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News

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ENTECH WON'T BE BACK

THE WHITE CARD STILL
ISN'T A SILVER BULLET

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TOURING LEADERS AT
TOUR SUMMIT IBIZA

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LED CANVAS

ETC AT THE ART
HOUSE WYONG

Regulars

JENNY BARRETT
COVERS NEW ZEALAND

ANDY STEWART'S
LISTEN HERE

JOHN O'BRIEN IS
BACKSTAGE

BRIAN COLEMAN AND
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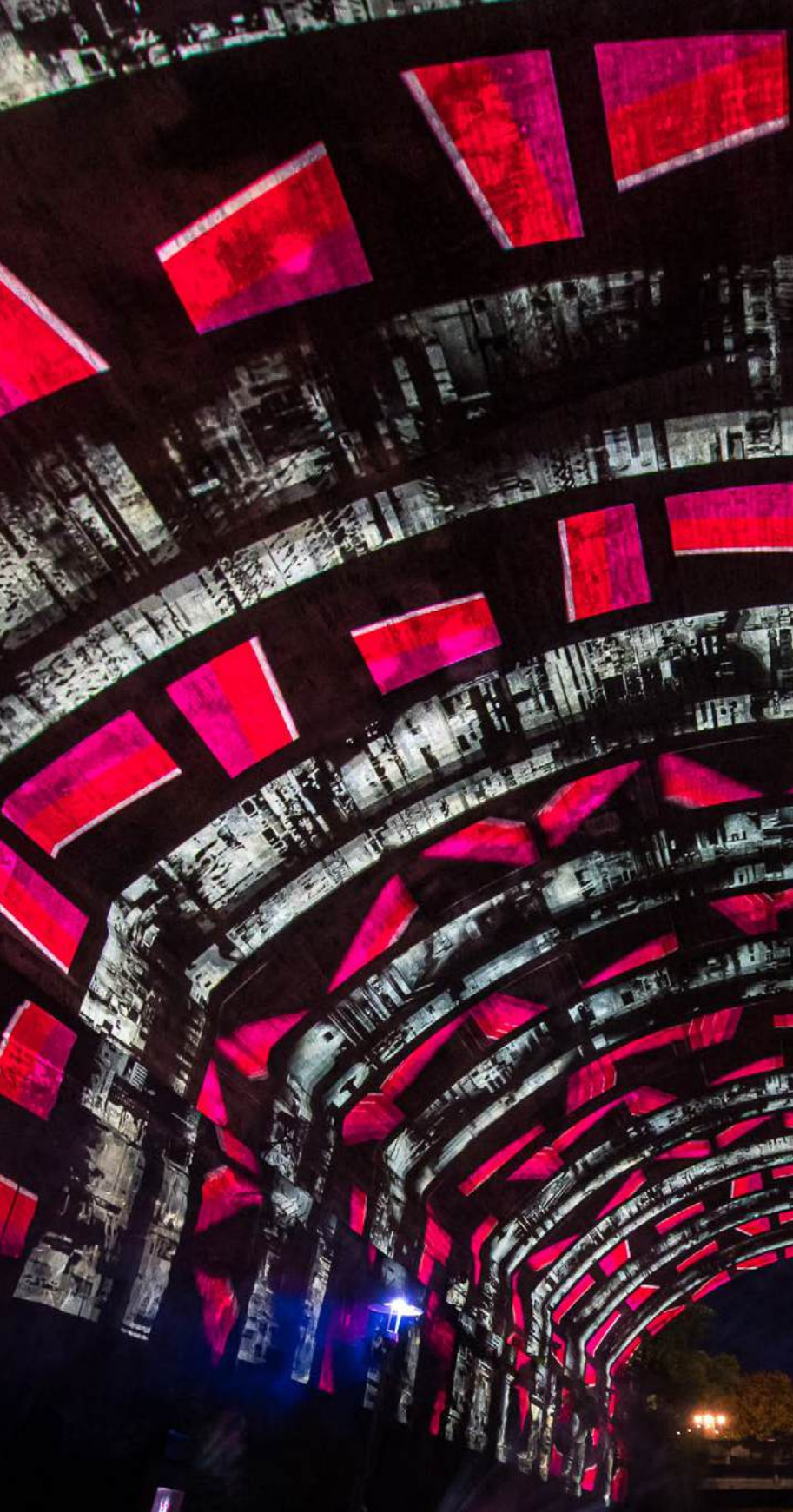
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CX is published by VCS Creative Publishing Pty Ltd
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Editor and Publisher: Jason Allen
Layout: Hush Creative Productions – Mark Underwood

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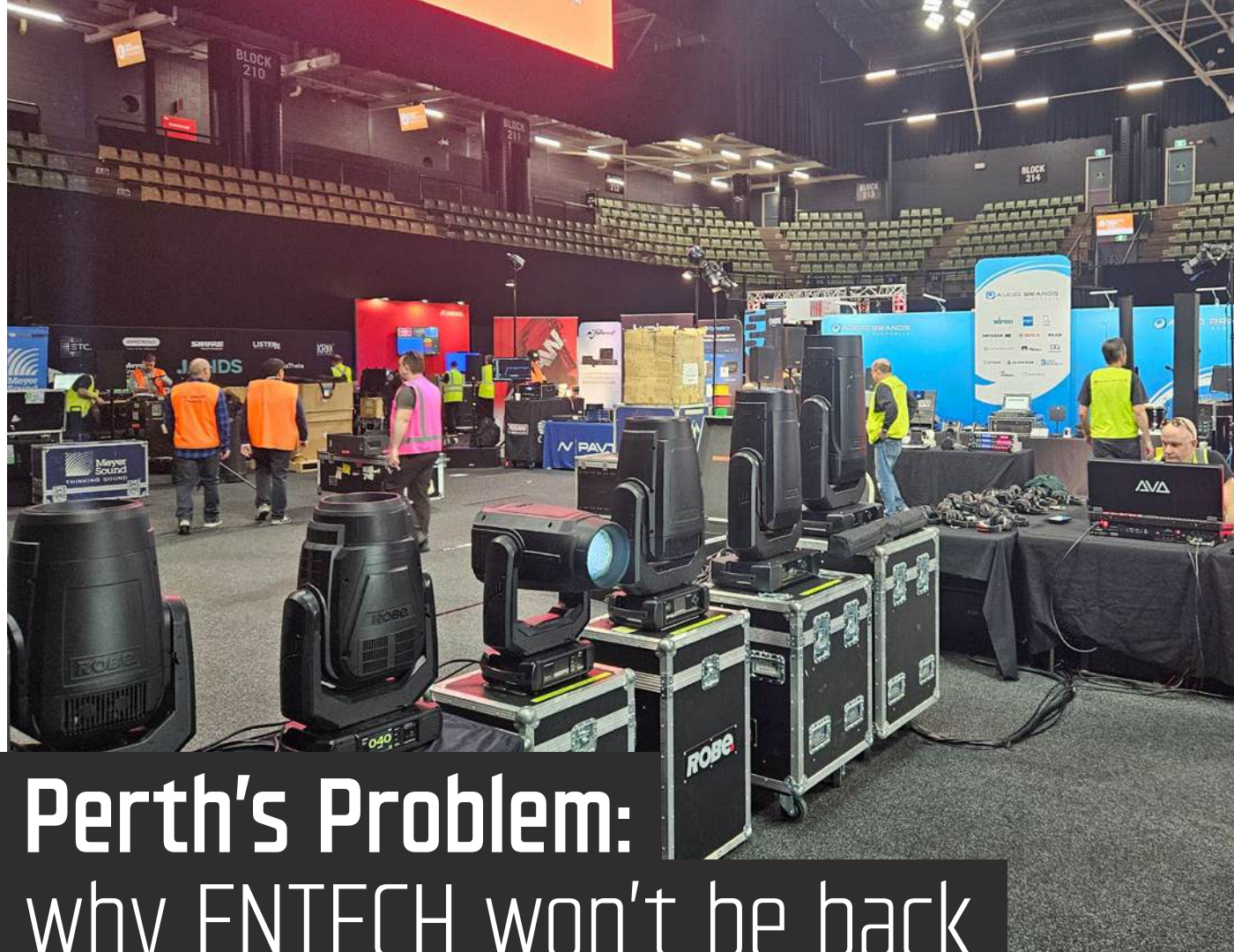
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Perth's Problem: why ENTECH won't be back

After 14 years serving WA's production industry, Australia's leading touring trade event has pulled Perth from its national roadshow. The immediate trigger was a compliance crisis at VenuesWest. The deeper story is about a state that keeps pricing itself out of the events it needs.

The trucks left Perth on Tuesday 2 June after the gig at Perth HPC. Four semitrailers, and with that a decision that had been building for years. ENTECH, 33 years old, with 105 roadshow dates executed on time between the west and New Zealand, the event that brings professional AV, lighting, staging and production technology to the cities where the work happens, staged its last Perth show. For now.

The 2026 Perth edition was, by any measure, the largest ENTECH has ever run with record exhibitor numbers and attendance. The production community turned out in force. When the trucks pointed east, the CEO Kate McKenzie confirmed: they won't be coming back.

The reasons are layered. A last-minute compliance ambush by VenuesWest at Perth High Performance Centre provided the final impetus. But McKenzie is clear that VenuesWest is a symptom of a broader problem, a Western Australian operating environment for events that has become, in her words, the most expensive, most bureaucratic, and least supported on the national circuit.

"Perth has been part of ENTECH for 14 years. The decision not to return was not made lightly. But

we cannot keep subsidising a market that its own government won't support", says Kate McKenzie.

The economics of touring to Perth

Running a touring trade show to Perth is not like running one to Melbourne or Sydney. The tyranny of distance is real and measurable. Four semitrailers of production equipment travel six days total return from the eastern seaboard. Crew flights and accommodation run exponentially higher. Freight and logistics costs have also risen sharply in recent years, well ahead of general inflation. Last minute impositions due to the fuel shortage iced the cake.

McKenzie says Perth venue costs have been escalating faster than any other city on the tour for several years. Perth HPC, managed by VenuesWest, a Western Australian Government statutory authority controlling 14 venues across the state, charged what she describes as the most expensive venue package on the entire national and New Zealand circuit.

That package included excessive staffing that organisers say was imposed at the last minute and without agreement and disproportionate to the event: two first aid officers for a 500-person professional trade audience; four security personnel for two entry doors; six ushers for a trade-only event that required none and a car park attendant for public car parks already managed by existing infrastructure. ENTECH has formally contested these costs and has not yet paid the outstanding \$29,000 balance on the event cost estimate.

Which itself is unusual as every other venue collects full payment in advance.

Against that cost base, the event is free to attend for registered industry professionals - there is no ticket revenue. The model depends entirely on exhibitor fees and sponsorship. When venue costs absorb a disproportionate share of margin, the maths eventually stops working.

"We have run 105 roadshow dates. Perth HPC was the most expensive venue we have ever worked in. And the response to our concerns, at every level, was effectively: take it or leave it," reports McKenzie.

What government support looks like, and doesn't

ENTECH is not a consumer event. It doesn't generate the economic footprint of a major concert or sporting fixture. It doesn't attract interstate visitors in large numbers or fill hotels. What it does is quietly sustain the professional infrastructure that makes those larger events possible.

The AV technicians, lighting designers, staging crews, riggers, production managers and venue technical staff who attend ENTECH are the people who put Coldplay on stage at Optus Stadium. They keep corporate events, theatre seasons, festivals and broadcast productions running. ENTECH is where they see new equipment, meet suppliers, complete professional development and stay current with industry practice.

For many in WA, it is the only realistic opportunity to do so without travelling interstate.



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Create a Fairlight Live Show

All of your productions are saved as a complete show including the mixer layout, routing, processing, cue player, snapshots and more! The file menu lets you quickly open existing shows or create a new one. Templates for common workflows are included plus there are layouts to match supported ATEM live production switchers. Unique productions can be custom built in the new show dialog.

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Ironically, one of two keynotes at this year's EnTalks covered the inconsistency and cost burden of inductions across the industry. Sue Twartz pointed out that unlike VenuesWest, many venues have streamlined and harmonised inductions.

Despite managing 14 venues with large staff counts, no VenuesWest staff registered to attend ENTECH in Perth.

ENTECH organisers say they made multiple approaches to the WA Government seeking some form of recognition or support for the event, whether through the Events Industry Association, through government tourism and events bodies, or directly. The response, they say, was silence. No incentive, no engagement, no acknowledgement that an event serving the technical production sector was worth the government's attention.

For context, the WA Government's Economic Diversification Policy identifies events as a key pillar of the state's economic strategy. ENTECH CEO Kate McKenzie has written to Minister for Creative Industries Simone McGurk outlining the situation and requesting the government's active support for the event's return to WA. As of publication, no response has been received.

The White Card crisis

The compliance issue that triggered the final break played out in the days before the June 3 show.

ENTECH's bump-in model is unchanged across 105 show dates. Exhibitor staff enter the venue only after freight is in position and machinery is parked. They work under the direct supervision of inducted touring and local crew. The process has been accepted by every venue, in every city, across Australia and New Zealand, without exception.

