X20s that the Playhouse usually used as front fill. Meyer Sound's Owen Ironside (Sales Manager, APAC) then got involved with the project, supplementing the system with a further two ULTRA-X20s, and facilitating the purchase of the Galileo GALAXY processor. The Playhouse now had an immersive-capable PA consisting

of five loudspeakers around the perimeter and four overhead.

"Paul Prestipino hadn't yet used Spacemap Go when we first started the conversation," Ben continues. "It was about a month and a half from the initial conversation about doing the project with Spacemap Go to having a system running in the room. Paul had a day to experiment with it beforehand, and then the students were hands-on, using it in creative ways after about four hours. The week when they were first introduced to Spacemap Go ended with the students presenting their project."

It's testament to the excellent design of the Spacemap Go iOS and computer interface just how easy it is to implement and automate complicated sound movements in seconds. "I was really surprised just how easy it was to get the system up and running and have the students using it," concurs Ben. "It is so straightforward that we've already got our first production using it now in November. The speed and intuitiveness of Spacemap Go is incredible. What the students achieved with it in the short period of time they were using it was well beyond our expectations. It got rid of

the barriers and thinking about the technical implementation, because it works all of that out for you. Hours of programming in QLab just becomes a flick of a finger on the iPad. Hit record and move on to the next cue. One of the shows had over 100 cues in their five-minute presentation. And this is with people who had only just been exposed to the technology, so I'm really excited to what they'll do with it in the future."

We asked Paul Prestipino to describe the types of soundscapes the students created, and what were some of the highlights; "Each student was asked to create a personal five-minute sound work," explains Paul, "inspired by a dramatic or sensory provocation, that moved spatially around the listener. Thinking about and deciding where to locate elements of their soundscapes in order to achieve strongest storytelling impact was definitely a highlight and valuable learning experience."

How much time did you have to get used to the Spacemap Go software, and did you find it easy to use? "Not too long," answers Paul. "We used QLab Network cues to integrate Spacemap Go. Once the students got their heads around that change in workflow, it was pretty smooth sailing. The process of visually mapping sound was ultimately easy and enjoyable."

Where do you see the future of sound design going with technology like this? "Technology in and of itself does not make great art," muses Paul, "but with the right set up and idea, spatial audio in live performance has the potential to create a more precise and heightened sense of movement in sound design, which can potentially enhance the sensory and emotional experience of the audience."

NIDA prepares its students for the future of sound design and gives them insight into new directions. Using technologies like Spacemap Go enables students to imagine what theatre sound design workflows and outcomes will be like in years to come. "These students are getting introduced to technologies like Spacemap Go in year one, term one," states Ben. "Who knows what they're going to do with it once they start pushing the limit? In this instance, their first project was all pre-recorded sources, so there were no live elements. However, talking to Paul, he is thinking that because Spacemap Go is so easy and intuitive, he will likely incorporate some live elements in the next project."

With a long history in theatre and performing arts, Meyer Sound will continue to help NIDA develop their equipment and curricula. "Owen's been fantastic," agrees Ben. "He has been really supportive of the project, and both Owen and Meyer Sound's Corporate Innovation Design Engineer, Malcolm Embleton, spent almost a week with us. They spent three days installing the system, tuning it, and training us. They did some training with the tech ops staff, as well as with the Technical Theatre and Stage Management students, and gave a presentation to our executive about the system. It is a good partnership, and we'll continue to work with Meyer Sound on future projects."



"Using Spacemap Go in a theatrical context has allowed more creativity and flexibility in my design to further immerse the audience into the world of the story."

Sound Designer Jasmine Power (TTSM Student) using Spacemap Go for the current Production 'An Octoroon'



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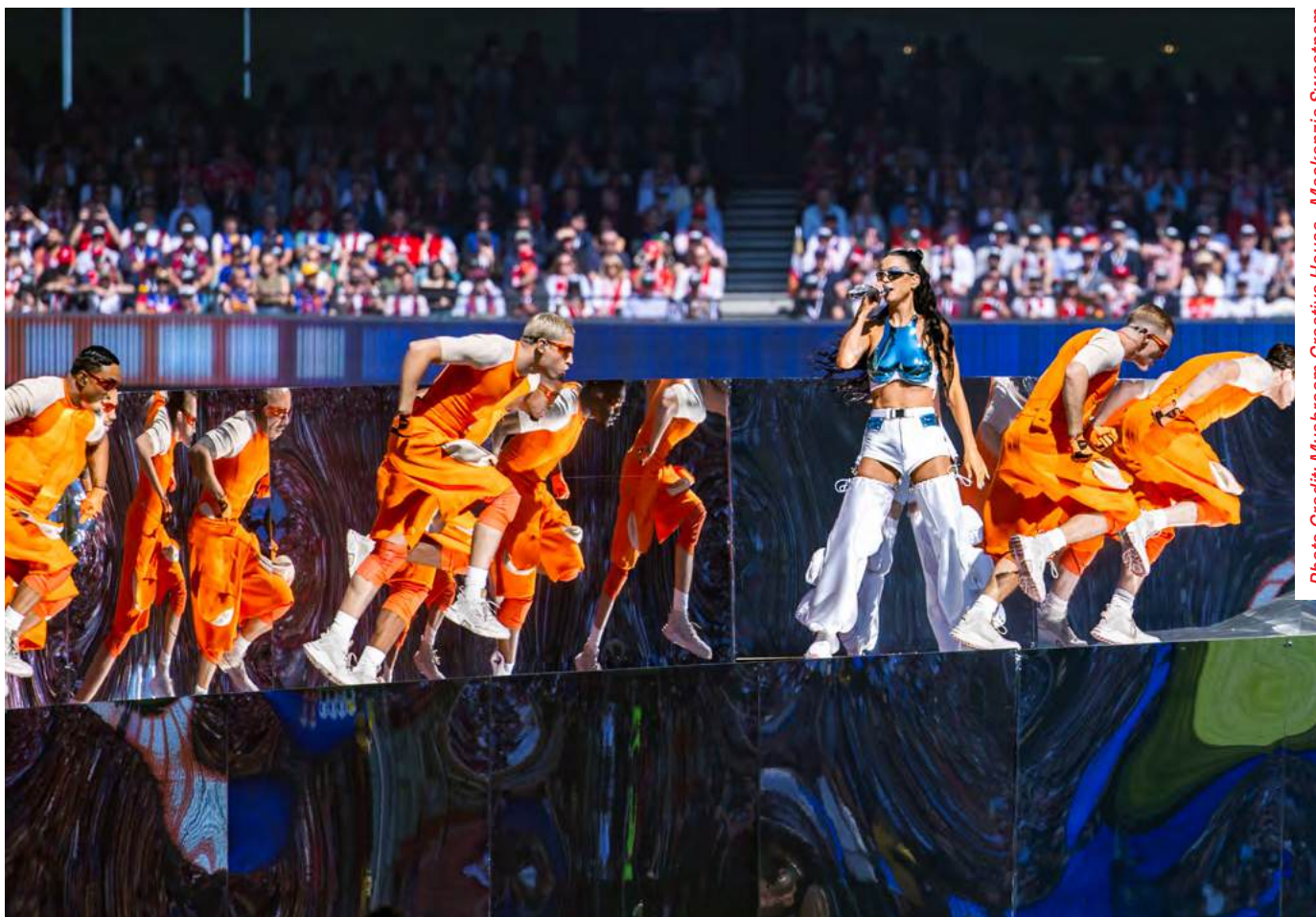


Photo Credit: Mushroom Creative House - Mackenzie Sweetnam

WIRELESS MANAGEMENT AT THE '24 AFL GRAND FINAL

There is no doubt that the AFL Grand Final is Australia's largest sporting event. Held annually at the Melbourne Cricket Ground, the game itself accounts for about two hours of broadcast on a Saturday afternoon, and there is also the pre-game entertainment that continues to grow in scope and complexity. The nearby Footy Fest in the surrounding parklands and the televised Grand Final Parade the day before the match are also part of the scope.

Profiles RF Management (PRM) were engaged by the AFL again this year to undertake RF Spectrum Management across all activities at the MCG, The Footy Festival, the Grand Final Parade and, for peace of mind, an AFLW match at another oval in the precinct. In total across the Grand Final Week, there were 899 frequencies under management from 135 stakeholders.

When asked why frequency management at the AFL major events is important, Frizz Ferguson, AFL Broadcast Manager said, "At

an event of national importance such as the Grand Final, we need to engage experts to do a job as complex as this. With PRM onsite, it gives us assurance that any issues can be fixed quickly and efficiently with no risk to the broadcast."

Frequency management is a small but vital part of an event like this, and it cannot be achieved without good working relationships and communication between all parties in the first place. Recognising that RF Spectrum Management is important to their event,



the AFL deliver their scope, objectives and key contacts to PRM in a timely manner which facilitates the communication and relationships with all the other stakeholders.

As with all live events, most of the hard work is in the planning stage and this is also true for RF Spectrum Management. PRM commenced working on this project in July. This included reaching out to the major broadcasters, both rights holders and non-rights holders, multiple live production companies that were going to be onsite, communications providers and

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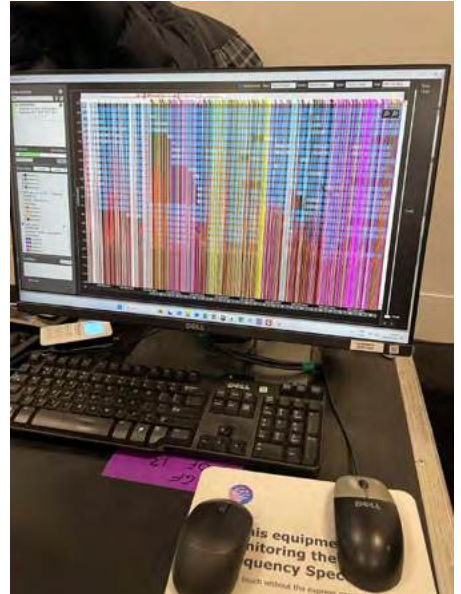
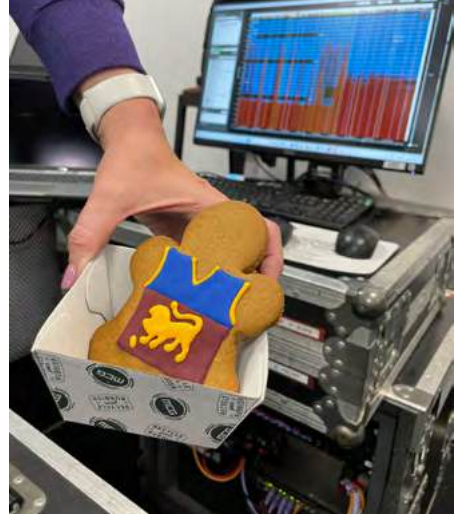
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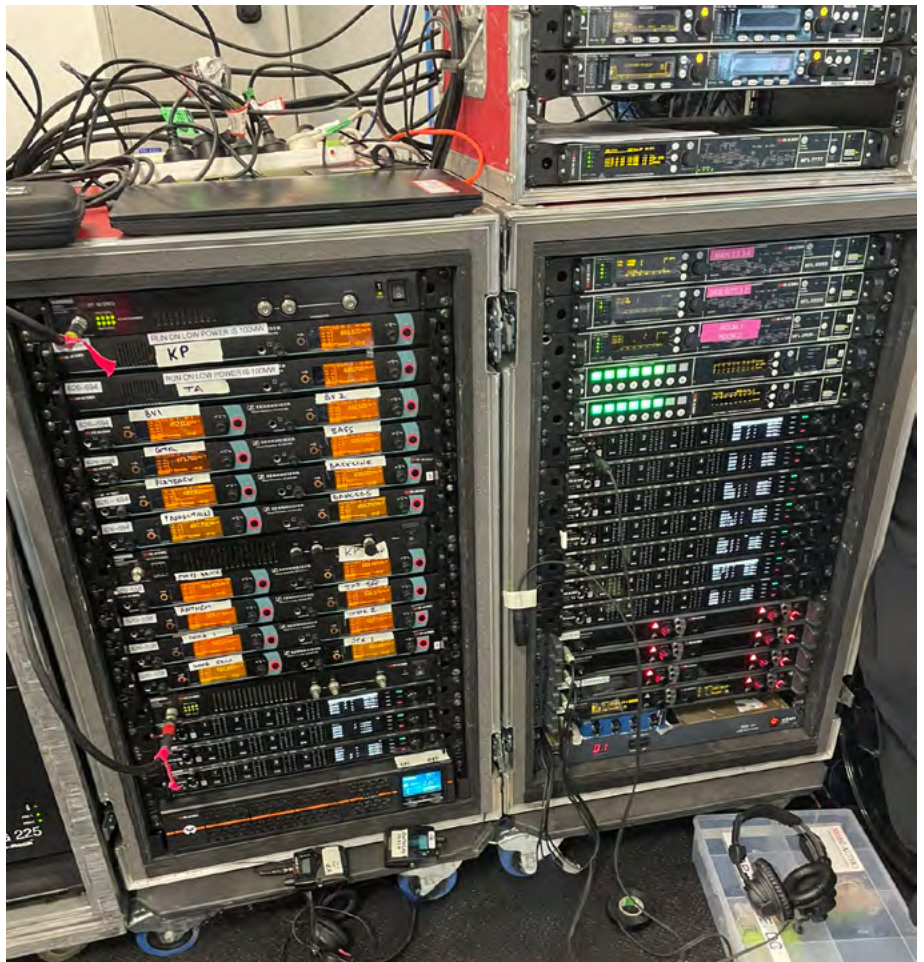


activation managers to ascertain their RF requirements. It really isn't possible to conjure up nearly 900 compatible frequencies the day before the gig.

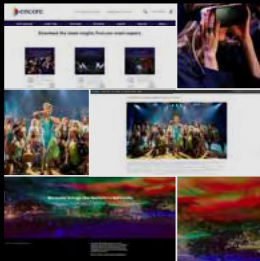
To do this, PRM utilise a number of tools. The primary tool for the event is the frequency management software FreqCoord (www.freqcoord.com). FreqCoord is cloud-hosted and can support multiple users concurrently, which was necessary as there were three spectrum coordinators onsite at show critical times.

Spectrum monitoring stations were deployed throughout the MCG and parklands and supplemented by spectrum coordinators patrolling the precinct to identify rogue users or assist legitimate stakeholders who were experiencing issues.

Throughout the broadcast and in the days following the match, PRM followed up with the larger stakeholders to make sure they did not experience any issues and that PRM could learn from any mistakes that may have been made. This is especially important as it helps to build trust in the process and ensures future events can be managed effectively. The stakeholders included the broadcast facilities provider, live production crews both inside and outside the stadium, hospitality AV providers, radio broadcasters, two-way radio providers and sports presentation. All reported that there were no issues – a job well done!



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SIMPLE. NOT.

Wireless Audio Distribution on an Island

When you think of audio systems for an invitational fun run, most folk would think 'speakers on sticks' or a small line array setup. And while the audio component of a fun run on Sydney's Cockatoo Island was just that, connecting a bunch of disparate speaker systems together across the 600m island, including a DJ on the back of a Jeep and a mobile Golf Buggy, is not your everyday gig.

The concept presented by Studio Messa, the client, was straightforward: "We want a DJ on the back of a Jeep Ute leading a group of around 600 invited runners along a course plotted across the island. And we want the DJ's music to be heard at the start line and at seven other locations around the course." As the creative directors for the event, Studio Messa emphasised that the music had to be broadcast live from the DJ positioned on the back of the Ute.

Simple. Not. It turns out that the topology of the island was not sympathetic. Those who have been to the island will know that it has a large lump of Sydney Sandstone in the middle some 400m wide and 20m high. And the course runs around the rock. And naturally, the course also goes through the 200m tunnel cut through the rock.

But for The P.A. People's Event Communications Team, wireless is their middle name.

The solution developed by Account Manager Andrew Rodd and Senior Engineer Andy Carson comprised a multi-stage, multi-technology wireless solution to check all the boxes.

The team decided that a networked solution based on ClearCom's LQ series IP interfaces would be appropriate, given the wide bandwidth and low latency using the Opus codec. Once that decision had been taken the challenge was to develop a network design that suited the topography.

First cab off the rank, so to speak, was the solution for transmitting the audio from the DJ in the Jeep back to a mobile and fixed receive

stations. A 4G Cellular PepLink based solution was chosen with transmission routed through our Datacentre facility. Three modems, each fitted with SIM cards from two carriers for resilience, were used – one to transmit the audio from the DJ on the Jeep, and two to receive the audio, one on a mobile golf cart with a small PA system, and the second at the main stage area. A VPN was established between the three modems through the Datacentre to route the audio.

Once the DJ audio had reached Audio Control at the main stage area, it was then distributed across the island via a combination of single mode fibre cables and a series of three 60GHz RF links to seven separate PA systems. Each system incorporated a ClearCom LQ device to decode the received audio.

Alongside the RF and systems engineering to distribute the DJ audio, the team from The P.A. People also provided the entire audio solution across the site. The systems variously comprised a Bose Professional ShowMatch line array system at the starting line, along with Celto 10" coaxial speakers, Community R 0.5 cabinets, Bose Professional AMM112 wedges and Tannoy DVS6s.

And while the event took place during some of Sydney's worst weather this year, the fun run event went off without a hitch. "This was our first collaboration with The P.A. People, and it was clear we needed a specialist team to bring our vision to life," said Oliver from Studio Messa. "The team at The P.A. People delivered a seamless audio solution that exceeded our expectations."



Photo Credit: StudioMessa



Photo Credit: StudioMessa



Photo Credit: StudioMessa

Shure joins the WMAS Revolution



with Axient Digital PSM

Powered with WMAS innovation, the solution offers unmatched flexibility and scalability for monitor engineers, RF engineers, and rental houses to ensure impeccable performances.

Shure has announced Axient Digital PSM, its first digital wireless in ear monitoring solution that exceeds the needs of today's top-tier touring acts and large-scale productions.