Five days before the Perth show, organiser Julius Grafton began the venue's online pre-accreditation and encountered a requirement for a White Card, the construction industry safety credential issued under the national Construction Induction Training framework. Of the seven ENTECH touring crew, two held it.

A conference call with the Acting General Manager appeared to resolve the matter: QR code sign-in would be sufficient. That clearance was given with Kate McKenzie present on the call. The same day, with the ENTECH team mid-run in Adelaide, venue operations staff countermanded the agreement. All crew required a White Card. The Acting General Manager subsequently denied having given the clearance.

Five crew members spent the equivalent of a full working day each completing the online course with a Registered Training Organisation. The old days of 'tick and flick' courses are over, this one had 116 multiple-choice questions with approximately 20 video modules including a filmed demonstration of donning personal protective equipment. One crew member completed the assessment in an airport lounge. Another failed a module because their hearing protection was deemed insufficiently tight. The final White Card was issued the day before bump-in.

ENTECH's two media partners, Cat Strom from ALIA and Jason Allen from CX Magazine, did not have time to complete the course and were locked out of the bump-in entirely.

'There are no cranes, no overhead rigging, no structures above 2.5 metres. Our exhibitors set up pop-up displays and plug in cables. Calling



KATE MCKENZIE

that a construction site is not a safety standard. It's a bureaucratic interpretation that has no relationship to our industry,' says ENTECH organiser Julius Grafton.

A standard applied selectively?

The White Card requirement becomes harder to defend in light of what happened, or didn't happen, at other events at the same venue.

CX Magazine holds a written statement from a named industry professional who worked a major international production at Perth HPC. That person states they did not hold a White Card and did not complete an induction. Their account; "we didn't have White Cards and I didn't do the induction. Pretty sure I would have heard about it with everyone complaining."

CX Magazine has also been advised that VenuesWest operates, or has operated, an alternative supervised worker system for international touring crew who do not hold Australian White Cards, allowing unqualified workers to be present on site under the supervision of a credentialled person. ENTECH's bump-in model is functionally identical to that arrangement.

VenuesWest did not offer that alternative, and says it was not made aware one existed. Grafton says, "that's what the Acting General Manager was referring to on our call. There are two sets of rules. Venues and promoters know international crew cannot and will not do White Card courses, so they engineer a work around, which we were denied. Worse still, we asked if our non White Card holders could sit in the arena and direct the local crew. Venue said no, they were inflexible on everything. The double standard is pure hypocrisy."

CX Magazine has put 16 questions to VenuesWest, including questions on the supervised worker arrangement and the consistent application of White Card requirements. VenuesWest did not respond before publication.

The COO call

After Grafton began posting on his socials about the compliance crisis, posts which gained significant traction across the industry,

VenuesWest COO Peter Bauchop telephoned Kate McKenzie. The message, as McKenzie recounts it: remove Julius Grafton's personal social media posts or VenuesWest would take legal action against ENTECH Roadshow. She replied his posts were personal.

Grafton's posts were factual, specific, and supported by photographic evidence of VenuesWest staff on the ENTECH floor without high-visibility vests during the same bump-in in which the hi-viz requirement was being enforced against ENTECH crew.

What happens next

ENTECH 2027 will visit Sydney, Melbourne and Brisbane. The New Zealand leg, Auckland, Wellington and Christchurch, continues. Perth and Adelaide have both been dropped from the 2027 tour, for different reasons. Adelaide will return in future years.

For the WA production community, the loss is practical. ENTECH was the primary forum for seeing new production technology, meeting suppliers face-to-face and accessing professional development without travelling interstate. That touchpoint is now gone, with no obvious replacement.

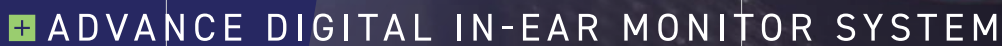
Whether it returns to W.A. depends, the organisers say, on two things: a venue environment that can accommodate a touring trade show without treating it as a construction project, and a government willing to acknowledge that the technical production sector is worth supporting.

Neither is currently in evidence.

VenuesWest and the Minister for Creative Industries were both invited to respond to questions raised in this article. The minister did not respond, and a VenuesWest spokesperson sent this reply: "VenuesWest takes the safety of its contractors, patrons and staff as its highest priority and our procedures align with the Work Health and Safety Act and associated legislation. These procedures are implemented to ensure the safety of all workers and patrons."



SHURE



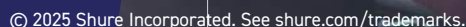
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The White Card Still Isn't a Silver Bullet for Event Safety

The recent discussion surrounding ENTECH's withdrawal from Perth has once again put White Cards (Construction Induction Cards) under the spotlight within the events industry. Much of the debate has centred on whether White Cards should be required within event environments and what role they play in supporting safe workplaces.

While the circumstances surrounding the Perth situation are specific to the organisations involved, the broader questions being discussed are not new. In fact, they are remarkably similar to the questions that prompted me to write *The White Card Isn't a Silver Bullet for Event Safety* late last year.

Many of the activities undertaken during a bump-in or bump-out often fall within what is recognised as construction work. Temporary structures are erected, electrical systems are installed, elevated work platforms are used and multiple contractors working simultaneously within a changing workplace. Looking at many event sites during the build phase, it would be difficult to argue that there are not significant similarities with construction environments and many of the hazards commonly associated with them.

This reality is one of the reasons White Cards have become so widely adopted throughout the events sector. Workers exposed to construction-related risks should understand fundamental workplace health and safety principles, hazard identification, risk controls and their responsibilities within the workplace. General construction induction training was developed for exactly that purpose.

The challenge is that the events industry has never fitted neatly into a single category. While many event activities clearly align with construction work, event sites also operate under unique

conditions. Tight timeframes, overlapping contractors, compressed schedules and rapidly changing site conditions are common features of event build and dismantle periods. A venue can transition from an active workplace to an operational event environment within a matter of hours, not months or even years.

This is where the discussion surrounding White Cards becomes more complicated.

A White Card demonstrates that an individual has completed general construction induction training. It provides a foundation in workplace health and safety principles, but it does not demonstrate competency in event operations, contractor coordination, exhibition builds, festival bump-ins or the practical realities of working within temporary event environments.

The issue is that event safety has always relied on a combination of skills, knowledge, experience and training rather than a single qualification. A person may hold a White Card yet have little understanding of how a major event operates. Equally, a person may have spent years successfully delivering exhibitions, festivals, sporting events or concerts without following a traditional construction pathway.

The current discussion also raises a broader question about whether the White Card, in its current form, remains fit for purpose within the events industry. A person can obtain a White Card once and literally rely on it for the remainder of their career without any formal refresher training. Yet workplaces continue to evolve. Legislation changes. Guidance material changes. Equipment changes. Work practices change.

It is reasonable to ask whether a once-off construction induction undertaken many years earlier should continue to be viewed as evidence of current competency.

That question becomes particularly relevant when the White Card is increasingly being relied

upon as an access requirement rather than simply evidence that somebody has completed a general construction induction.

If the objective is to improve safety outcomes within the events industry, then perhaps the discussion should extend beyond whether somebody holds a White Card and focus more broadly on what competencies are actually required to work safely within temporary event environments. The knowledge required to safely operate on a modern event site extends beyond the content of a general construction induction, particularly when multiple contractors, suppliers, exhibitors and event personnel are all working within the same space under significant time pressure.

This is not an argument against training. Nor is it an argument against ensuring workers understand fundamental workplace health and safety principles. The events industry should absolutely continue investing in training, competency development and safe systems of work.

The question is whether a lifetime construction induction card should be treated as the primary measure of competency within an industry that continues to evolve and which operates under conditions that are often very different from those found on traditional construction projects.

The recent discussion generated by the Perth situation demonstrates that the industry is still working through where construction requirements intersect with broader event operations. Given the temporary nature of event sites and the variety of activities undertaken within them, that conversation is unlikely to disappear any time soon.

That was the central point when I first wrote about the topic late last year and, judging by the discussions taking place today, it remains just as relevant now.

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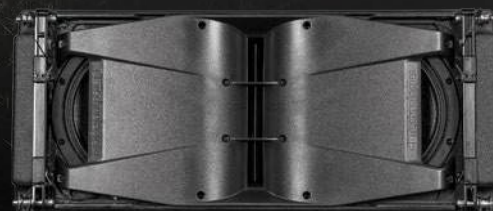
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Elite Event Technology's Darren Russell Joins Global Touring Leaders at JBL Tour Summit Ibiza

Getting invited to JBL's Tour Summit isn't a marketing exercise. The event draws the owners, operators, and production directors who move audio at the highest level of live touring, people whose equipment decisions show up on riders, and influence system deployments world-wide. When Darren Russell, Owner and Managing Director of Elite Event Technology, was invited to Ibiza as part of the 2026 cohort, it was a recognition that Australia now has a seat at that table.

That recognition came with weight behind it. Russell wasn't there simply to observe. He was asked to join the event's industry panel, a forum where the global touring community examines where the business is headed, what the market demands, and what high-performance production looks like in different regions. For an Australian operator to contribute to that conversation is significant. For that operator to be asked to lead part of it is something else entirely.

"Harman and JBL created an environment where real conversations happen. The connections made in Ibiza, with operators and decision-makers who are running some of the world's most demanding tours, are the kind that take years to build otherwise. Being asked to speak on the panel was an unexpected honour, and it reflects the trajectory Elite is on," says Darren Russell.

VTX: Configured, Trained, and Ready to Work.

Elite's relationship with JBL runs deeper than a recent purchase. In recent months, the company made one of the largest JBL VTX and Crown deployments in the Asia-Pacific region; 96 VTX A-Series line array elements across the A12, A8, and A6 models, paired with 50 VTX B-Series 18-inch

subwoofers and a full Crown amplification complement. Since then, the work of turning that investment into a market-ready operation has been thorough and deliberate.

A substantial pool of VTX A-Series stock is now fully prepared for deployment. The additional equipment required to support the rig - rigging hardware, drive racks, ancillary infrastructure - has arrived and been integrated.



DARREN RUSSELL



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GET IN TOUCH



The systems are built. The configurations are dialled. What remains is the rollout, and that is imminent.

Critically, the people behind the rig are ready too. The entire Elite team has undergone comprehensive training covering hardware, rigging, software tools, and deployment methodology, delivered jointly by MadisonAV's Peter Kubow and Dale West, Product Applications Support Specialist with HARMAN Professional Support Services, who travelled from Harman's Northridge headquarters in the USA specifically to support the training and deployment programme. The combination of local distributor expertise and direct manufacturer support was the kind of structured, hands-on preparation that ensures a system of this scale is operated correctly and safely from the first event.

The VTX A-Series inventory will enter the market across two streams simultaneously: Elite's own productions, and dry hire to other providers across the industry. That second point is significant. It means that touring companies, event producers, and audio contractors who need access to rider-approved JBL VTX stock in Australia now have a local option, without importing, without freight delays, and without compromise on system integrity.

JBL VTX has been a system of choice on international stadium and arena tours for years. The gap between what international productions arrive expecting and what Australian inventory has historically been able to provide is closing. Elite is doing the closing.

A Fleet Expanding in All Directions.

With Elite firmly embedded as a strategic partner for HARMAN and JBL in Australia, it made sense for Darren and Elite to continue broadening their investment.

The recent acquisition of significant JBL PRX and SRX packages are now entering active deployment across the company's expanding regional operations. This will allow Elite to address every tier of the production market and will complement Elite's flagship VTX rig.

These systems support mid-scale events, corporate productions, regional touring, and the fast-turnaround work that forms the backbone of a working production business. Powered, self-contained, and consistent in delivery, PRX and SRX extend Elite's capacity without compromising the standard the company is known for.

The timing is deliberate. Elite has been scaling its geographic footprint, with operations now spanning Canberra, Sydney, and the Illawarra, and the deployment of VTX, SRX and PRX systems gives each location the tools to serve its market independently. The result is a fleet that now operates coherently across the full spectrum of Elite's client base, from mid-scale festival stages to arena-level productions.