Axient Digital PSM has been meticulously designed and developed to meet the rigorous

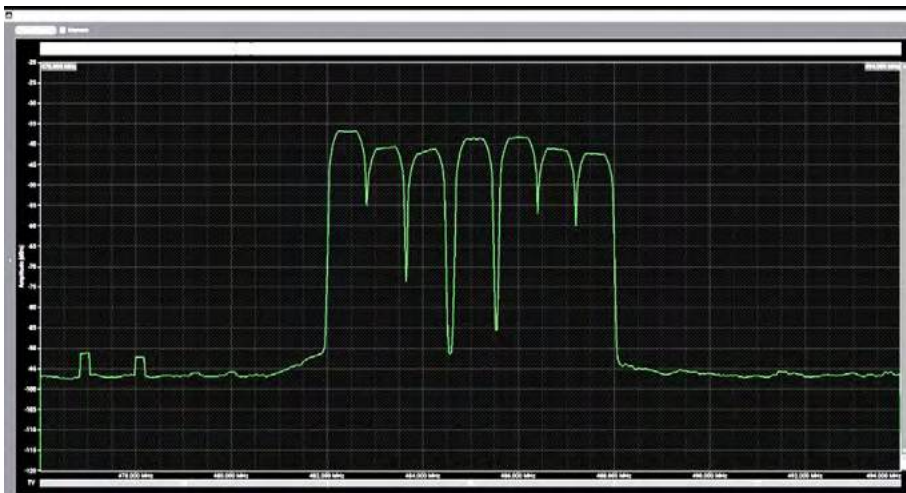
demands of touring professionals and rental houses, ensuring high-performance RF and spectral efficiency that caters to the rapidly evolving wireless landscape. This new digital in ear monitoring system is Shure's first Wireless Multichannel Audio System (WMAS) enabled product line, empowering audio professionals

to adapt to a wide variety of environments. With its forward-looking design, Axient Digital PSM represents a long-term investment for tours, venues, and other applications, elevating flexibility and scalability to unprecedented levels.

"For nearly a century, Shure has pioneered innovative solutions that help solve our customers' problems while moving the industry forward. Now, Axient Digital PSM offers a revolutionary digital radio with WMAS capabilities, remote management for engineers, and a pristine audio experience for performers," said Nick Wood, Senior Director, Global Marketing and Product Management, at Shure. "To unlock new possibilities and applications, Shure is dedicated to advocating for spectrum efficiency and WMAS regulations worldwide. Axient Digital PSM takes advantage of this opportunity, giving users more resources to optimize performance and make the best possible use of spectrum, now and in the future."

Superior RF Performance and Audio Quality

Axient Digital PSM enables engineers to say 'yes' to more complex and creative productions because they'll have access to more on-air channels of in ear monitoring. With a next-generation digital radio and sophisticated headphone amplifier design, performers will enjoy the highest audio quality with no compromises to signal reliability and less than 2.9ms latency for the most immersive audio experience.



Powered by Shure WMAS, Axient Digital PSM features a multi-channel wideband mode that significantly increases spectral efficiency. With multi-channel wideband mode, users can free up radios for improved RF performance or channel count scalability.

Developed by Shure, Spatial Diversity employs two transmit diversity antennas, each sending an identical signal on the same frequency, providing RF engineers with a new, easier option for supporting separate zones and optimizing coverage for stadiums, indoor venues, and broadcast studios. When Spatial Diversity transmitters engage with True Digital Diversity bodypack receivers, Axient Digital PSM combines four discrete signal paths per channel to deliver advanced protection against multipath interference and RF noise.

Axient Digital PSM transmitters support both analog and digital input formats, including AES3, Dante, and AES67, which enables monitor engineers to easily connect to modern consoles. Standard AES256 encryption is available for secure transmission.

"I tested Axient Digital PSM with my musicians, and they said it was fantastic. The signal sounds clearer and cleaner. My two favourite features from Shure's new system are Spatial Diversity and ShowLink, as they do the work for you: it syncs immediately, ensures a robust RF, and allows me to do everything from side stage, avoiding hiding behind my guitarist or musicians. It's one less thing that we engineers need to worry about." - Kyle, Professional Monitor Engineer

Flexibility and Scalability

Axient Digital PSM features two single rack space transmitter options: ADTQ Quad Transmitter and ADTD Dual Transmitter. Both offer four flexible and powerful transmission modes.

- Multi-channel Wideband (available regionally according to WMAS regulations), supporting up to 28 channels per 6MHz in the US and 40 channels per 8MHz in Europe. This exceeds FCC's requirement for WMAS to have a mode of operation in which it can operate with at least three audio channels per MHz
- Narrowband provides access to more RF output power per channel and maintains spectral efficiency at 17 channels per 6MHz.
- Analog FM allows for high-quality audio with ultra-low latency
- Axient Digital Standard (Point-to-Point Mode) will let users send long-distance audio to any Axient Digital microphone receiver. It will be available through a post-launch firmware update

With Axient Digital PSM, engineers and rental houses can address their needs today while being prepared for the future.

Command and Control

Axient Digital PSM is supported by Shure's Wireless Workbench® and ShowLink® ecosystem. For the first time, monitor engineers can enjoy comprehensive remote management of every bodypack receiver on stage, with visibility to key parameters and the ability to make adjustments if necessary.

- With ShowLink, real-time control enables continuous monitoring of all bodypack receivers, including channel quality, battery life, volume position, headphone connect status, and more. Remote management helps audio professionals know when it's time to swap batteries, when to intervene if channel quality is compromised, resolve volume control issues for the artist, and troubleshoot faster
- With Wireless Workbench and the AD600 Spectrum Manager, engineers can address technical issues, monitor RF spectrum, and maintain backup frequencies, ensuring smooth performances from start to finish

Axient Digital PSM wireless in ear monitor system will be available early 2025. For more information please visit: www.shure.com/en-ASIA/performance-production/axient-digital

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Does WMAS Technology Still Require RF Frequency Management?



Our industry is on the precipice of change with the introduction of Wireless Multichannel Audio Systems – WMAS. But what is it and is it the answer to managing RF interference?

WMAS is a new method of efficiently using RF spectrum which is a diminishing but finite resource. Although it is wideband technology, it allows users to deploy many audio channels within a single TV channel.

Presently, only the two major manufacturers – Sennheiser and Shure – have announced that they have products supporting WMAS and as expected, there are some differences in their implementations of this new standard.

Does this mean we no longer need to consider wireless management at large events? Well, that depends. In a system where there is a single provider onsite and all devices are networked using Spectera or Axient Digital then probably not. Those systems can natively manage interference within the parameters the

operator has programmed into them.

The complexity of RF Spectrum Management comes when there are multiple suppliers using lots of different systems that support differing technologies and they are not networked, so are not communicating with each other. It is in this sort of scenario that independent RF Spectrum Management will remain relevant.

The major manufacturers have both indicated that WMAS will not replace traditional narrow band wireless audio devices in the short term, however, we can expect that over the next few years this technology will trickle down from the high-end products in their ranges to lower end products just as we have seen throughout the evolution of digital audio. It is expected that there will be a mix of wideband and narrow band products in use together for quite some time.

Even as the number of wide band devices in use increases, competent RF Spectrum Managers who know the products in use and understand how all the devices can be used efficiently and effectively will be needed on large or complex events. This is particularly

important in the shorter term when we can expect to see a mix of different technologies in use.

Sennheiser Spectera's WMAS utilises one TV channel which is either 6MHz in the US or 8MHz in Europe. At the time of writing, it is unclear how units imported into Australia (with 7MHz channel spacing) will be handled. Shure's Axient Digital PSM allows users to program four stereo channels in a 1MHz block.

Channel disparity aside, should a user turn up on site with multiple WMAS systems, there may not be enough "spare" spectrum for narrow band devices utilised by other event stakeholders. An RF Spectrum Manager can help with coordinating this with various tools at their disposal and their extensive knowledge.

Continued development of new technologies in this industry is essential as RF spectrum is a finite resource that is having more and more demand placed on it. RF Spectrum Management will not be replaced by the new technologies but will evolve to maximise their agility and continually push for more efficient use of spectrum.

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THE VANGUARD REVAMPED

The Vanguard is a live music venue holding about 150 people and is located in the Sydney suburb of Newtown, on King Street. Originally opened in 2003, The Vanguard is part of the inner western fringe and alternative scene, offering a wide variety of live events which include anything from burlesque shows through to stand-up comedy, jazz nights, and live bands. It also features a restaurant serving a unique style of modern Australian cuisine.

With an assortment of heavy metal bands playing on Friday the 19th of October, The Vanguard reopened its doors to the public for the first time in just over two months. It had just undergone an extensive renovation. The refurbishment covered all aspects of the venue including remodelling, new bathrooms, new bar, new lighting, new carpet, and new décor. Also included was an overhaul of the audio-visual systems.

Beau Neilson, the owner of The Vanguard since April 2024, commissioned the refurb. Silver Bullet Projects specified and installed the lighting, audio and video components.

Audio

From a strictly audio-visual perspective, audio took the biggest share of the budget. Previously, The Vanguard was running a DiGiCo console with Dynacord COBRA PA boxes. The upgrade includes a full d&b audiotechnik system with an Allen & Heath console and stage box.

The new d&b audiotechnik sound system includes four ALi60 on main L/R, four Bi6 subs, four E8 delays, one M4 drum fill and six M6 monitors, powered by 5D and 30D amps.

The d&b audiotechnik ALi60 speaker is the installation variant of the d&b audiotechnik AL60 augmented array. The ALi60 loudspeaker module is passive and has a 60° constant directivity dispersion pattern in the horizontal. In The Vanguard, it makes for a good flown array speaker that remains in place.

For audio control, the venue is now run off an Allen & Heath dLive C3500. It has 24 faders, six layers, and two built-in touch screens. Also in the mix is a new stage box, the Allen & Heath CDM32, boasting 32 mic/line inputs, 16 line outputs, XCVI 160x64 FPGA core, and a 96kHz sample rate.

The main aim of the audio upgrade was to get the best sound possible in the space. This went beyond just purchasing new speakers and a desk. Extensive acoustic treatments were also installed which included things such as new draping, baffles, new carpet, and remodelling to soften the space and improve the overall sound quality.

Lighting

The old lighting set up in The Vanguard was run off a single laptop. The lights were old, noisy, and some ran off an old dimmer system.