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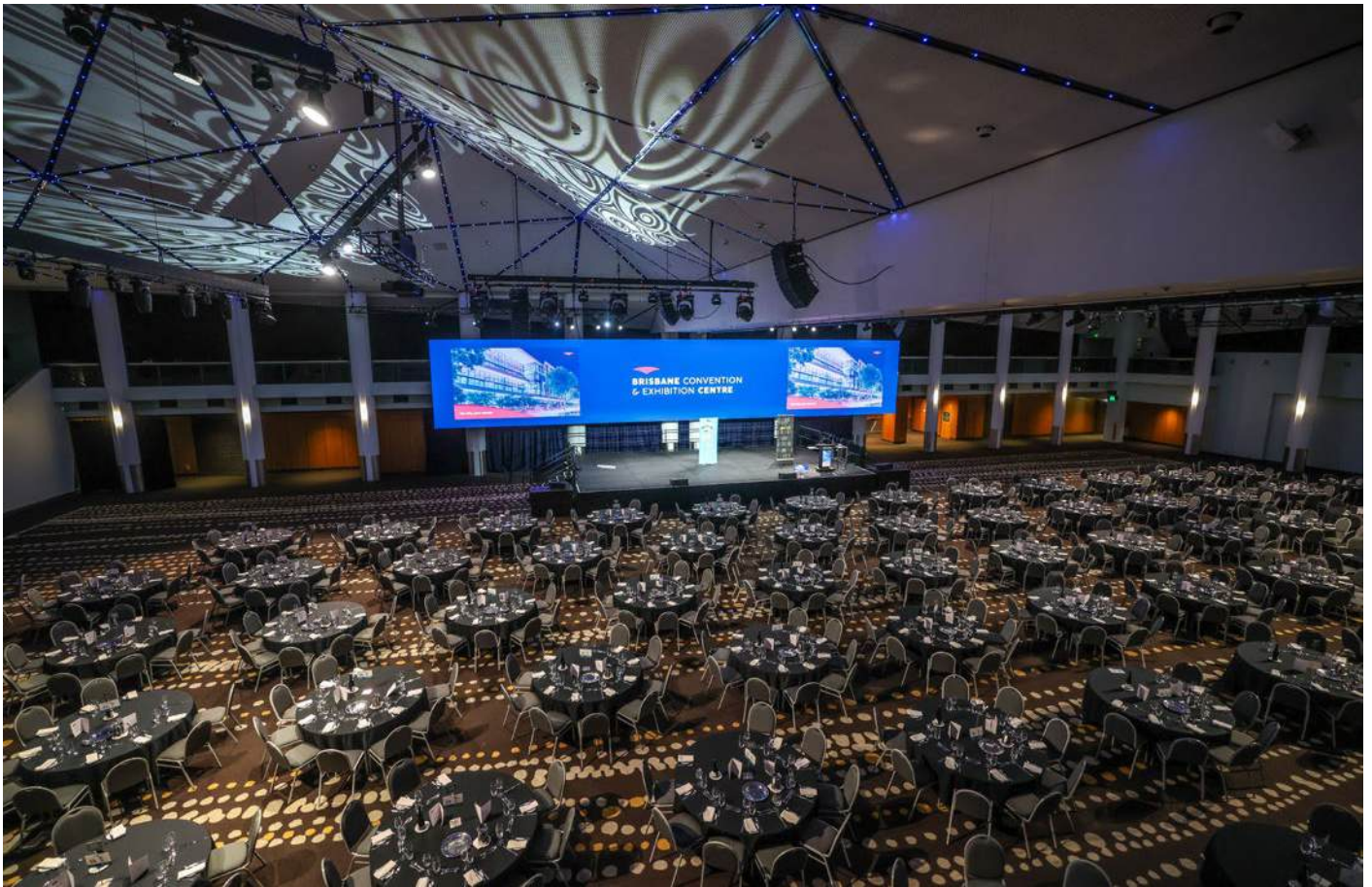
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BCEC Elevates Event Experiences with Landmark 24-Metre LED Canvas in Plaza Ballroom

Brisbane Convention & Exhibition Centre (BCEC) has reinforced its position as one of Australia's leading event destinations with the installation of a striking new 24-metre-wide LED display in its iconic Plaza Ballroom.

Delivered in partnership with Diversified and ULA Group, the permanent visual solution features a 24m x 4m VuePix Infiled AR2 LED screen powered by Brompton Technology processing, creating one of the most significant permanent LED installations within an Australian convention and exhibition venue.

Designed to support the diverse range of conferences, gala dinners, awards presentations, product launches, hybrid events and corporate functions hosted within the venue, the new LED canvas transforms the Plaza Ballroom into an immersive visual environment capable of adapting to virtually any event format.

A Flexible Visual Platform for Modern Events

As one of BCEC's premier event spaces, the Plaza Ballroom regularly hosts events with vastly different content and presentation requirements.

While conferences demand high-resolution presentation content, speaker imagery and live camera feeds, gala dinners and awards ceremonies often rely on dynamic branding, sponsor recognition, video content and immersive visual storytelling.

The challenge was to create a permanent solution capable of delivering exceptional results across all event formats while simplifying event delivery for organisers and production teams.

The result is a visually impressive 96-square-metre LED canvas, offering a native resolution of 8064 x 1344 pixels and more than 10.8 million pixels across the front of the ballroom. The ultra-wide display enables panoramic content, cinematic backgrounds, multi-window presentations and flexible Picture-in-Picture (PIP) configurations, allowing event organisers to combine presentation content, live vision, branding and sponsor messaging within a single cohesive visual experience.

Creating Greater Impact for Event Organisers

The expansive LED canvas provides a dramatic visual focal point, allowing content to extend seamlessly across the entire stage environment

without interruptions from presenters, lecterns or stage infrastructure.

For sponsors and stakeholders, the screen offers significantly greater visibility and premium branding opportunities, while event organisers benefit from enhanced flexibility when designing content layouts for both in-person and hybrid audiences.

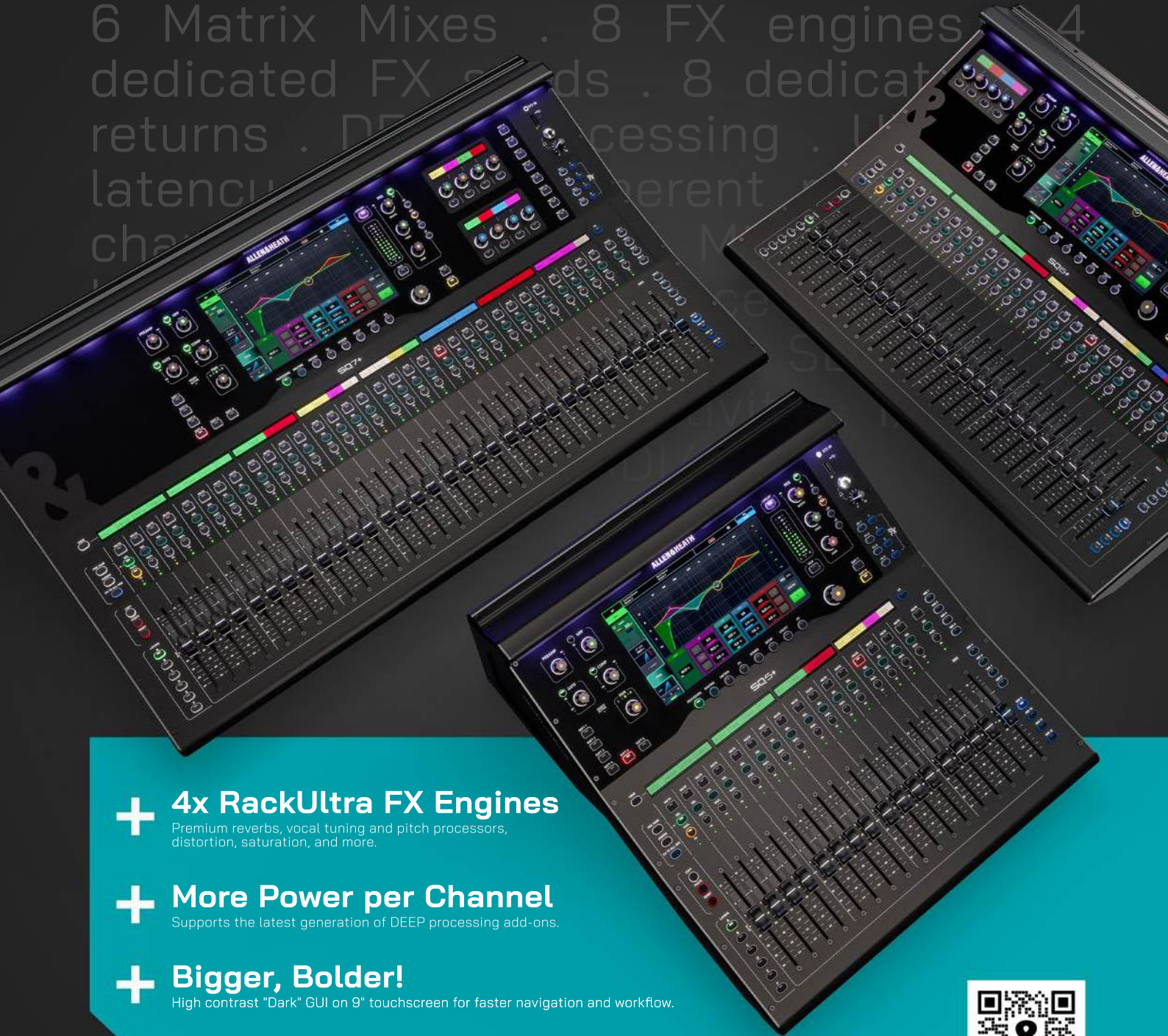
The permanent installation also delivers operational advantages, reducing reliance on temporary display systems, lowering bump-in requirements and minimising technical complexity for many event formats.

In addition, the digital platform supports BCEC's ongoing sustainability initiatives by providing a flexible alternative to single-use printed signage, banners and event graphics.

"At BCEC, leading innovation in event technology is a core value, supported by more than 30 years of delivering advanced solutions for our clients," said Michael Duckworth, Technology and Innovation Director at BCEC. "This installation in the Plaza Ballroom, delivered with ULA Group and Diversified, continues that approach and strengthens our capability to support clients in delivering more engaging, high-quality event experiences."

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+ Bigger, Bolder!
High contrast "Dark" GUI on 9" touchscreen for faster navigation and workflow.



SQ+

ALLEN & HEATH

VuePix INFILED AR2: Built for Performance and Longevity

At the heart of the installation is VuePix Infiled AR2 LED technology, selected for its proven performance, serviceability and long-term reliability.

Featuring a fine 2.97mm pixel pitch, high-contrast black LEDs and brightness levels of up to 1,200 nits, the display delivers exceptional image quality, vibrant colour reproduction and outstanding visibility under full ballroom lighting conditions.

While the AR Series is widely recognised throughout the rental and staging industry, its robust construction, lightweight magnesium-alloy cabinet design and front-and-rear service access also make it ideally suited to permanent venue installations where reliability and ease of maintenance are critical.

The installation team noted that many of the same features that make AR2 highly efficient in temporary event environments also contributed to a streamlined installation process and precise alignment across the 24-metre-wide display surface.

Powered by Brompton Technology

Driving the LED canvas is a sophisticated Brompton Technology processing ecosystem comprising two Brompton Tessera SX40 processors, eight Brompton XD data distribution units and Tessera R2 receiver cards integrated throughout the display.

The Brompton platform was selected for its industry-leading image quality, colour accuracy and operational reliability, delivering

exceptional performance for both live events and broadcast applications.

The low-latency processing architecture ensures smooth real-time response when displaying camera feeds, speaker close-ups and live content, while Brompton's advanced colour management tools provide camera-friendly performance for hybrid and streamed events.

As convention and exhibition venues increasingly seek higher visual standards and simplified workflows, Brompton Technology continues to establish itself as the processing platform of choice for premium LED installations across Australia.

Collaborative Delivery

The project was delivered through a successful tender process led by Diversified, who managed the installation and system integration. ULA Group supplied the complete VuePix Infiled LED solution and Brompton Technology processing system, while also supporting commissioning and specialist operator training to ensure the venue team could maximise the system's capabilities from day one.

Brad Hodge of Diversified described the project as an opportunity to create something that would genuinely elevate the experience within the Plaza Ballroom.

"The goal was to create something that genuinely lifts the experience in the Plaza Ballroom, not just another display. This 24-metre-wide LED canvas fundamentally changes how the space can be used, from keynote presentations and sponsor branding through to immersive visual experiences that transform the entire room."

Raising the Benchmark for Event Technology

The installation reflects BCEC's ongoing commitment to investing in innovative technology that enhances the experience for event organisers, presenters, sponsors and delegates alike.

By combining a large-scale VuePix Infiled LED canvas with Brompton's world-class processing technology, Plaza Ballroom now offers one of the most versatile and visually impactful presentation platforms available within an Australian convention and exhibition venue.

The result is a future-ready event space capable of delivering greater engagement, stronger visual storytelling and exceptional presentation quality for years to come.

Project Summary

(BCEC) – Plaza Ballroom

Installation Partner: Diversified

Technology Supplier: ULA Group

LED Display: VuePix Infiled AR2 series

Screen Size: 24m x 4m

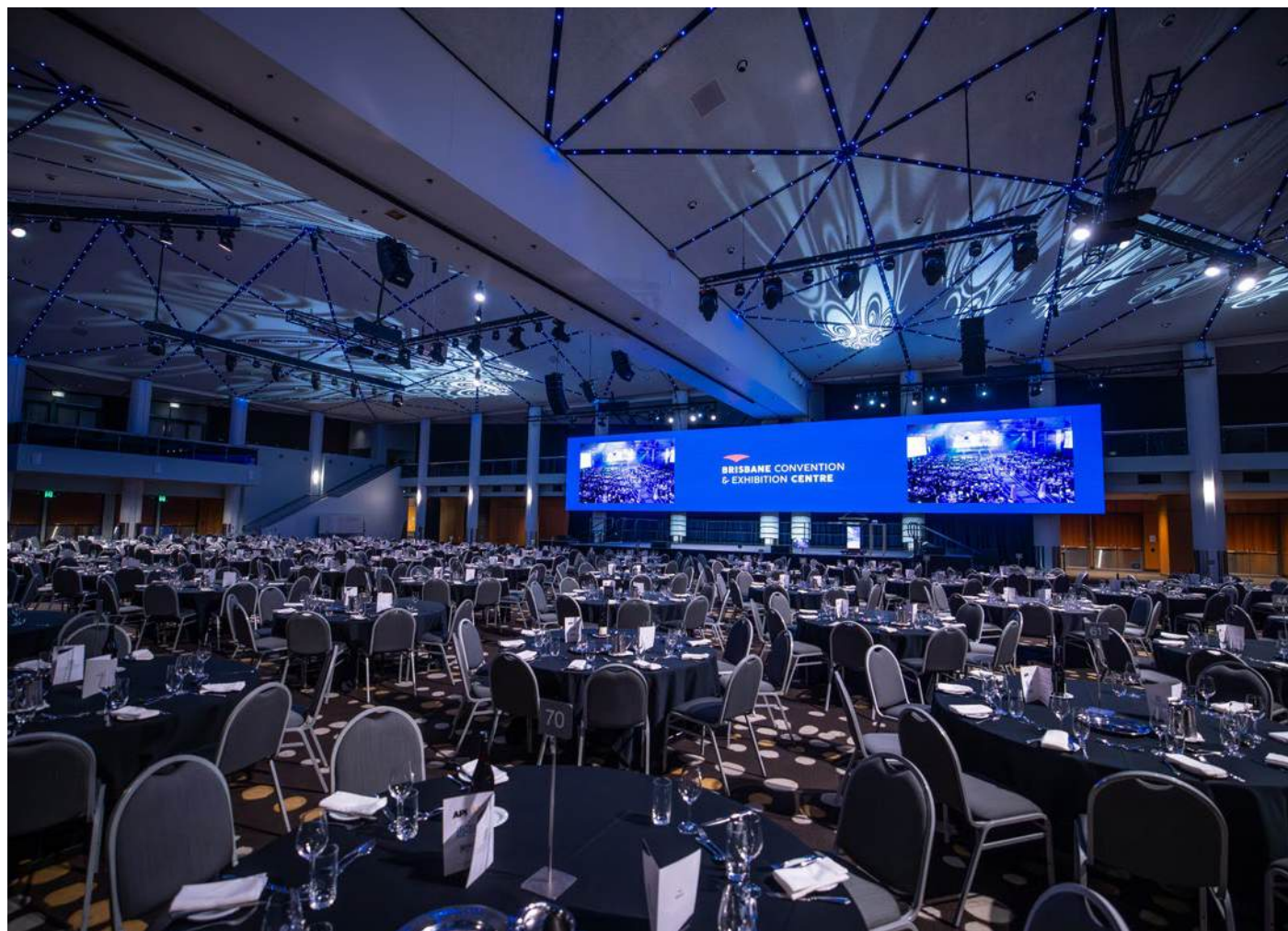
Pixel Pitch: 2.97mm

Resolution: 8064 x 1344 pixels

Display Area: 96sqm

Processing:

- 2 x Brompton Tessera SX40 Processors
- 8 x Brompton XD Distribution Units
- Brompton Tessera R2 Receiver Cards



The Shortlist Just Got Longer



Vergence Group is Adamson's fully integrated loudspeaker platform, combining amplification, DSP, and networked control into a single, unified system.

With the introduction of VGx, VGd, and VGo, the Vergence platform further expands its reach into larger-scale deployments while maintaining the control, consistency, and performance that define the system.

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The Art House Wyong Progresses to ETC Lustr 3 for a Unified Stage Lighting System

With lighting equipment approaching its 10-year mark, The Art House Wyong, a community-focused performing arts venue on the NSW Central Coast, expanded its existing lighting system with ETC Lustr 3. The upgrade is designed to strengthen consistency, flexibility and performance across the main auditorium while building on an established ETC platform.

The Art House already had a strong ETC foundation in place. In the main auditorium, the venue had been running ETC Series 2 LED profiles as part of its original fit-out.

The system has expanded progressively as part of an ongoing upgrade cycle, including the addition of Desire X8 Fresnels, ETC Response Gateways as sACN nodes, and ETC control consoles, including a Gio and an Apex 5. “Those ETC fixtures have proven to be incredibly reliable with no issues,” said Tom Skelton, Production and Operations Manager at The Art House Wyong. “They’ve been absolute workhorses for us and have handled everything we’ve thrown at them over the years.”

The next step was to evolve the rig without disrupting what already worked. The venue needed to maintain compatibility, improve on-stage consistency, and support a wide range of productions within its existing ETC environment.

The venue selected ETC Lustr 3 fixtures as the next stage in its lighting upgrade, beginning with on-stage positions in the main auditorium. Built on ETC’s Source Four LED Series 3 platform, Lustr 3 uses the Lustr X8 eight-colour array, delivering greater colour depth while maintaining high output.

“Having the engines matched on stage is hugely beneficial for us because the output and colour match with basically zero effort. That’s a huge advantage,” Tom said.

This consistency is particularly valuable in a venue like The Art House, where the lighting system must support everything from community presentations to touring productions and more detailed design work. With ETC fixtures and ETC control working together, the team can move quickly when needed while maintaining accuracy and repeatability.

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“Having ETC consoles as well means that when you press a colour in the gel swatch, the light does what you ask it to do,” Tom said. “Being able to do that for shows we’re busking, where we have short turnaround times, as well as for the higher-end design work we do on some of the larger shows we’re producing and presenting, is a huge advantage to us.”

The rollout is intentionally staged. The initial Lustr 3 installation covers all on-stage fixtures, with future phases expected to extend into front-of-house bridge positions over time. This approach provides a practical and cost-effective pathway to continue improving the system while maximising the value of existing infrastructure.

ETC Products in use at The Art House Wyong now include:

- ETC Lustr 3 fixtures
- ETC Source Four LED Series 3 Lustr X8
- ETC Series 2 LED profiles
- ETC Desire X8 Fresnels
- ETC Response Gateways
- ETC Gio console
- ETC Apex 5 console



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NEW GEAR



AUDIX NOVACORE NCEC AND NCTH WIRELESS VOCAL CAPSULES

AUDIX has two new Novacore wireless vocal capsules. NCEC (extended cardioid) and NCTH (tight hypercardioid) models both feature proprietary VLM (Very Low Mass) technology for natural vocal intelligibility, high transient response, and low handling noise. Both NCEC and NCTH feature drop-in compatibility with common third-party wireless handheld devices. The NCEC capsule is designed to capture a natural sound with a forgiving pickup pattern, ideal when the performer may not have a refined mic-technique. The NCTH capsule is built for precision and acoustic isolation in high-SPL stage environments with more professional vocalists.

Australia: PAVT pavt.com.au 03 9264 8000
New Zealand: PAVT pavt.co.nz 09 272 8041

ADAMSON VGX SERIES LOUDSPEAKERS

VGx is Adamson's latest addition to their Vergence Group of loudspeaker line array systems. It is based upon transducer, wave-shaping and amplification technology first introduced with VGt. VGx features three M140 mid-range transducers and three NH3-V-16 high frequency compression drivers on a newly designed 3° coaxial mid-high assembly. A new 18" driver with a dual wound voice coil provides the low end, while the ND13-S used in VGt now provides low-end support and directionality as a side firing driver in VGx.

To keep it quiet onstage, VGx offers 22dB of rear rejection across its entire bandwidth, with either cardioid or omni patterns. A new Class-D amplifier module powers VGx, with two full bridge channels devoted to the low frequency section, and four half-bridge channels powering the remaining devices.

VGx is supported with two new subs. Adamson VGd is a large-format dedicated cardioid subwoofer enclosure using two front-loaded SD21.5 transducers, and two rear-loaded SD18 transducers.

Complementing VGd, VGo uses the same technology and transducers but in a single driver format. Both subs utilise on-board Class-D amplification, both subs have built-in rigging, and both subs can reproduce audio down to 27Hz.

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BSS SOUNDWEB OMNI 600, 300 AND 200 SERIES

BSS Soundweb have added 600, 300, and 200 Series endpoints to their AV-over-IP OMNI Networked AV platform. The OMNI 600 Series delivers high-performance AV-over-IP for performance-critical environments, supporting 4K60 4:4:4 video, audio, control, and USB 2.0 over Gigabit Ethernet. It is targeted at mission critical applications in higher education, government, enterprise, and large venue environments. OMNI 300 Series streams 4K60 4:4:4 video and generates a secondary 1080p H.264 or H.265 video stream for third-party platforms and services. It is designed for meeting spaces, hospitality venues, casinos, retail environments, and hybrid classrooms. The OMNI 200 Series focuses on professional-grade USB 2.0 routing and extension over IP. It also provides two-channel Dante audio input and output at the USB host endpoint, ideal for conferencing and collaboration workflows.

Australia: MadisonAV madisonav.com.au 1800 436 378

New Zealand: JPRO jpro.co.nz 09 275 8710



NEW GEAR



AUDINATE DANTE AVIO INSTALL LINE

Audinate have three new models in their Dante AVIO Install range. Dante AVIO Install 4-Ch analog input, 4-Ch analog output, and 2-Ch In/2-Ch out analog adapters all feature dual switched Ethernet ports that allow up to four units to share a single network drop via daisy chaining. Dante AVIO Install have Euroblock terminals for permanent installations, and the included bracket or Dante AVIO ClickGrid system helps integrators mount adapters wherever they are needed. All Dante AVIO Install adapters work with familiar Dante tools, such as Dante Controller, Dante Director and Dante Domain Manager.

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New Zealand: JPRO jpro.co.nz 09 275 8710



JBL VTX B35 SUBWOOFERS

JBL Professional have expanded their VTX Series with VTX B35 and VTX B35G compact cardioid subwoofers. VTX B35 integrates cardioid behaviour into a single-enclosure design, keeping low-frequency coverage focused on the audience and off the stage. It uses three JBL Differential Drive 15-inch woofers arranged with two forward-facing drivers and one rear-facing driver. Each section is powered independently via dedicated amplifier channels, and the unit performs down to 32Hz. The flyable VTX B35 integrates mechanically with VTX A12 line arrays and existing VTX rigging accessories and baseplates. The VTX B35G includes 16 M10 Quick Link eyebolts for fixed installations and ground-stacked applications.

Australia: MadisonAV madisonav.com.au

1800 00 77 80

New Zealand: JPRO jpro.co.nz 09 275 8710



BSS SOUNDWEB OMNI APP-DEFINED TOUCH PANELS

BSS Soundweb OMNI Touch Panels are app-defined interfaces designed for enterprise environments. Available in a range of form factors to suit room requirements, they come with included hardware for wall, glass and VESA mounting, optional tabletop accessories, and slimline models optimised for standard single gang electrical boxes. OMNI Touch Panels incorporate integrated speakers, microphones, and a front facing HD camera that adapt to different roles across installations. NFC, proximity and ambient light sensors provide inputs, while customisable colour side LEDs give dynamic visual feedback.

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AYRTON NANDO 1202 LED MOVING HEAD

Nando 1202 is a hybrid LED moving head from Ayrton with 15:1 linear zoom, 3.5° - 53° beam aperture and IP65 rating. Equipped with 28 x 50W RGB-L LEDs, it delivers up to 25,000 lumens with a flicker-free beam. The lime chip enriches colours, increases output, and brings the colour space to enable a CRI above 86. A virtual CTC channel enables the adjustment of the white point from 2500K to 8000K, and a tint control channel allows +/- green for perfect rendition on camera. The moving head ranges from 540° pan to 255° tilt. With individual control of each LED, Nando 1202 also produces a swathe of effects.

Australia: Show Technology showtech.com.au
02 9748 1122

New Zealand: Show Technology showtech.com.au 09 869 3293

KLANG KOS 6

KLANG's immersive in-ear monitor mixing system has a new OS – KOS 6. KOS 6 and its corresponding KLANG:app software support KLANG:1 and :1pro. For KLANG:1pro, Dante patching to any other third-party devices can now be handled directly within KLANG:app, without requiring Dante Controller. New Solid State Logic integration support expands workflow possibilities for SSL Live users with native control directly from the console surface and ADM-OSC support enables seamless integration with other external immersive audio systems. KOS 6 also introduces workflow enhancements, new Action Buttons and Batch Snapshot Editing. Control is now available via Elgato Stream Deck or other supported Companion control surfaces.