The new set up consists of 22 static LED fixtures, specifically 10 ShowPRO LED FusionPAR H VIIIs and 12 ShowPRO LED PixPAR 2 Plus. There are now also eight moving lights; two ACME Pulsar S2 Beam/Wash hybrids and six ACME AECO 5 hybrid profiles.

The ACME AECO 5 profile is a 4-in-1 hybrid LED moving head light with a high CRI (Colour Rendering Index) 450W light engine. Capable of doing spot and wash functions with gobos and a shutter kit, it makes for a good workhorse fixture in a smaller venue.

The entire lighting rig is run off an MA Lighting MA2 on PC set up that is run through a touch screen laptop with an MA2 command wing.

The goals of the lighting upgrade was to have everything controllable via 5 pin DMX on the same system and network, have a full set of LED fixtures both moving and static, and to have a control system that featured buttons, faders and a touch screen whilst maintaining a relatively small footprint at the ops area.

Vision

The old vision projector set up was well outdated and struggled to be seen from the back of the room with lights on.

The new vision set up is a projector and a switcher/scaler. It features a motorised 1615mm x 2585mm screen, which gives a 1.6:1 aspect ratio. Shooting onto the screen is an Epson EB-G7500UNL, a 7,500 lumen Laser source WUXGA projector.

WUXGA is an acronym which stands for 'Widescreen Ultra eXtended Graphics Array'. WUXGA displays have a resolution of 1920 x 1200. It's a great resolution for an application such as this one in a small venue that sees a lot of use.

For vision control, The Vanguard now has a four SDI input HD Switcher, HDMI/SDI scaler and an Apple Mac Mini running QLab, a software for designing and playing back sound, video, light, and show control cues. QLab supports sending both LTC (Linear or Longitudinal Timecode) and MTC (MIDI Timecode). In a venue like this it allows the option to sync up audio, vision, and lighting to run together with a single operator.

The goal was to have a low maintenance, yet powerful projector coupled with a system capable of anything, from projecting a holding



slide to running a movie, all the way through to triggering a whole show. All of this, yet still simple and user-friendly enough to just plug in a laptop and go. Vision at The Vanguard is typically there as a compliment to the lighting and sound.

All three systems are more than capable of comfortably handling well in excess of the normal range of gigs held at The Vanguard. Putting in a digital audio system, an LED lighting rig and a laser projector have helped to future-proof the venue. A digital audio desk, a lighting console with a touch screen laptop plus a command wing and a four input switcher feeding one projector makes for smoother, more intuitive operating and much more versatility.

With a big commitment to the quality of audio, lighting and vision equipment in The Vanguard, it now shapes up to be one of the best equipped venues of this size in Sydney.



Phaseshift's Martin MAC Viper XIP and MAC Ones for Lime Cordiale



Phaseshift Productions sent their new Martin MAC Viper XIP and MAC Ones on Lime Cordiale's arena shows on the East Coast, with their lighting designer Dion Prasad

Before their massive Australian tour, the band toured Europe, taking Dion, who hadn't worked with them before, so he could learn the songs and get into the general vibe of the band.

"The Australian run has been Lime's biggest show to date," said Dion. "They saw it as an investment to take me to Europe, learn their set list, and get familiar with it all. It worked out well. We started from scratch to play around, and I built the show throughout the Europe tour. By the time we got to Australia, I had a show file ready to go, and it was probably one of the best I've done."

Dion says that the show's design was a collaborative project between him, the band, production manager Billy and a designer called Ace, who lives in London.

"The design is theatrical and cinematic instead of crazy flashing lights," he added. "It's designed to fit in with the screen content, so it was a visual show. I would emphasize that with lighting to make it seem bigger than it is."

Five pre-rigged trusses holding a combination of lights including strobes, LED bars, and movers, enabled Dion to produce dynamic lighting through different songs. The five linear trusses were all raked at various levels, making the room seem larger.

Initially, Dion asked Lawrie at Phaseshift for some Martin MAC Vipers, and when Lawrie suggested the MAC Viper XIP instead, Dion said that the smile on his face was from ear to ear!



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"I was thrilled to get those from Lawrie!" he added. "I had five for front lighting because the framing shutters on those new XIP Vipers are phenomenal and quick. So what impressed me is a little bit nerdy, is that these new XIPs boot up within 10 seconds, which is very different from the old Vipers. They used to take time to boot up and then lamp them on to get output. With these new XIPs you are ready to go within 10 seconds of booting and powering them up. It makes a world of difference when you're trying to get a whole show together in such a limited time."

"The other thing that really impressed me when I was just testing them out was the gobos within those lights, the depth of field I got, and the output alone from those gobos. Usually, when you put a Gobo through a light, you lose some light output. I didn't see that on these XIPs. They were phenomenal, no matter what you put them through."

Dion thought he'd best test the MAC Ones out before he agreed to take them, and to his astonishment, he discovered that the zoom range on these little fixtures was phenomenal.

"I think a lot of people see them, and they think, oh, you're not going to do much," he said. "But they're light, small and very

bright. I wanted to check the red output as I use a lot of red and amber in the show for side light, and my biggest concern was that it wouldn't be bright enough. But the MAC Ones do an exceptional job with the red chips."

The MAC Ones were used predominantly as Dion's side-fill light and silhouette light. Three were located on each side of the stage, and then eight were positioned behind the band to hit them and make them look cool, silhouetting them throughout the show. Also in the rig were a dozen old-school MAC Vipers.

Whilst touring Europe, Dion built his show file on an MA Lighting grandMA onPC, switching to a grandMA3 full-size for the Australian tour.





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ADELE IN MUNICH



Photo Credit: Stufish

Lighting for Adele's record-breaking Adele in Munich residency, staged in a purpose-built outdoor stadium designed by production designer Florian Wieder at the Munich Messe, was designed by Cory FitzGerald from US-based creative design studio Silent House. Cory started working for Adele in 2022 during her upgraded Las Vegas residency, and also designed lighting for her BST Hyde Park, London shows in the same year.

The 10 blockbusting shows took place over five weekends during the month of August 2024, and were production directed by Paul English. The performances were enjoyed by 730,000 people, also breaking the record for the highest attendance of any 'concert residency' outside Las Vegas! The spectacular production was Adele's second concert residency only, and marked her first non-UK European concert since 2016.

The overall scenography design concept was delivered by Stufish Entertainment Architects, featuring an impressive 220-metre-wide by 19-metre-high curved LED screen – 4,000 square metres of light source mimicking an unfurling film scroll in shape, and a Guinness Book of World Records holder! A 200-metre semi-circular stage was in front of the main video screen and a 93-metre-long curved runway connected each side of this to a B stage in the centre of the auditorium, allowing Adele to get close to her fans.

The creative team behind Adele in Munich spent 12 months working on the various aspects of this massive undertaking, with everything designed to bring the artist as close as possible to as many as possible of her fans in the audience.

The giant seamless curved screen idea was already in place, so this was a major starting point for lighting. Being a completely bespoke build, Cory and his team were able to add some towers and other higher lighting positions, plus quantities of floor lighting during the early phases of the ideation process following detailed negotiations with other tech departments like audio.

The lighting design featured over 250 Robe FORTE moving lights, split into 223 iFORTE LTXs used for multiple key lighting positions for the artist and 36 iFORTES dedicated to lighting the band.

Thirteen Robe iBOLTS were also part of the unique lighting aesthetic developed by Cory and the creative team, led by show director Kim Gavin, to embrace all the challenges and demands of this epic proportioned show by the global superstar. All lighting equipment was supplied by UK-based Neg Earth Lights and the screen was constructed by Solotech.

The screen and the vast overall dimensions of the performance space meant Cory needed bright and powerful fixtures, so Robe's iFORTE LTX was already in his head, and he soon decided to use these fixtures for key lighting Adele as she moved around the space.

Lighting was vital "to recreate some of the theatrical style and ambience of Las Vegas in this completely new and different context," he elucidated, seeking to combine the drama of beautiful, bespoke big operatic looks with the video elements – both IMAG and playback content – in a poetic harmony.

Lighting the show for daylight, dusk and darkness was another challenge, as being mid-summer, all the performances had to be aligned with that natural transition.

Cory has used Robe FORTES before several times, and apart from needing the brightness, IP rated fixtures were a must for the exposed lighting positions, so the iFORTE LTX wash beam was a great choice for these, including a row of deck-based luminaires along the downstage edge of the stage. The iFORTE was also picked for its quality of light.

112 of the iFORTES used for key lighting were positioned on 11 FOH towers in batches of eight or 12 fixtures per tower, which varied in throw distance (to the stage) from between 50 and 400 feet (approx. 130 metres) depending on the stage positions they were targeting.