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



NEW GEAR



EAW NEWPORT SERIES ADDITIONS

EAW have added two new models to their Newport Series of active arrays. NT208L line array is a dual 8-inch active line array that delivers 141dB Max SPL down to 50Hz. It has a 2000W Class-D amplifier and field-adjustable horn (80°, 95°, or 110°). Additionally, the NT208L features EAW's Adjustable Horizontal Directivity (AHD) allowing users to choose between four horizontal coverage profiles. The 16" driver in the NT116S Subwoofer claims to provide 50% more air displacement than a 15" driver with 4000W of peak onboard power. It delivers 135dB SPL down to 25Hz. An optional rigging accessory allows the NT116S to be flown with the NT208L line array or deployed as a standalone low frequency solution. Online Array Assistant (OAA) is a browser-based tool to configure pick-points, splay angles and back-panel switch settings before flying the rig.

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Powersoft Dynamic Music Distribution; the single solution for all types of BGM systems allows for a streamlined sharing of analogue and digital sources across multiple amplifiers. Powersoft's DMD is inherently simpler compared to traditional BGM solutions, yielding higher reliability levels and results while keeping costs low.



RCF KPS SERIES MULTICHANNEL DSP AMPLIFIERS

RCF's installation-specific multichannel amplifiers cover a range of configurations, from two to eight channels of output. KPS amplifiers have balanced and unbalanced analog inputs, an S/PDIF digital input to create a common audio bus, and use intelligent power-sharing to distribute power asymmetrically across outputs. Every KPS Series model can be ordered with an integrated Dante interface. Five GPIO and one LAN port are common across models. The Class-D amps cover the 20Hz–20kHz range with THD of 0.05%. Onboard DSPs are loaded with presets for RCF speakers, and configured via RDSpace software.

RDSpace is the software platform for KPS Series management. It allows configuration of input routing, zone definition, output optimisation, and speaker calibration, with real-time monitoring. Presets, filtering, EQ, delay and more are easily accessed.

Australia: Group Technologies
grouptechnologies.com.au 03 9354 9133
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06 873 0129

Q-SYS QSP-11 SCHEDULING PANEL

Q-SYS Scheduling Panel is a 10.9-inch touchscreen built on the Microsoft Device Ecosystem Platform (MDEP), as a Microsoft Teams Panel. It shows meeting details, availability, and allows users to reserve meeting spaces on the spot. Its anti-fingerprint, anti-glare screen is complemented by illuminated side LEDs representing room status. The PoE 802.3af powered unit has flexible mounting options and can even use Wi-Fi for wireless connectivity when wiring is not possible. Scheduling Panel is designed to integrate seamlessly with Q-SYS Reflect management system.

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



NEWGEAR



Q-SYS ROOMSUITE COLLABORATION BAR

RoomSuite Collaboration Bar from Q-SYS is a UC collaboration bar with integrated cameras, loudspeakers and microphone array, running Microsoft Teams Rooms. It comes with two wide-angle and two telephoto cameras, each with 50MP sensor. The 16-element microphone array captures sound up to 10m away and dual 20W speakers replay stereo. Also available is Q-SYS Table Microphone for the RoomSuite Collaboration Bar (RS-CB-TM). Content sharing via Microsoft Teams (In-meeting), USB-C local sharing or HDMI local sharing is all 1080p @ 30 fps. Control via Q-SYS RoomSuite Collaboration Bar UC Controller and/or Q-SYS Reflect. Q-SYS Reflect is a cloud-based monitoring and management tool for every Q-SYS system across your installation sites.

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RCF RDSHAPE

RDSHAPE from RCF is a dedicated 3D system designer and prediction platform for audio setups, developed for TT+ Audio loudspeakers and RCF touring systems. RDSHAPE lets users create detailed venue models, position loudspeaker systems in 3D space, evaluate SPL and frequency response coverage prior to touring or fixed-install builds. AutoSplay function automatically calculates inter-element line array angles based on target SPL and coverage requirements. Audio tuning options are enhanced by mechanical and rigging analysis, generating fly bar strength, pick-up points, weight distribution and load data.

Australia: Group Technologies grouptechnologies.com.au 03 9354 9133
New Zealand: Direct Imports directimports.co.nz 06 873 0129





SHURE AI-ENABLED MXA925 AND EXPANDED MXA901 CAPABILITIES

Shure's MXA925 Ceiling Array Microphone features a completely new processing platform that gets smarter over time. It uses AI-enabled IntelliMix DSP onboard to enable features such as AI Acoustic Echo Cancellation (AEC), AI Denoiser and AI Deverb to improve as the system learns usage patterns. MXA925 have dual RJ45 network connectivity for secure communications. Remote device management, real-time monitoring, and firmware updates are provided via ShureCloud.

Shure have also released a firmware update to the MXA901 Ceiling Array Microphone, expanding its features to include improved support for voice lift applications (via discrete outputs in Steerable Coverage mode), enhanced camera tracking with Optimize Tracking, additional Automixer and Speech Gating Threshold controls, and a fully flexible single Automatic Coverage zone.

Australia: Jands jands.com.au 02 9582 0909

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

AUDIO-TECHNICA ATSP-30 NETWORK CEILING SPEAKERS

Audio-Technica's ATSP-30 network ceiling speaker series are designed to deliver high-quality, intelligible audio to modern meeting and collaboration spaces. They are available in two models – ATSP-30LP (Audio-Technica LINK) and ATSP-30DP (Dante). Sold in pairs (one active, one passive), the ATSP-30 speakers mount flush into drop or hard ceilings, while delivering 140° coverage of full-range sound. The ATSP-30 series integrates directly with Audio-Technica's ATDM digital SmartMixer platform and compatible microphones - over standard Cat5e or better cabling. The onboard DSP, including EQ, delay and presets, is configured via mixer interface or Dante software.

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TCA Tour from SSL is designed for rapid deployment across broadcast, touring and live production environments. A desktop-format control frame with 16 faders and integrated onboard I/O, it is fully pre-wired and packaged for immediate use. The system includes eight mic/line inputs, four line outputs, headphone monitoring, a built-in network switch, and a custom adjustable mount for a touchscreen and PC running SSL's Tempest Control App. Available in two fader tile options (DFT and DFT+), the DFT+ version adds per fader OLED displays and individual fader metering. TCA Tour features ruggedised etherCON and opticalCON connections for fast, secure links to external racks housing Tempest Engines and I/O.

Australia: Amber Technology ambertech.com.au 1800 251 367
New Zealand: Amber Technology amber.co.nz 0800 42 62 37

STUDIO TECHNOLOGIES MODEL 385 MIC/INTERCOM BELTPACK

Model 385 is a Dante-enabled solution designed for broadcast and live-event audio professionals with a single-talk/two-listen intercom interface. A 3-pin XLR connector supports both dynamic and condenser microphones, with selectable P48 phantom power available. The microphone preamplifier circuit offers adjustable gain ranging from 20 to 65dB, in 1dB increments. Analog microphone signal is converted to 24-bit digital audio and output through a Dante transmitter channel. A 5-pin XLR connects to a broadcast headset, which is routed through a second Dante transmitter channel, activated via a pushbutton talk switch, to provide intercom communication with other Dante-enabled belt packs and intercom devices.

Australia: MadisonAV madisonav.com.au 1800 00 77 80

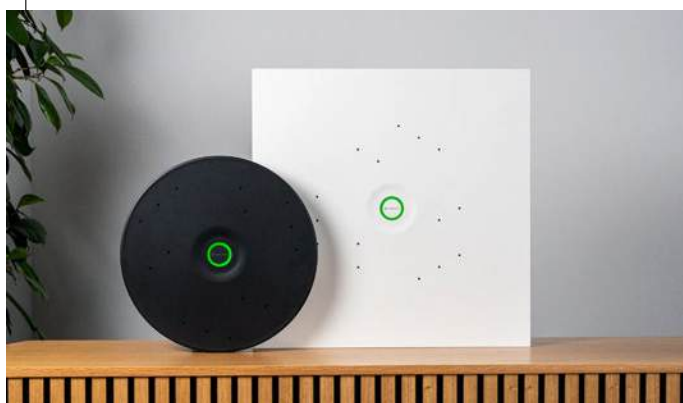


SENNHEISER TEAMCONNECT CEILING M PLUS

TeamConnect Ceiling M Plus (TCC M Plus) is a new ceiling microphone from Sennheiser. It uses PartnerLink, Sennheiser's integration feature, to simply configure microphones within leading AV platforms. The first implementation is to be directly configured within Q-SYS Designer Software.

TCC M Plus also integrates with Sennheiser's DeviceHub, a cloud-based platform designed to simplify device management at scale. PartnerLink is launching initially for Q-SYS environments and will expand to additional platforms over time.

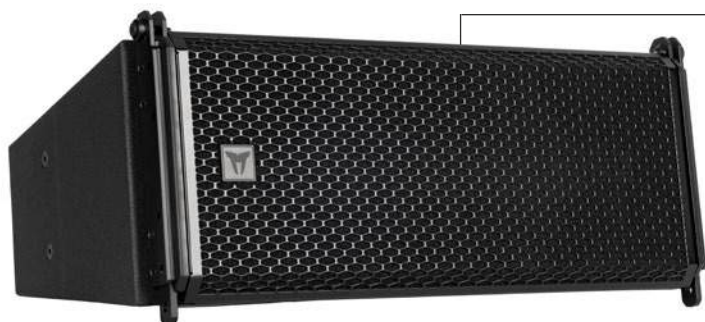
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TT+ AUDIO GTX 10-I LINE ARRAY MODULE

GTX 10i from TT+ Audio is a 2-way Line Array module. It uses a 4" neo compression driver and two 10" neo woofers to output 143dB across 42Hz to 20kHz. The symmetrical enclosures have 110° x 15° coverage. This 8-ohm box is optimised for XPS 16K four-channel DSP amplifiers. Integrated rigging hardware ensures secure deployment of up to 16 modules in tension or compression mode. For enhanced weather resistance, the IP version offers an additional acoustically transparent, water-repellent fabric.

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Who's Picking Up Your Cable Ties?

WITHOUT WASTE FOUNDER KATE GISLASON WANTS EVENTS TO GET SERIOUS ABOUT WASTE, ONE BIN, ONE ZIP TIE AT A TIME

Kate Gislason has a question for the production world: who exactly is picking up your cable ties?

It sounds small. Yet to Kate, founder and director of Without Waste, the 8,000 to 20,000 cable ties typically used on a large event represent something much bigger, "I'm seriously considering putting it into agreements that people have to pick up their own cable ties," she laughs. "So many people seem to think that once they snip them off, someone else is going to deal with them."

For anyone who has ever packed down a festival site, the image is familiar: little plastic tails scattered behind temporary structures. They are operationally hard to beat. Kate is not pretending otherwise. In fact, she is currently planning her own wedding and admits the one thing standing between her and a genuine 100% zero-waste celebration may well be zip ties, "There are reusable alternatives, but when you talk to the lighting guys, it's often the labour involved that makes them cost prohibitive. That's why the international standard for a zero-waste event is 90% diversion. There are some things we still haven't found a practical alternative for."

Still, for Kate, cable ties are the perfect hook because it brings the waste conversation back to

where it belongs: in the hands of every person involved in the delivery, "This is about everyone getting their head in the game. Waste is not someone else's job."

From Michigan to Lincoln to Event Waste

Originally from Ohio, Kate was studying environmental management at Michigan State University when a course visit to the university's recycling centre changed the direction of her career, "I just thought, wow, this is so cool," she says. "I started volunteering, then working part time." In early 2020, she came to Aotearoa on a study abroad programme at Lincoln University. Then Covid hit. While other international students went home, Kate found ways to stay. "This was where my passion was."

Her first opportunity came through Total Waste Solutions, a Christchurch family business focused on event waste. Working on major Hagley Park and City Council events gave Kate a fast education in operational reality: the scale of contamination, the complexity of vendors, the speed of audience behaviour, the impact of poor systems, "I started to realise how much the industry was struggling with waste."

When Total Waste Solutions was sold and the new arrangement didn't fit, Kate decided to start



KATE GISLASON



her own thing. She found a mentor in Sharon McIver, who had been running Our Daily Waste in Christchurch for over a decade, "She basically handed me the torch and the bin lids and said, 'Keep doing the work.'"

A Minimisation Company, Not a Waste Company

From the outset, Kate was clear about what Without Waste would and would not be, "I knew I wasn't going to be a transport company. I wasn't going to own bins and skips because, in my mind that's what I'm fighting. You don't want the waste. You don't need the skips."

For Kate, the difference sits in the word "minimisation". Without Waste is not there simply to drop bins, collect bags, and issue a generic report, "I'm not looking to deliver a rinse-and-repeat service. I don't want events to say, 'We'll just get the waste sorting company in and we'll be sweet.' I want to help them set targets, identify problem materials, redesign systems, and improve year on year"

For Kate, a full-service event may include ordering bins and skips, placing and emptying bins, cleaning the site, managing back-of-house sorting, and producing detailed post-event reporting. During the event, the team tracks front-of-house and back-of-house observations, photographs problem items, notes contamination points, and records opportunities for avoidance, reuse, recycling or composting, "The report becomes the catalyst for next year's work. It's about identifying the items taking up a large part of the waste stream, or causing contamination, and asking why they are there in the first place."

Snow Machine, Queenstown's winter festival shows the value of a multi-year relationship. The first year was for analysis. Since then, the event team has been working through active projects: reuse opportunities for decorations, vendor and take-back agreements, and reusable cups with local washing solutions, "What gets an event to



zero waste is buy-in from the event management team. It's working together on local solutions that are effective, long lasting, and don't feel like they will take up everyone's time and money."

The Summer Numbers

The most recent summer season suggests the model is gaining traction. Across Canterbury and Otago, the team worked with 26 events and achieved an average landfill diversion rate of 80.9%, diverting 10,242kg of material through composting, recycling, or avoidance. The Valley Food, Wine and Music Festival in Gibbston, Queenstown reached 92% diversion and Woolston Gala reached 90% in their first year. Other events including the Global Games - New Zealand Junior Rugby Festival (NZJRF) and Selwyn Culture Fest hit the 90% mark in their third year, demonstrating what Kate sees as the real kaupapa of the work, "Zero waste is a journey, it's about improvement. It is fantastic to see this recognised with The Valley and NZJRF both named as finalists for this year's NZEA Sustainability Award."

Reading the Rubbish

For production and event teams and venues, Kate's most immediate advice is also the simplest: look in your bins. Rubbish tells a story. After years of sorting, weighing, and auditing, Kate can lift a bin lid and quickly identify where money is being lost: over-ordering infrastructure, accepting questionable skip weights, paying to dispose of material that could have been diverted." If you open any of the red land-fill bins and they're clearly full of plastic cups or food packaging, you start to broadly identify where your opportunities lie. Most companies that don't know what's in their bins are ordering the biggest skips just to make sure they're covered. If you separate it properly and understand what's really there, you can save money straight away."

Without Waste's services extend beyond events to businesses with site walkthrough audits, bin digs, workshops, project planning, and diversion opportunity analysis. Kate sees a simple site visit as the easiest entry point, "People get apprehensive and say, 'Waste minimisation is great, but you have to have an upfront cost.'

And I'm like, yes, but you'll most likely get immediate savings." One early business client saved thousands after Without Waste reviewed its waste infrastructure, "That was me barely doing anything. It was just looking at what they actually had, what was being collected, and whether it matched what they needed."

Growth, Carefully

The next stage for Without Waste includes adding carbon reporting through a partnership with the Rubbish Portal. For Kate, the value is in connecting the detailed waste data the company already gathers with the transport and landfill emissions associated with where materials actually go.

Growth is also on the horizon, but strategically. Without Waste now has three branches, in Christchurch, Auckland, and Queenstown, while still operating with a small permanent core team and a larger pool of casual event and audit staff. Kate is cautious about expanding faster than the company's culture can handle, "I'm never going to a random temp agency to get staff. Getting people to sort waste efficiently, effectively and with care is not easy. Our team are good at what they do because they actually care."

North Island growth is beginning through audits rather than full event operations. Offshore ambitions are also on the horizon, but again, only when the model and people are ready, "My goal is growing sustainably and delivering 100% value in anything we do."

In the quieter Winter season, Without Waste is continuing its education work, including a workshop series for event organisers. The next session in Auckland is scheduled for 18 November 2026 and will focus on organics, compostables, contamination, food waste, and food rescue at events. Further sessions are planned around the quieter edges of the summer season.

For Kate, it all comes back to that same practical, slightly stubborn belief: waste changes when people stop treating it as invisible. Whether it is a skip weight, a food vendor agreement, a compostable cup, a site plan, or a handful of zip ties on the ground after pack-out, the question remains the same: who is picking it up?

And, perhaps more importantly, why was it there in the first place?



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WHY BANDS STRUGGLE TO RECORD THEIR FIRST ALBUM AT HOME

The idea of recording a band's debut album outside a professional studio has become increasingly common. With modern tools more accessible than ever, what once required a dedicated facility now appears achievable at home. But the reality of that shift is often far more complicated than it first seems.

It's never been easier for a band to make a record without professional help than it is today – or so the story goes. A decent laptop, an audio interface, a handful of microphones, affordable software, and a few weekends in the drummer's garage are now said to be enough to create something that would have required a commercial studio 10 or 20 years ago.

But is that true?

Based on what I know about making albums – and by now I've probably worked on hundreds, if not thousands – the idea strikes me as naive at best. I can only assume that the people making these ambitious claims have never spent meaningful time in a commercial recording studio, let alone developed an appreciation for what such environments actually offer.

To outsiders, a studio can appear to be little more than a collection of microphones, compressors and a recording console. In reality, its value lies just as much in the expertise, workflow, acoustics, perspective and accumulated experience that surround those tools.

I'd contend that if a band truly understood, before starting, the benefits of recording an album in a dedicated studio – and weighed them against the realities of a homespun production – they might be in for a rude shock. Once you factor in the cost of time (where everyone in the band isn't earning money), the inevitable one-off gear purchases (of which there are dozens), the effort of building and troubleshooting a recording setup, and the challenge of learning a dozen new disciplines on top of songwriting, arranging and performing, the equation begins to look very different.

And then there's the outcome. Not just the sound of the finished record, mind you, but the process itself. What does a band forego when it chooses to go it alone in the drummer's untreated garage? The objective ears of a producer. The experience of an engineer who has solved these problems hundreds of times before. A room designed for recording rather than convenience. A structured environment that keeps the project moving forward instead of disappearing into endless

revisions. A working studio that's built to produce professional results, that allows you to do what you do best – play music.

Most bands have little idea what they're missing out on when they try to cobble together their own studio instead of hiring one, because they've never experienced the alternative. They simplistically compare the cost of a studio booking against the cost of recording at home, and immediately jump to the conclusion that commercial studios "are a rip-off!" without properly accounting for the innumerable hidden costs of the garage alternative: the months spent building the space and acquiring new skills, the frustration of technical setbacks, the compromises imposed by unsuitable spaces, and the simple fact that every hour spent engineering is an hour not spent being a musician.

Oh, and then of course there's the thousands of dollars worth of recording gear to purchase... "But how many thousands are we talking about here?" says Jonny. "Two, five, fifteen? And who in the band is in charge of that decision? Fred? Surely not. And besides, I thought we had no money?"

"And what gear will we be buying?" say Paul... "Jonny reckons we need good monitors and they apparently run into the thousands – for good

ones. Fred's heard it's all about mic choices, but good vocal mics can cost thousands of dollars, apparently – just for one! Don't we need several?"

You can see what I'm getting at here. Before a single note has been recorded, the band has already been pulled away from its primary task. Time and energy that ought to be invested in songs, performances and artistic decisions are instead consumed by technical problems, equipment choices and unfamiliar workflows – subjects most musicians know little about or have any desire to master on the eve of a major recording project.

From the outset, I would argue that the ambition of releasing a commercially viable debut album in 2026, of which you can be proud, within a realistic timeline of weeks or months, rather than years, and with little or no previous experience (or equipment), is foolhardy, particularly if your aim is to release a well-crafted, professional sounding album that's comparable to the thousands of others being released simultaneously.

But – and just to be clear – I'm not here to simply run my mouth about why bands should be using commercial studios in 2026, even though I would argue that, for bands in particular, studios represent better value for money now than ever before. Here, I'd simply like to discuss what often happens when a band attempts to record a debut album alone, and what can be done to avoid the worst of the many pitfalls that hide along this long and winding road ahead.

Help! We Don't Need Any

What often happens when a band tries to record its first album without help of any kind – assuming the primary reason for this approach is generally a lack of funds at the outset – is that the band starts with little or no plan, and then immediately becomes sidetracked by the myriad hidden complexities of setting up a recording studio.

And make no mistake, creating even a rudimentary recording environment suitable for a band is a far more demanding task than most musicians imagine. For some, this very first stage represents the start of a very steep and often insurmountable ascent that – without any guarantees of success – hopefully results in a modest working studio that gets the job done.

However, by this point, what initially appeared to be a practical and cost-effective approach to recording the band's eponymous debut album is rapidly becoming a far more expensive proposition than expected. More equipment is needed than anyone ever anticipated. There are technical problems with everything from patching and earthing to firmware updates and monitoring. The room sounds nothing like you thought it would when mics are finally distributed around the room, and the spill from Jonny's snare is getting into everything, and no-one seems to know what to do about it. Fred has YouTube'd a few solutions, but none of them seem to work.

This initial studio construction and troubleshooting phase can often stretch into weeks or months (assuming everything goes well), and still not a single song has been tracked. By then, a considerable amount of time has been invested in assembling a recording facility rather than doing the thing it was built for: recording the debut album.

Great Expectations

What I'm describing here is a fundamental mismatch of expectations. Most musicians are not engineers, producers, editors, accountants, mixers or mastering engineers, and few joined a band because they aspired to become one. They joined to write songs, play music and perform. Or, as Jonny succinctly puts it: "I just want to play on stage in front of a big crowd."

Many of these professional roles require skill sets that are developed over years, sometimes decades. It is therefore the height of naivety to assume that a band can simply divide these responsibilities among its members – with little understanding of what each role actually entails – while simultaneously writing, arranging and preparing its music for recording. To expect everyone to perform these additional jobs competently, while also delivering strong musical performances, is asking a great deal. After all, recording the songs well and to everyone's satisfaction was the objective in the first place, was it not?

When you strip away the romanticism and examine the proposition objectively, recording the debut album in the garage begins to look faintly absurd. It is riskier, more time-consuming and potentially far more frustrating than recording in a professional studio. Worse still, after all that effort, the resulting record may sound inferior – and the entire exercise may end up costing more than the option it was intended to replace.

And yet regardless, thousands of people embark on this journey every year.

Why?

For some, it's a deliberate lifestyle choice – a long-term commitment rather than a means to a specific end. If that's the case, fair enough. Many of us, yours truly included, have followed a similar path in one form or another.

The distinction I would draw, however, is that many of the people running studios in 2026 arrived there through years of prior experience, either working in commercial recording facilities or recording in them as musicians. They did not begin from a standing start. They had already seen how

professional sessions operate, how records are made, and what standards are required. I've been fortunate enough to experience both sides of that equation myself countless times.

What is important for bands approaching their first album to understand is that the recording process is difficult even under ideal conditions – in a commercial studio where everything and everyone is geared towards helping you achieve the best possible result.

Arguably the worst thing you can do at the outset is to ignore everything that is known about how a recording studio functions, and then attempt to recreate a rough facsimile of one in a garage, with no plan, no clear understanding of the requirements, and often no real sense of what a studio actually is. (Frankly, I don't think you'd be attempting it in the garage if you did.)

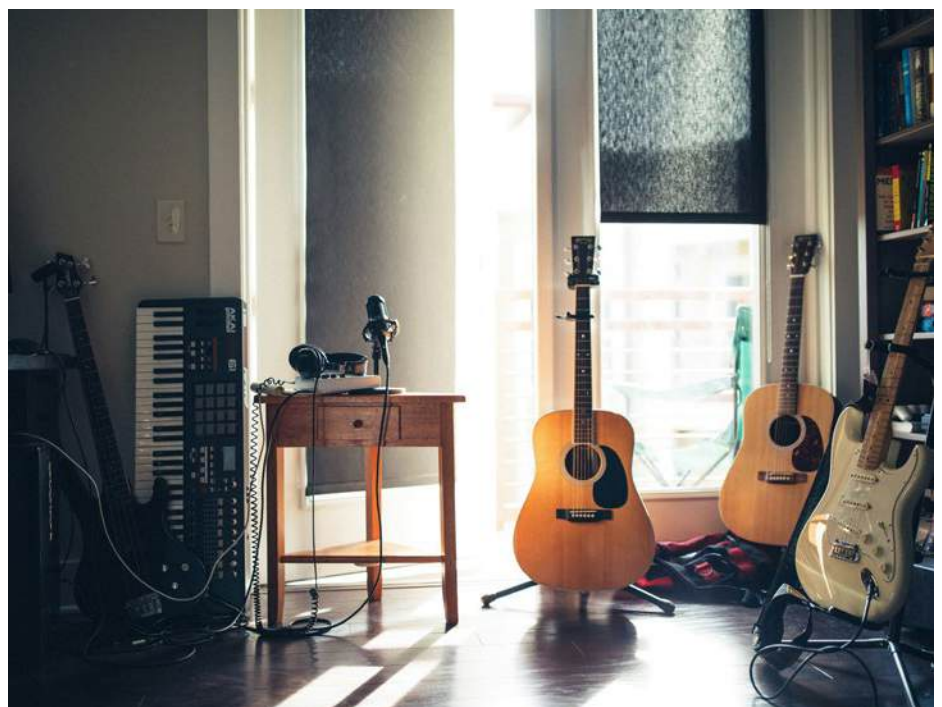
Meanwhile, the album that prompted this entire undertaking – remember that? – can easily be set back by months, or even years. And by that point, who knows where the band might be. Jonny is talking about moving interstate, the bass player has taken a 'real job' in the city, and the lead singer is considering a solo record, partly drawn from songs originally intended for the debut album.