25 of these iFORTE LTXs were running on a tag-and-anchor tracking system with another

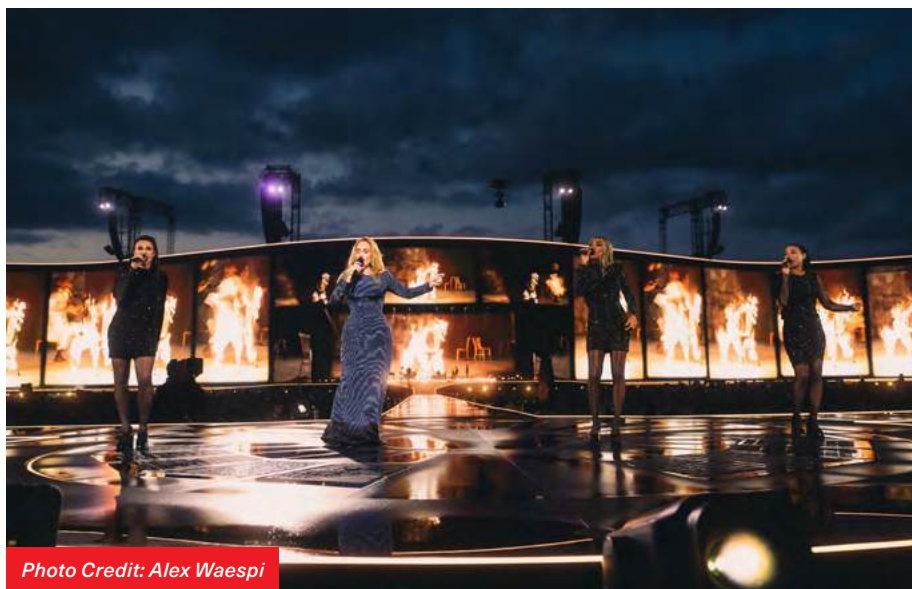


Photo Credit: Alex Waespi

two running on two Robe FPV RoboSpot systems for full flexibility, with up to 18 iFORTE LTXs at a time deployed to combat direct sunlight during parts of some performances.

iFORTE LTX was Cory's first choice of moving light for key lighting, and he praises the Neg Earth team for sourcing this many during an exceptionally busy European summer season, adding that in an ideal world he "initially would have liked a few more," but the results using these – combined with around 2000 other lights on the rig – enabled the creation of a perfect visual collage.

Cory first used iFORTE LTXs as follow spots on Justin Timberlake's 'Forget Tomorrow' world tour, and it's been his go-to for this task since then. He likes the huge lens, the intensity and impact as well as the "excellent" CT white range. "Obviously the reliability is a must, and the IP rating is also great, making them ideal for both indoor and outdoor stadiums and scenarios."



Photo Credit: Stufish

The 13 iBOLTS were a late addition to the lighting plot, but Cory was super-excited to be using this new 500W white phosphor laser source from Robe. Five iBOLTS were rigged on the two 'scroll towers' on either end of the screen, with three upstage centre, used for truly spectacular back light effects.

Cory loved them. "They are super-bright, very controllable, have lots of options, great looking gobo effects and really punch through everything," he stated. They produced cool back lighting plus stylish back-of-camera looks for the live mix cut by the show's creative director Matt Askem, as well as



Photo Credit: Stufish

complemented the overall impressive architectural installation with “big, bold and purposeful looks.”

125 Ayrton Cobra and 85 Ayrton Domino Profile IP65-rated fixtures were also key features in the design. The Domino Profile fixtures were located in the overhead stage rig and upstage floor areas from where FitzGerald used them for everything from stage light and audience light to aerial effects. “But it was the ground row of Dominos that ended up being the work horse of the stage floor system, creating a horizon of lights behind the band and Adele, and big beam and break up effects in the camera backgrounds,” he says. “The Dominos are great big-lens punchy fixtures which not only performed fantastically but looked great too.”

The Cobra laser-sourced fixtures were arrayed along the central and side thrusts and the B-stage which also saw a lot of action, from where FitzGerald used them as beam lights for graphic patterns in the night sky, as well as for textures to create unique breakup looks. “One number, ‘Hold On’, was particularly impressive in that it featured a unique use of Cobra beams and searchlights through the crowd that then became a massive geometric array into the sky,” explains FitzGerald. “It was really great to finally get to utilise all that punch and versatility of the Cobra!”

Having used Ayrton fixtures before, FitzGerald and his team saw the potential of

Domino Profile and Cobra for such a project of this size and prestige: “We had used the Domino in Adele’s Vegas residency and decided to keep them for Munich because of their versatility,” he explains. “We’d tried Cobra before, but never quite to the extent we used it on this show. I’m really impressed with the brightness and the reliability of both of them.”

With most of the massive performance area in the open-air during summer in Germany, the IP65 rating of the fixtures was essential. “The entire rig was exposed to the elements all day and night in this production, and we’d seen a LOT of rain since day one of load in. The fixtures held up great in the weather and the beams looked amazing in a drizzle!”

The creative challenges for lighting this event abounded. Apart from breaking new and experimental ground on multiple levels, the sheer scale of the stage design and scenography and the integration of all the technical elements to deliver this truly world-class show to so many people was mind-boggling!

“To showcase some incredibly intimate and personal moments highly effectively in that expansive space was a test for all involved – including the artist – but creative mastery, experience, everyone’s understanding of the theatricality and essence of performance, and of course, some truly outstanding teamwork and a splattering of show magic all combined to make it a record-breaker

not only in size but also in collective achievement,” he reflected.

His lighting director for Munich was Nick van Nostrand, who also ran lighting for the last Las Vegas residency together with programmer Davy Martinez. “We had all learned a lot from Las Vegas in terms of how to use scale to our advantage,” concluded Cory, who also shouted out Keith Johnson, crew chief, and Joao Magalhaes, systems engineer, from Neg Earth Lights for their “amazing work making it happen”.

Adele in Munich was production directed by Paul English. The structures were built by STAGECO (black steel) and TAIT (automation and staging), the video content was produced by Treatment Studio, overseen by Matt Askem; Clair Global supplied audio, communications, radios and data services, sitewide production IT and Wi-Fi infrastructure. Creative production of the extensive ‘Adele World’ public area that was part of the overall 75,000 square metre stadium site was delivered by LarMac LIVE.

“I want to say a huge thanks to the Neg Earth crew who worked tirelessly for weeks to get this show up and working,” says FitzGerald, “and also to programmer Davey Martinez, and lighting director Nick Van Nostrand, as well as System Tech JJ Contini who got it all working and looking amazing!”



Photo Credit: Sturfish



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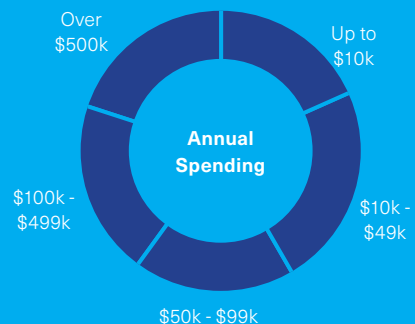
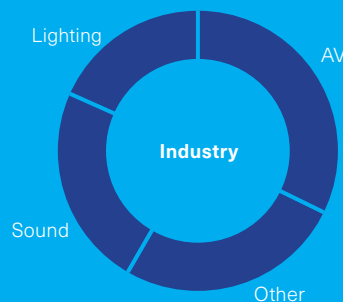
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Shure MoveMic Two Receiver Kit

As the editor and publisher of CX, I don't normally do Road Test reviews – I leave that to 'proper' working technical professionals. But when the opportunity came up to solve one of my enduring problems, capturing audio for video in the field, I jumped at the chance to make my life easier.

Enter the Shure MoveMic Two Receiver Kit. It's the 'full' version of the Shure MoveMic ecosystem. Shure's clip-on MoveMics are small, all-in-one mic and transmitter units that output an implementation of Bluetooth Low Energy with some proprietary control mixed in. You can use the MoveMics on their own and directly connect them to your phone using the free MOTIV Audio app or MOTIV Video app. Through the audio app, you can adjust gain settings, EQ, HPF, compression, noise reduction, save presets, and record audio. Through the video app, you can record, or stream live.

Sonically, the mics are running at 48kHz and are an omni capsule. They respond down to 50Hz and are the equal sonically of any quality but affordable lavalier I've ever used. They are, however, much easier to fit – they simply clip on – no lead to thread through those lavalier clips that always befuddle me. They are also much better at staying out of the way of collars, hair, jewellery, and all of the other things on your interviewees that can ruin a recording. Range on the transmitters is a good 30 metres. The mics charge in a solid metallic case, much like a big AirPods case, which itself charges via USB-C. Battery time is good for eight hours, which I can confirm is quite accurate.

For the workflow I need, just a MoveMic wasn't going to work, so I took up the option of the MoveMic Two Receiver Kit. This gives you two MoveMics in a charging case, and the MoveMic Receiver. The Receiver can connect

directly to a phone, which is my main mode of shooting. You can also mount it on a video camera or DSLR shoe mount and connect via 3.5mm jack. Directly connecting to my iPhone Pro 15 via USB-C meant I could use recording apps of my choice and get all of the control of the MOTIV app on the front panel of the Receiver itself. I'd also get a headphone monitor out, which is essential.

I took delivery of the kit and unboxed in my studio. The design is very 'consumer friendly', in that it is reminiscent of opening an Apple product; self-explanatory, and with incredibly simple user instructions. The charging system of USB-C on both mic case and receiver is instantly familiar.

After charging up, I installed the MOTIV Audio app, paired a mic to the app, and had a look at the settings. The interface is again simple and straightforward. I popped on the optional windscreens, backed off the default gain from -30 to -40 after testing what SPL someone enthusiastically shouting might produce, played with the compression, EQ, and noise reduction, and repeated for the second mic. I then disconnected from the phone and paired the mics to the receiver.

The receiver's small screen and two simple control buttons are a joy to use, and again, totally intuitive. The receiver pairs with the mics automatically and has clear level meters. Any parameter can be easily changed by entering a menu by clicking the joystick button and moving it up/down/left/right. I made test

recordings in my studio with the high pass and noise reduction off, set the rest of the EQ to flat, and the results were perfect. Knowing the environment I was about to go into in the field, I decided to activate noise reduction, and put the high pass on 75Hz (it can also do 150Hz). After some more test recordings, I was comfortable with the results, and prepped to take my kit to the Integrate tradeshow to film a gruelling 40 videos over two eight-hour days.

Over the years, I've used almost every type of filming set-up at tradeshow; two of us with a proper broadcast camera on a tripod plus a wired omni handheld, just me with a prosumer video camera on a tripod and a wired lavalier, same again with shoe-mounted shotgun, and an iPhone on a gimbal with wired, wireless and plug-in mics on the Lightning connector. This rig was now my iPhone 15 Pro on a DJI gimbal, USB-C to the receiver sitting in my pocket (the gimbal can't handle anything but the phone – clipping the receiver to it upset it), and a pair of headphones for monitoring. For recording, if I'm in a hurry (which I was most of the time), I use the video recorder in Apple's native camera, or if I had time to finesse white balance and ISO, I use the BlackMagic Camera app.

In practice, not having to switch between apps if I wanted to change audio settings was a godsend. People on tradeshow stands are busy. Important international reps and managers are there, and their primary purpose is to get customers, often very large ones, to

buy things. You do not want to use any more of their time than is necessary, and you don't want to waste any of it. The only adjustment I needed to make on the first couple of videos was a little presence peak at 2kHz to cut through the show floor noise, and bring the gain up a touch from my conservative safety setting. Being able to hear exactly what was being captured was a huge relief, as I've done this before without monitoring, and it's nerve-wracking.

The MoveMics worked brilliantly on everyone I put them on; big boomy people, tiny quiet people, and everyone in between. There was barely anything to do to the audio in post. The noise reduction is incredible; trade show floors are filled with people, music, animated conversations, and the odd inexplicable thud or squeal from someone doing something dumb with audio equipment. The MoveMic noise reduction took care of all of it, with just the right amount of ambience in the background to give sense of place. In the past, that's taken me at least four audio plugins in post to get right, and a significant amount of time.

Battery time was indeed accurate – by the time 5 pm came around, with an hour to go, the MoveMics had around 15% left in the tank, which you can see on the receiver. Putting them back in the case for a little while gave me my comfort level of charge back. By contrast, I had to put my gimbal on charge with

a powerpack for 20 minutes to get through to show close. I really needed to sit down and rest by that point anyway.

Radio performance was flawless, which is amazing considering that an AV integration tradeshow is possibly the most RF hostile environment you could be in. Everyone's showing Bluetooth everything, wireless devices of all kinds, and there's literally hundreds of Wi-Fi access points, all in a big room with metal everywhere. You couldn't test the MoveMics anywhere worse.

Ironically, the only time I had any dropouts or issues was on the Jands stand, who distribute Shure. I had to film at least five videos on their stand, so looked around to fix the problem. There was Auracast assisted listening equipment running Low Energy Bluetooth in the same band, plus their own MoveMics. In addition, a full suite of Shure wireless product was on and transmitting. Jands admitted they were having the same issues with their own MoveMics. We turned off Auracast temporarily, shot the videos, and all was well. I defy anyone to even find a wireless environment to match that!

This is how I'm going to do fast-paced location video from now on. I'm going to make a couple of tweaks with the gimbal situation, either going to an ultra-portable tripod or handheld frame, and get the receiver mounted. I can trim down the size of headphones a bit, and pretty

much walk anywhere with this kit in a small bag, definitely saving my back compared to the old days of the full camera rig. Definitely the best, simplest, and most importantly, reliable and time-saving audio solution I have ever used.

Product Info: www.shure.com

Distributor Australia: www.jands.com.au

Distributor New Zealand: nsl.co.nz

The Specs

The MoveMic

Frequency Response: 50Hz to 20kHz

Dynamic Range: 100dB, A-weighted

Signal-to-Noise Ratio: 68dB SPL, A-weighted

Equivalent Input Noise: 26dB SPL, A-weighted

Maximum SPL: 130dB SPL

Bit Depth: 24-bit

Sampling Rate: 48kHz

Gain Adjustment Range: 0 to 60dB

Range: Up to 30m, line of sight

Radio Frequency Range: 2400MHz to 2483.5MHz, Bluetooth Low Energy and Proprietary

Dimensions: 46mm x 22mm x 15mm, Net Weight (no windscreen) 8.2g

The MoveMic Receiver

Frequency Response: 50Hz to 20,000Hz

Dynamic Range: 100dB, A-weighted

Signal-to-Noise Ratio: 68dB SPL, A-weighted

Equivalent Input Noise: 26dB SPL, A-weighted

Maximum SPL: 130dB SPL

Bit Depth: 24-bit

Sampling Rate: 48kHz

Gain Adjustment Range: 0 to 60dB

Minimum Load Impedance (Headphone): 16Ω

Maximum Headphone Output Level: 26.4mW @ 1% THD

Minimum Load Impedance (Camera Out): 2kΩ

Maximum Camera Output Level (Mic): -26dBV

Maximum Camera Output Level (Line): -8.3dBV

Range: Up to 30m, line of sight

Radio Frequency Range: 2400MHz to 2483.5MHz

Dimensions: 52.8 x 67 x 19mm (H x W x D), Weight 81g



ACME



PULSAR S2

The ACME Pulsar S2 is a unique product; it is a hybrid fixture that encompasses beam, strobe and wash functions, all with infinite pan and tilt and pixel mapping capabilities. It features a strobe/wash on one side and a beam on the other. Both sides can be running at the same time. It would be classed as a small fixture, and a true jack-of-all-trades, but it's true potential is in the completely new combinations of looks, strobes, washes, effects, beams, and more, that it can produce, all at the same time, while moving.

The ACME Pulsar S2 was recently used for the Australian leg of Paul McCartney's world tour. The lighting designer for the tour, LeRoy Bennett, used 480 of them, and he also played a role in the design of the light, which is a massive endorsement for the fixture and for the ACME brand.

"ACME are enthusiastic about development. They actually manufactured a lot of lights for other companies before they developed their own, resulting in reliable products and the capability to churn out quality product quite quickly," said LeRoy Bennett.

Construction

It weighs 11kg but still feels quite sturdy and robust despite being IP20 rated. That said, you still wouldn't want to drop it. It is hung on a single bracket making it much easier to move, hang, and get evenly spaced on a webbed truss. It lends itself well to being hung in any orientation and of course, it can be parked on the floor. The design of the light is not overly

obtrusive or head heavy, so you can put them very close together, and close to other things. Its dimensions are 237mm x 176mm x 383mm (W x D x H), making it quite compact and great for hanging and placing in tight spaces.

Optics, Colour, and Brightness

When looking at the optics of the ACME Pulsar S2 you have to consider there are two parts; the beam/wash section and the pixel/strobe section, also with a beam.

The beam/wash side consists of four 60W RGBW LEDs. While they aren't TV key light quality (and are not advertised to be!) they are of a high quality. There's a good range of deep colours for an RGBW fixture and you don't lose too much intensity with the darker, more saturated colours. The beam/wash side outputs a respectable 4,400 lumens, more than enough for a small venue or show. It also features a 10:1 zoom ratio with a range from 2.5°-28°.



The pixel/strobe section has 96 3W CW (Cool White) LEDs for the strobe, 108 0.5W RGB LEDs for the pixel section as well as 9 10W CW LEDs for the beam section. The strobe section outputs 18,000 lumens, the pixel section does 2,200 lumens, and the beam section produces 1,300 lumens. The beam angle for the strobe is 108°, 115° for the pixel section, and a narrow 3.5° for the beam.

Applications and Features

This is a fixture that was literally designed for the world's largest stages, and to be used en masse. The sheer amount of tricks it has up its sleeve mean an LD could use it throughout the longest stadium show (and McCartney's is one of them) and still look fresh by the encore. Strobe, video, beam, wash, movement – it does it all.

Control and Programming

There are a lot of parameters to consider, and that's because of the extensive capabilities of the light. This is not a bad thing, as it is capable of some amazing looks. The infinite pan and tilt is almost an effect in itself. The Pulsar S2 looks awesome used in a dark room filled with haze after a few hours of programming.

The Pulsar S2 has four DMX modes with 24 channels, 39 channels, 97 channels, and 21+ channels, respectively. It can be run through a media server and is compatible with DMX512, RDM, Art-Net and sACN. It has an onboard four button touch control panel, 3 pin or 5 pin DMX, Art-Net In/Out, and powerCON True.

Verdict

The Pulsar S2 does a lot of things, and does them surprisingly well. Comparisons to other fixtures fail, as the Pulsar S2 is that rare thing in the lighting market; actually unique. I can definitely see thousands of Pulsar S2s touring through summer on the bigger shows.

The Pulsar S2 is offering something completely different, something I really appreciate. It's good to see design and research budgets going to produce something that is totally out-of-the-box

The dual head coupled with infinite pan and tilt is really what sets it apart. I hope it is a platform that ACME continue to build upon. This is an a fixture that is definitely not a one trick pony.