My point being, the time to record a band's first album is now, not in a year, or three years from now. Bands are fragile, the future is unpredictable, nothing remains the same.

Often the best way to approach a band's first album is to go into a studio and record it there from start to finish, learning a great deal about the entire process along the way. You may still choose to add overdubs later, or refine certain elements afterwards; either way, you'll come away with a clear sense of direction for the next record.

In that sense, you will already have achieved a great deal, and likely progressed far further than you would have had you tried to build a recording setup from scratch in a garage.

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





PALM BEACH AQUATIC CENTRE

SPLASHES OUT ON JBL

Palm Beach Aquatic Centre has completed a major redevelopment, reopening as a modern community destination designed to serve swimmers, fitness users, families, and local community groups across the southern Gold Coast. To support the expanded facility, The Prestige Group designed and integrated a venue-wide JBL Professional audio system that provides flexible, multi-zone coverage throughout indoor and outdoor spaces while accommodating the operational demands of a high-traffic aquatic environment.

When the City of Gold Coast reopened Palm Beach Aquatic Centre in October 2024, it marked far more than a cosmetic upgrade. Apart from the existing 50-metre pool, the revamped facility now includes a learn-to-swim pool, hydrotherapy pool, splash pad, gymnasium, group fitness studios, café, crèche, and community gathering spaces. With multiple activities occurring simultaneously throughout the day, the City of Gold Coast required an audio system capable of supporting clear communication, background music and zone-specific announcements without disrupting adjacent areas.

The Prestige Group worked alongside MadisonAV to develop a solution that extended well beyond the basic paging system originally specified during the planning phase. Instead, the team

implemented a true multi-zone design capable of providing localised control across more than 40 independent audio zones, allowing staff to manage announcements and music according to the operational needs of each area.

To meet the acoustic and environmental requirements of the facility, The Prestige Group selected a range of JBL Professional loudspeakers designed for both indoor and outdoor applications. 12 JBL CBT 70J column loudspeakers were deployed in large open areas where controlled coverage and speech intelligibility were critical. JBL AWC82 all-weather loudspeakers were installed throughout pool halls and other moisture-exposed environments, while JBL Control Series ceiling and surface-mount loudspeakers were integrated throughout fitness

areas, studios and ancillary spaces to provide consistent audio coverage across the site.

The system was designed to support the unique operational requirements of an aquatic facility, where humidity, chlorine exposure and changing occupancy levels can present challenges for conventional audio systems. By combining weather-resistant loudspeakers with a distributed, zone-based architecture, the installation provides reliable performance while allowing the venue to adapt audio content to different activities occurring simultaneously throughout the complex.

“The CBT70s are very focusable, with even dispersion,” said Nathan Wright, Project Manager from The Prestige Group. “They integrate cleanly with the architecture, deliver strong full frequency performance, and are well suited to the environmental conditions.”

According to Nick Screen, VP & GM, HARMAN Professional Solutions, APAC, facilities such as Palm Beach Aquatic Centre require audio systems that balance durability, flexibility and ease of operation. “Aquatic and community venues place very specific demands on audio systems, from environmental durability to clear, consistent sound across many zones,” said Screen. “JBL Professional loudspeakers are engineered to perform reliably in challenging conditions like these, while giving operators the flexibility to support diverse activities and evolving programming.”

Since reopening, Palm Beach Aquatic Centre has exceeded attendance expectations with strong community engagement across its aquatic, fitness and recreational programs. The audio system has become an important part of the facility’s daily operation, supporting communication, programming and visitor experiences throughout the venue. With its flexible multi-zone JBL Professional installation, the Palm Beach Aquatic Centre is equipped to accommodate continued growth while providing reliable audio coverage across one of the Gold Coast’s most active community facilities.





ANOLIS FOR IMPRESSIVE LLEWELLYN HALL AUDITORIUM INSTALLATION

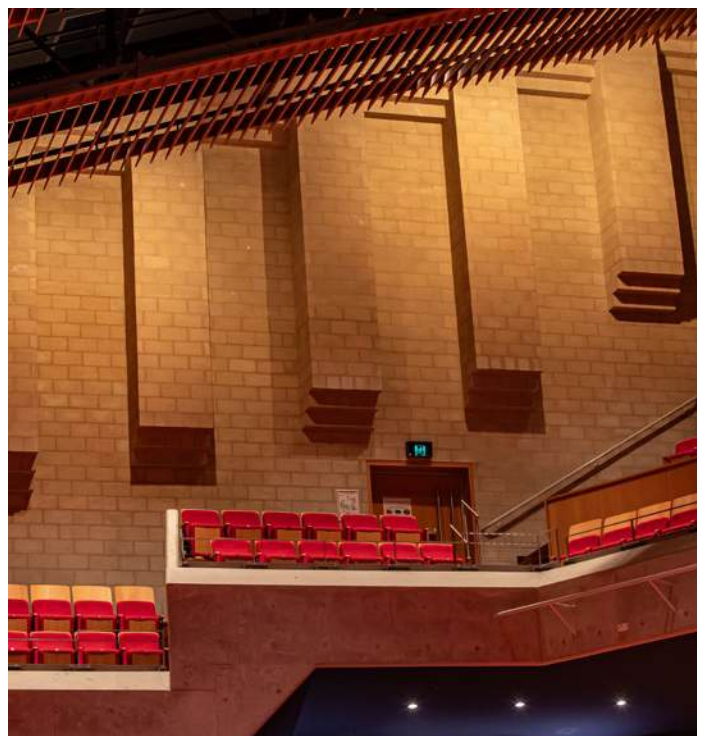
Llewellyn Hall at the Australian National University in Acton, Canberra, ACT, is a heritage-listed building and hailed as one of the finest concert halls in Australia, known for its great acoustics and, more recently, a fabulous new Anolis auditorium lighting scheme, which highlights its architecture and features with understated elegance.

The venue is currently managed by the Venues and Functions team of Campus Environment, ANU, with close operational links to the School of Music.

After winning a competitive tender, the initial specification and new lighting design were created by Eddie Galak, business development manager for Anolis Australian distributor Jands, and completed in collaboration with theatre consultant Micah Johnson of Melbourne-based design consultants Studio Entertech.

Nearly 150 Anolis LED fixtures are involved from the manufacturer's Ambiane and Calumma ranges, and these replaced the old tungsten dimmed sources, resulting in a refreshed interior, as well as being more sustainable and cost-effective to run.

The upgrade was necessary, as the previous auditorium lighting dated to the 1980s and was getting patchy and worse for wear. And, apart from transitioning to LED, Micah also wanted to bring the possibility of having colour in the space for events and shows requiring that option.



“Good quality lighting was essential for this project with smooth and effective colour mixing and rendering. It didn’t just need brightness, but plenty of finesse,” he explained.

Being heritage listed and with a lot of wooden features and red seating, they also wanted to match the warmth and tungsten vibe that the space was already comfortable with, and this is an area where Anolis product lines offer great latitude.

The overhead lighting is now covered with 16 Anolis Ambiane XP56 RGBW recessed luminaires with 30-degree lenses and 36 Ambiane XP56 tungsten dims, also with 30-degree lenses, together with 32 recessed Ambiane HP111 tungsten dims with 60-degree lenses.

The XP56s were chosen for their output, which was needed to spread the lumens evenly across the auditorium space.

24 surface mounting Ambiane SP16 tungsten dims – the smallest luminaire in the Ambiane range and with the innovative additional Tilt feature – are the main turret uplights, combined with 12 Calumma XS SC RGBWs.

The Juliet recesses are illuminated with six Calumma XS SCs and the rear ceiling of the balcony is grazed with five RGBW Calumma M MCs and eight Calumma Ms, with six recessed Ambiane RGBW SP16s utilised as part of the blue lighting system backstage.

Challenges included repurposing as many existing roof holes and fixings as possible due to the heritage listed status, with new holes being made only where completely necessary.

The existing spaces were adapted to fit the new Anolis fixtures with the help of some clever bracketry fabricated by ITE (Installation Theatrical Engineering), also based in Melbourne.

The Ambiane SP16 Surface Mount fixture with the 30-degree tilt was a request from Eddie to Anolis, who responded by developing the product specially for this project. Now this model is in commercial production, but not before Eddie was impressed with the degree to which Anolis was prepared to customise the product to ensure they had the perfect light for their project.

For Micah, the most galvanising elements of the project were combining the need to match the heritage requirement ‘tungsten-style’ aesthetic, whilst simultaneously meeting the contemporary, practical and compliance needs.

The new lights had to work better and be brighter and more flexible than the old system, yet without it being obvious that there had been a major change. So ... a change to modern, efficient lighting without a dramatically visible shift in appearance, ensuring audiences still felt comfortable! This one was a bit of a psychological brain twister.

The new installation has dramatically improved the functionality of the venue, and the mood, ambience and style of lighting can be changed far quicker, easier and to a greater extent when needed than before.

A Paradigm controller is used for the house lighting, which can also be integrated with the venue’s main stage lighting controllers, with touch panel remote access for everyday tweaking.

Micah commented that Anolis generally is a manufacturer he can “rely on for quality control, colour mixing and output” and feels that another plus is the brand being a sister company to moving light manufacturer Robe Lighting, which offers several excellent theatrical ranges.

He appreciates all the adaptability that comes with the myriad of different Anolis angles and throws with lenses, shrouds and other variants. “This is exactly what’s needed, especially when you are trying to emulate previous effects and styling made with totally different lights, but that can now be achieved and replicated with much better options.”

Related to this, he notes the great consistency in quality of light and colour of the two – and in fact all – Anolis ranges.

Studio Entertech also specified a new stage lighting system for Llewellyn Hall as part of the technical upgrade, including dimming and wiring.

Llewellyn Hall has long-standing associations with the Canberra Symphony Orchestra, the Canberra Choral Society, and the National Capital Orchestra, and regularly hosts touring shows, including by Musica Viva and the Australian Chamber Orchestra, as well as performances by a diversity of high-profile international artists.

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VIOLINIST LIZ YOUNG DEPENDS ON DPA

Liz Young must be the hardest working violinist in Australia. Based in Brisbane, where she graduated from the University of Queensland in 2007, she plays in a tango quartet, a bush band, does solo, wedding, and corporate gigs (where she sometimes is on stilts or flown), has her own kid's show, and of course teaches violin. When she's not doing any of that, she goes busking. To relax, she goes hiking, but also takes her violin!

Over the years, Liz has played with rock orchestra Deep Blue, Conrad Sewell, Colin Buchanan, and Sons of Korah, and performed at festivals including the Woodford Folk Festival, National Folk Festival (Australia) and the Tamworth Country Music Festival.

While Liz owns a Yamaha YEV electric violin for some specific jobs, her primary instrument is her acoustic violin; "My violin is a German copy of

a Stradivarius, made in some little town in Germany in the 1890s," explains Liz. "It's quite an old violin with a very deep, rich sound; often people think I'm playing a viola."

For over a decade, Liz has relied on a DPA Microphones 4099 instrument microphone to capture her playing. "During that time, the 4099 has travelled with me through hundreds of concerts, festivals, and events, and has become an essential part of my sound on stage," confirms Liz. "Quite simply, it is the microphone I trust for my violin."

The 4099 is a condenser mic with a supercardioid response pattern, capable of handling up to 145dB SPL peak. Designed to capture the natural sound of acoustic instruments, it has the flat and natural response DPA is well known for, and a mounting clip for just about any application, including the 'V' (violin) clip Liz uses.

"I originally discovered the DPA 4099 when Christian band Sons of Korah asked me to play with them when they were in Brisbane," relates

Liz. "I wanted to sound good, and I'd asked a lot of friends what they thought the best mic for violin might be. Richard Grantham, a viola player who's really into looping and a lot of amazing tech stuff, said the DPA 4099 is the best for the job. After a bit more research, I went and bought it, and since buying it, it's just been amazing. Whenever I come to a venue, every sound tech says, 'Oh my goodness, this is the best microphone!' I only wanted the best, and I got it!"

With its 140mm flexible gooseneck and the V clip, the 4099 has the versatility for musicians and sound techs to get the mic exactly where it needs to be. "With my tango playing, there's a lot of techniques on violin that are very specific to the style," explains Liz. "There's a lot of techniques in the lower half of the bow, and even playing behind the bridge. With a little bit of manipulation, you can get the 4099 in just the right position to pick it all up. You get all these very subtle, amazing sounds and the mic is not in the way of the bow."

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Relying on the 4099, Liz ensures she brings it to every gig. “I play many gigs with other string players that don’t have their own mics, and sound techs will mic them with some sort of beautiful condenser mic on a mic stand, but it’s never the same as having the DPA actually mounted on the instrument.”

Like most musicians, Liz’s primary concern when dealing with being mic’d and amplified by sound techs through a PA is in the preservation of ‘her sound’. “I worry far less when I have the acoustic violin with the DPA, as opposed to when I’ve got the electric,” confides Liz. “The high end of the electric can be abrasive, and that has to be dealt with by EQ. But there’s just not a lot you need to do with the DPA; it’s just all there. It’s not something I have to worry about, ever. Plug it in, sounds good, off we go. I’m just not a big deal at venues for sound techs, and I can just rock up and do my thing. I love the sound of my violin, and all the DPA is doing is just increasing the sound of its beauty.”