Product Info: en.acmelighting.com

Distributor Australia and New Zealand: www.ulagroup.com

The Specs

Light Source: Beam/Wash section: 4 60W RGBW LEDs. Pixel/Strobe section: 96 3W CW LEDs, 108 0.5W RGB LEDs. 10W Beam section: 9 10W CW LEDs

Total Lumen Output of Fixture - Beam/Wash Section: 4,400 lumens, Pixel Section (RGB): 2,200 lumens, Strobe Section (CW): 18,000 lumens. 10W Beam Section: 1,300 lumens

Optical System: Beam/Wash section: Beam angle: 2.5°-28°, Field angle: 4.4°-36°. Pixel section: 115°. Strobe section: 108°. 10W Beam section: 3.5°. Front Lens: 70x70mm

Pan & Tilt: Pan movement: Infinite. Tilt movement: Infinite. Automatic Pan/Tilt position correction. Movement: 16-bit resolution

Variable CTO: 2,500K-8,000K

Built-in colour macro effects

Motorised linear zoom system

Dimensions - Width: 237mm, Depth: 176mm, Height: 383 mm. Weight: 11kg.



by John O'Brien

WIRED FOR SOUND



Where is the Walkman now?

As a child of the 70s and 80s, I have everlasting memories of Cliff Richard roller skating down the road, Walkman tucked into the belt, singing about being 'Wired for Sound'. Now, I'm no great musical fan of Sir Cliff, but the song and accompanying video clip was a real cultural touchpoint. It signified being plugged into both the latest in fashion taste and the hottest in technology: 'Walking about with a head full of music. Cassette in my pocket and I'm gonna use it.' Try finding something to play that magnetic jumble now!

For me, this song marks a transition point from wireless to wired. At that juncture, being wired now signified high quality tech, the latest and greatest. A generation earlier, we had celebrated the wireless connection of radio, being the latest and greatest...then. These days, we celebrate our connections via the airwaves again, getting our mental and emotional vaccines through 4G, 5G or Bluetooth. There's a pattern going on here - we keep swinging between wired and wireless, from tethered to unchained and back again.

Each iteration brings greater aural and technical sophistication. From Morse code to AM in mono, then FM in stereo. CB radio - breaker, breaker good buddy, there's a Smokey on the loose - and it's not a bear.

While transitioning: analog became digital, cassettes begat CDs, expensive studios gave way to DAWs on a desktop and then LPs got hip again. The humble carrier pigeon predated

human messengers and runners. And then telegraph hooked us up with cabling; town to town, city to city, country to country.

Eventually, this copper conduit enabled telephony and we could dial up anyone we had a number for and chat. Early internet ran down the same wires, allowing us to share memes and then yell at each other in keyboard-protected anonymity. Now we have gone full circle and use our 3-4-5G wirelessly. It might be obfuscated, VPN-ed and encrypted, but this depersonalises the experience. The resultant downsides of this obscurity include misinformation, disinformation, troll farms, and hackers. I wonder how many would trade the speed of instant connectivity for some better data or personal security?

TV also started wirelessly with free-to-air, then moved to wired via cable and Fox. Now, we've come the full circle and it's all streaming - with a mix of both cabled and Wi-Fi or satellite.

Government AV tenders (and particularly with sensitive departments like Defence) usually mandate no wireless communications in design or application. The potential for interception or general flakiness of signal necessitates a connection that can be physically monitored. For jobs like these, wired means quality and security. From this perspective, I've always intuitively trusted wired connections that I can see and unplug if I ever get suspicious.

But even the best and most secure of cables are of little use when you are remote. Optical fibre, NBN and the like are all good when you are located in a major urban centre. Wires are abso-bloody-lutely useless when it is too cost prohibitive to run them (i.e. you are physically remote).

My inner Luddite once got joy from watching people walking in circles, raising their device to the sky, seeking just one more bar to connect. This was a double-edged sword when we moved to the bush. Avoiding the boss because I had no signal was a definite upside. Not being able to call for help when disaster strikes - all too common in our great brown land - made me very cognisant of how reliant I am on the interchange of real time communication. For safety's sake, I pay a premium to have redundant lines of comms out here amongst the trees and paddocks, lest a fire-breathing Drop Bear sends us into chaos.

Given that our local telephone exchange is out of ports, the corroded copper cable that runs past our back door is of no use. So, we are entirely dependent on cordless tech. Starlink is level one - unlimited downloads at crazy high speeds come tempered with reliance on an increasingly unhinged tech bro - the Space Nazi Elmo. Configuration and user control of their branded routers is somewhat limited. Entire countries can be disconnected through the whims of a flaky billionaire with little care for anyone downstream of his deluded gamesmanship.

Level two comms come down to Telstra, a company unsure if it is government or private: bloated, inefficient and seemingly uncaring of the impact that their decisions have on their consumers. The decommissioning of 3G networks has left many locals around me unable to connect to the world. To their credit, Telstra recently installed a new tower that covers a major local blackspot. Cynically, it is only a matter of time before some technical failure point takes that tower offline for hours, days or weeks. Past form would suggest that this is inevitable, sooner rather than later. Rolling radio blackouts occurred here just months ago because of the failure of critical infrastructure equipment, and there were no replacements physically in the state. It took weeks to restore any stability to our phone system here.

When the high tech falls over, we engage level three comms - UHF and VHF radio. Our emergency services use both, but I have been on many firegrounds where only truck-to-truck UHF is of any use. I've also experienced

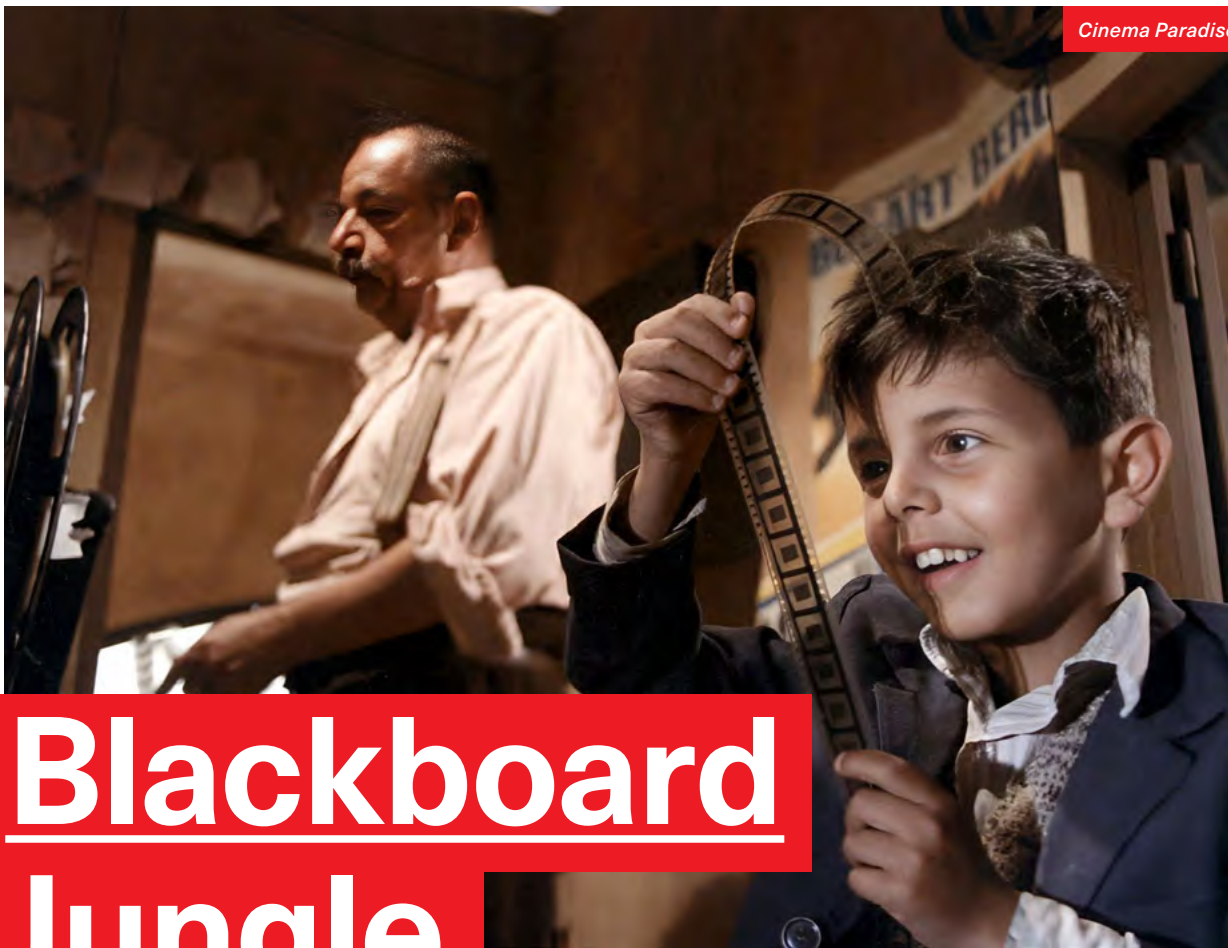
complete radio isolation in (potentially) highly dangerous situations. A couple of years ago, I bogged one of our fire trucks in a comms blackspot. Short of using smoke signals (not really kosher in CFA operating procedures!), I had no connection to the world. I ended up walking 1.5 km down a dirt road to get enough signal to call my brigade to come and rescue me. Fortunately, this was on a training run and I was not surrounded by flames. On another day, this could have ended in calamity. As it was, the only tragedy was personal loss of face as we sheepishly towed the tanker from the mud I had deposited in it. It also took me hours of cleaning and a trip to the District Mechanical Officer to repair the damage caused to the undercarriage of our appliance.

This particular wireless incident was compounded by my own witlessness. I wonder if the CCP monitored this via my Shenzhen-made phone and laughed at my ineptitude. No cassette tapes, roller skates, or leg warmers could help me there.

“But even the best and most secure of cables are of little use when you are remote. Optical fibre, NBN and the like are all good when you are located in a major urban centre. Wires are abso-bloody-lutely useless when it is too cost prohibitive to run them (i.e. you are physically remote).”



Solar powered UHF radio repeater station near Turners Lookout at Trephina Gorge national park, Northern Territory, Australia 2017



Blackboard Jungle

Snippets from the archives of a bygone era

In the year 2012, I enrolled in a full-time Certificate IV Film and Digital Media course with a view to enhancing my résumé. The class was largely taught by somewhat disgruntled teachers who had to contend with a mixture of school students doing vocational education training (VET), Centrelink customers, and mature-aged students. Most of the students weren't all that tech-savvy nor particularly interested in the curriculum. However, most were under the misapprehension that the course would somehow lead to a career in the bereft Australian film industry.

The curriculum was divided into five classes: Film Editing and Scriptwriting, Camera and Lighting, Audio, OH&S (occupational health and safety), and Critical and Creative Thinking Skills, which was combined with Work Effectively in Screen Media. The syllabus was rarely adhered to in the majority of subjects, and teachers would often leave classes unattended for hours or not show up at all. When substitute teachers were used, they were confused as to what to teach or at what level the lessons were at. Assignments were rarely completed or even attempted by the students, who were generally disruptive in class.

From the onset, I suspected that a mature-aged student with experience in the industry would earn the vexation of some students or possibly even the teaching staff, so I tried to be as reticent and unobtrusive as possible. However, being compelled to work in student

groups, mandated to read assignments aloud, and called upon to answer questions in class, I found there was nowhere to hide.

RPL (Recognition of Prior Learning)

From the onset, students were told that if they could prove they had gained the equivalent skills or knowledge in any subject, they may be granted RPL (recognition of prior learning) and didn't need to attend those classes. "We don't want to be teaching you skills that you already know," was a direct quote from the head teacher.

After some months of suffering through the incongruity taught by tardy teaching staff to apathetic and disruptive students, I applied for RPL in all core subjects. However, I decided to attend those classes until the RPL was approved. Most teachers took my

RPL applications as a personal attack, and I became the class pariah with my RPL being thwarted at every avenue.

Film Editing and Scriptwriting

Film editing was taught on underperforming computers using a non-industry standard NLE (non-linear editor). However, students mostly used their PCs to log onto social networks, especially when teachers left classes unattended. For reasons unknown, scriptwriting strictly followed the 'Hollywood formula', analogous to the thousands of mundane formula scripts that dominate movie streaming services today.

Only hours into the first day of class, the teacher, who was the head teacher, asked if anyone had any objections to him screening a movie containing explicit sex scenes. Of course none of the students objected, thinking

they were now part of some avant-garde film elite. So the teacher proceeded to screen *The Antichrist*, which is banned in some countries, including France, for the unsimulated sex performed by porn stars that doubled for the lead actors. I'm not a puritan, but I couldn't help wondering, "Why did he do that?"

Critical and Creative Thinking Skills and Work Effectively in Screen Media

This class was often set in groups to participate in nonsensical tasks such as redesigning a computer mouse or discussing the attributes of a lead pencil. One assignment that did make sense was to 'Create and execute a talk/presentation to the class on a key production role within the film, television, or digital media industries'. The presentation was to be four minutes in length with a maximum of four and a half minutes, with a 10% penalty if the presentation was under or over the required time limit. I chose ENG (Electronic News Gathering) as I had worked in this industry, which is simply the gathering of news using electronic video and audio technologies. I worked extensively on the assignment.

On the day of the presentation, the few students that had completed the assignment faced the class with their plagiarised, cut-and-pasted pages, which they read parrot-like, stammering over the words they neither understood nor couldn't pronounce.

I delivered my presentation with the aid of a timer because I didn't want to incur the 10% time penalty, which I thought was bizarre. At the end of each student's presentation, the teacher quizzed them on their assignment and mostly praised their efforts (ignoring the cut-and-pasted plagiarism). However, when I finished my presentation, he remained silent. In summarising the class effort, I was the only student singled out; this was for using a timer and "not introducing myself correctly."



On set from left, Eungtaek Kim (Cinematographer), Unknown, Unknown, Paul Eichorn (First AD) Brian Coleman (Audio)

I never received any assessment marks for my presentation, and on my Transcript of Academic Award, the notation simply read, "Not yet competent."

Audio

The audio teacher was a young mum who had a gig at the ABC as a sound recordist. I didn't envision that it was a full-time gig due to her teaching commitment at the institute. She was quite pleasant at first but had a limited knowledge of audio; she taught that the gain structure knob on the digital audio recorder was a volume control for a distant audio source. She also didn't quite understand balanced and unbalanced microphone levels and often confused these with line and microphone levels. I mostly sat silently in the audio class but did complete all my assignments. The audio teacher strongly disapproved of my RPL application but said she wouldn't oppose it.

Camera and Lighting

The camera and lighting teacher was nostalgically trapped in a world of celluloid film and tungsten lighting, which he excelled

in but couldn't break free from. He reminded me of a grown-up version of eight-year-old Salvatore from *Cinema Paradiso* with an addiction to celluloid. He often expressed his anger and frustration at the closing of most of his favourite film laboratories, where he had once taken his 16mm camera negatives for processing. He was moody and had a loathing for the VET students and Centrelink customers. He revelled in the fact that the following year's degree course would be attached to a hefty HECS fee. "You won't be able to come down here for a bludge next year," he'd tell the class. He had many heated exchanges with students; one in particular saw him go into a lengthy diatribe after a student sang the praises of a short film he made by strapping a digital GoPro camera to his skateboard. The exchange ended with the student storming out of the class. Eventually, the camera and lighting teacher began skipping his own classes, probably due to his exasperation with the modernisation of the industry combined with the students' indifference to his teaching. During these absences, the students, some of whom aspired to become film actors, would craft their own pathetic short films.

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OH&S
(Occupational Health and Safety)

The OH&S class was tragically boring. I'm actually a safety nut, but this class was way off track and affirmed my opinion that OH&S is often reduced to ticking boxes instead of understanding real safety issues. There were two memorable excursions; one was to observe graffiti on a wall where homeless people camped, and the other was an assignment to photograph kitchens. I am still mystified about these excursions. The saving factor was that the teacher, who was an elderly lady, was a sweetheart, so I diligently completed all my assignments and handed them in on time.

The Film Shoot

Towards the end of the first semester, the 'Film Editing and Scriptwriting' class was divided into a number of groups that had to script and shoot a short film. When my group met, I suggested a theme about a homeless person who keeps a neat suit and toiletries in a locker, which enables him to dress up, enter trade shows and events, mingle with the guests, and freeload on the food. There was only one other suggestion from a new student who'd lived in Africa. He suggested a narrative about a destitute person who disrobes and plans a deathly plunge into a river but abandons his suicide attempt to chase a thief who steals his clothes. I happily surrendered my idea and even wrote the script for the new narrative, which was accepted.

None of the other groups wrote scripts, so the teacher decided to combine all the groups to shoot the attempted suicide script. The class then started to make ridiculous and extensive rewrites of the script until it became nondescript. I objected and was not only outvoted by the class but ostracised by the substitute teacher, who had organised the vote. That was the last class I attended. My RPL applications were never addressed, and all my assessments and my DVD showreel were said to be lost. Some months past, but my continued complaints were finally addressed with the condition that I pass a practical assessment test at the institute.

On the day of the practical assessment test, I felt ambushed as only the teachers that had taken exception to my requests for RPL showed up. Noticeably absent were the Camera and Lighting teacher and the Film Editing and Script Writing teacher. There were three teachers present: the Critical and Creative Thinking Skills teacher, the Audio teacher, and a surrogate teacher who was the Film Editing and Script Writing teacher's partner; she began with a barrage of demands and questions while I was setting up a comprehensive amount of camera, lighting, and audio equipment.

During the assessment, I was continually reminded by all three teachers that they had limited time because of other commitments, and I was forewarned that I had to break down and pack all the equipment back into road cases after the test in the given timeframe.

After completing several tasks, I commented that the digital audio recorder was faulty; in fact, the output had been stuck on microphone level since the beginning of the semester, and some other menu settings had been messed with. When I asked for a little help, I was told by the audio teacher that I should know how to rectify these problems. After a short exchange, I commented, "I can't be expected to know every menu setting on every piece of digital equipment, especially when the students are messing with the menus every day."

"Well, you should have come to class," she patronisingly replied. The room fell silent, the other teachers realising how derogatory the comment was.

I took a deep breath and said, "I don't want to do this anymore." I left all the equipment scattered around the room and walked towards the door, ignoring the choir of voices pleading with me to return. I never really liked the break down or load out anyway.

After months of writing complaints, attending meetings, and submitting further RPL proof, I finally received my Certificate IV in Film and Digital Media, which is not worth the paper it's printed on. I sometimes encounter students from my class who work in the various service industries in my area, including liquor stores and petrol servos, and I'm reminded of those immortal words sung by Dionne Warwick: "And all the stars that never were are parking cars and pumping gas."



Electronic News Gathering (ENG)



A student film shoot

The ACETA Archive of Excellence[®]

ACETA celebrates the career of Mark Kennedy
and his entry into the Archive of Excellence[®]



Australian musician Mark Kennedy has performed with Artists including Spectrum, Doug Parkinson, Ayers Rock, Marcia Hines, Men at Work, Renee Geyer, Jimmy Barnes and Leo Sayer.

He is highly regarded within the industry and has maintained a position at the top of his craft for six decades.

Visit www.aceta.org.au to watch Mark's Archive of Excellence[®] Induction Interview, featuring his career highlights in his own words.

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