The plug and play workflow is often essential to Liz’s work; “Recently at the National Folk Festival, I played with Kris Mizzi, a folk singer in the vein of Don McLean or John Denver,” conveys Liz. “It was his beautiful folk voice, acoustic guitar, and my violin. But like most of these festivals, it’s plug and play; there’s no time to soundcheck. Despite that, the sound we got at the venue was beautiful.”

With her work spanning so many genres, how does Liz classify ‘her sound’? “I’m classical, and rock, and all those other things, but ultimately I describe myself as a folky pop person,” observes Liz. “The way that I play the violin, often I’m trying to imitate a singer. I don’t want to sound like a violin player with lots of vibrato, just back and forth with a bow. I’m often trying to imitate the very beautiful, lyrical sound of a voice, with its breathing and its

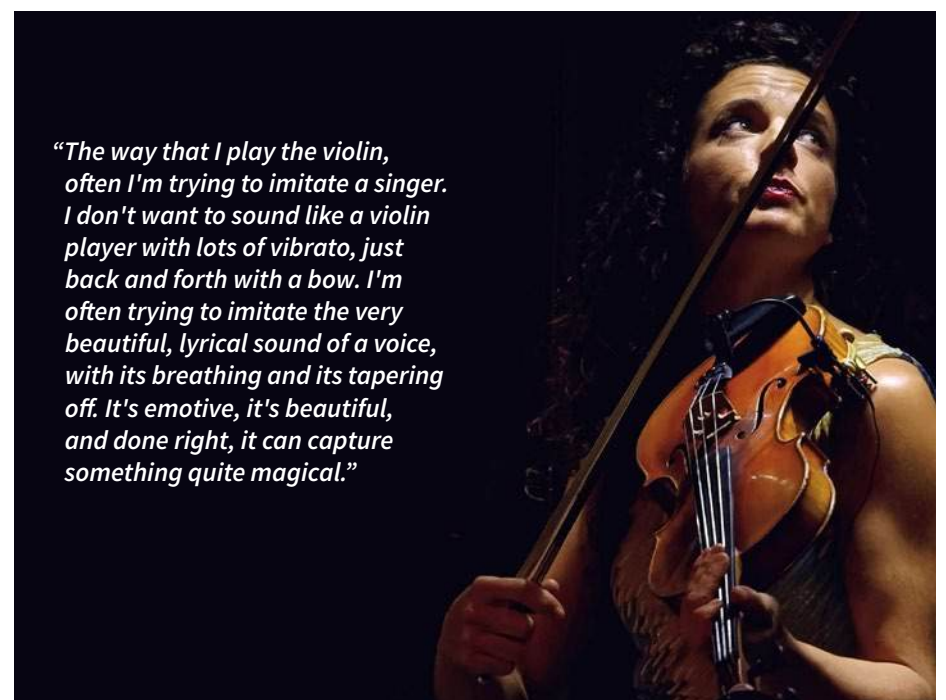
tapering off. It’s emotive, it’s beautiful, and done right, it can capture something quite magical.”

The 4099 doesn’t just join Liz onstage; she’s also got a home studio for recording. “I record at home using the DPA and the Reaper DAW,” shares Liz. “I put the mic about a foot away from the violin, and I just think it sounds amazing. It’s a beautiful way to capture a good violin.”

After more than 10 years of relying on the DPA 4099, Liz has had many opportunities to recommend the mic to others. “I’m often asked by other violinists about the best way to amplify the instrument,” says Liz. “What I consistently

emphasise is that when it comes to achieving the most natural and beautiful sound, nothing compares to an acoustic violin amplified properly. And for me, that sound has always come through the DPA 4099. I mentor and teach many emerging violinists, and conversations about amplification come up regularly. I have recommended the 4099 countless times and know of many players who have chosen it after seeing or hearing my setup.”

lizyoungviolin.com.au
dpamicrophones.com
ambertech.com.au



“The way that I play the violin, often I’m trying to imitate a singer. I don’t want to sound like a violin player with lots of vibrato, just back and forth with a bow. I’m often trying to imitate the very beautiful, lyrical sound of a voice, with its breathing and its tapering off. It’s emotive, it’s beautiful, and done right, it can capture something quite magical.”



AWS Summit Sydney 2026

DANTE AND ALLEN & HEATH DRIVING THE AUDIO BACKBONE

Delivering flawless audio across a multi-theatre high-stakes corporate environment like AWS (Amazon Web Services) Summit Sydney leaves little room for error, and the need for a robust, flexible audio infrastructure is critical.

The Harry the hirer Productions team knew this project demanded more than just good gear. It called for smart integration, real-time control, and bulletproof RF management across the entire venue.

To meet the scale and complexity of the event, the team deployed a fully networked Dante audio system, linking seven breakout rooms, each equipped with Allen & Heath SQ5 consoles, and a large expo floor PA system, driven by an Allen & Heath Avantis console, with all areas connected back to a central RF and recording hub built around an Allen & Heath dLive system.

The backbone infrastructure and networking capabilities that enabled this level of integration were delivered by Colin Rendell and the highly experienced team at PCC Event Services. The wizardry they provided behind the scenes, including routing and switch configuration, was a feat in and of itself, making it possible for the entire audio network to operate smoothly, reliably, and at scale.

This was the third consecutive year that Harry the hirer Productions delivered the audio for AWS Summit Sydney, and with that came an opportunity not just to repeat success, but to raise the bar. Their approach was driven by a clear goal: to evolve the technology in step with the event itself, ensuring the audio infrastructure grew alongside AWS's expanding vision and audience expectations.

The setup allowed each room's dedicated audio operator to focus entirely on the live show in front of them, managing walk-ups, panel transitions, and room dynamics, while all adjustments to livestream output levels and processing were handled remotely by Justin Timms, Head of Audio Production at Harry the hirer Productions, at the central hub. The ability to link all consoles across the network meant gain structure and EQ for each microphone channel could be managed in real time, ensuring broadcast feeds remained consistent, clear, and controlled throughout the event.

But the audio integration didn't stop at mixing. Deploying over 100 channels of RF across the summit and throughout the event spaces at ICC Sydney, managing wireless microphone frequencies across such a dense and dynamic RF environment was no small task. Using the Shure platform with full networked monitoring, the team routed all wireless microphone receivers

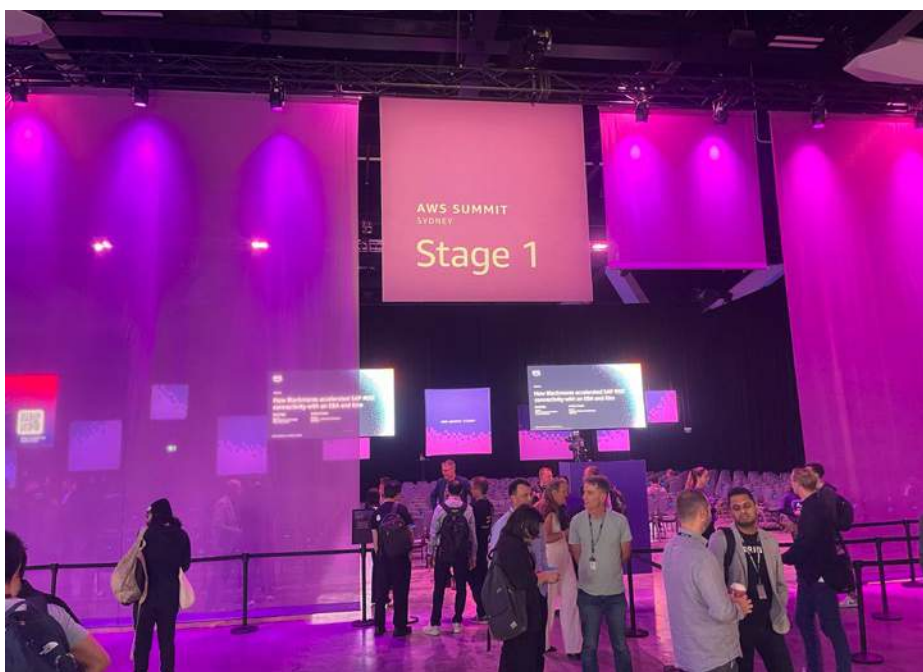
back to a central RF management station. From there, Justin Timms was able to monitor frequency activity live, identify potential interference, and reallocate frequencies on the fly, ensuring smooth transitions between breakout sessions and keynote deliveries without a single dropout.

Justin Timms noted; “With so many wireless channels operating simultaneously across such a large footprint, having everything networked and visible in one place was critical. The ability to reallocate frequencies and manage RF coordination and audio distribution in real time meant we could stay ahead of any issues before they reached the audience. It made the entire operation smoother, more responsive, and far more reliable.”

This architecture didn’t just make life easier for the operators and engineers, it ensured that the end client received consistent, high-quality audio across every space. Whether seated in a breakout room or watching remotely via livestream, attendees experienced clear, balanced sound without compromise. By separating in-room control from livestream output via the networked console system, production were able to prioritise the live audience experience while still delivering a polished, broadcast-quality feed, all without sacrificing one for the other.

This level of control and visibility would not have been possible without the networked power of Dante and Shure’s integrated platform, combined with the flexibility and headroom of Allen & Heath’s mixing architecture. The result was broadcast-grade clarity, seamless handovers between rooms and sessions, and reliable delivery across more than a dozen concurrent spaces, all monitored and managed from a centralised hub.

For the Harry the hirer Productions team, delivering exceptional audio outcomes is more than just meeting spec, it’s about creating seamless experiences for both live and online audiences. The success of AWS Summit Sydney 2026 showcased what’s possible when great technology, smart infrastructure, and experienced teams come together.



AT NO STAGE

STOP BULLYING  HARASSMENT

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TWO DECADES OF SOUND INNOVATION



NOVATECH CONTINUES THEIR TWO DECADE L-ACOUSTICS JOURNEY WITH L2 AND L-ISA

Adelaide's Novatech Creative Event Technology are celebrating 20 years of their enduring relationship with French PA manufacturer L-Acoustics by... buying more L-Acoustics! "We did a count of all the L-Acoustics loudspeakers that we've purchased over the years, and the total came out to over 1,300!" says Novatech's Managing Director Leko Novakovic. "We still have the very first L-Acoustics products we purchased in our inventory; it's a testament to their quality."

The first part of their purchasing plan kicked off late last year with the addition of an "extensive" amount of KS28 dual 18" subwoofers, KARA II dual 8" line array elements, and updated LA-RAK II power and control racks to run them.

L Series

The headline news is delivery into their hire stock of the new L Series "Progressive Ultra-Dense Line Source" (PULS), in the form of eight L2 and four L2D units. Kicking out a more-than-healthy 155dB, an L Series hang can consist of one or more of the standard 'flat' shape L2 unit, with the curved L2D unit hung at the bottom, its shape providing nearfield coverage.

The L Series offers similar or better performance than L-Acoustics' previous flagship array elements while weighing less, taking up less space, and being much simpler to rig. Each L Series cabinet upends the traditional line array model by packing 20 drivers into one cabinet, making them the equivalent of four traditional line array elements.

Not long after Novatech secured their L2 system, L-Acoustics announced their flagship L1 long-throw PULS array at their Hollywood Bowl Keynote event in May. It's an absolute beast, outputting 160dB per enclosure from 35Hz to 20kHz, and is supported by the new CS1 natively cardioid subwoofer. This product launch confirmed that L-Acoustics considers the PULS model the way forward for high-SPL sound reinforcement.

"We had the advantage of touching, feeling, using, and being trained on L2 when we installed a system into the Adelaide Entertainment Centre Theatre," explains Leko. "We had already had an L-Acoustics K2 system in the Theatre and L-Acoustics claimed that one L2 cabinet was equivalent to four K2. When we hung the L2, we verified that they were absolutely correct; we got to compare apples with apples. We also got to understand how easy it is to rig, how it fits in the truck, and how easy deployment was. It validated all the marketing; we tried, we tested, we rigged, we transported, we tuned, and it does what the brochure says, and more."

With L2 now in rental, Novatech are benefiting from a system that takes up less truck space, weighs less, and rigs faster and easier than older systems. With eight L2s and four L2Ds, Novatech can run a full arena rig with mains and sides, or split the inventory into two smaller standalone rigs for use on two festival stages, for example.

The design of L Series means that directionality and optimisation are no longer a matter of physical angles and rigging pins; it's all handled in software. "Understanding the software workflow is what the training really helped with," confirms Leko. "With traditional line arrays, if you weren't happy, sometimes you'd have to drop the array and re-pin the angles or play with your louvers. Whereas with L2, you don't. All you really have to do is get your height and your top angle set, and once that's done, everything else can largely be done in the software. We feel it's a pretty revolutionary step forward, possibly as significant as adopting line arrays 20 years ago."

L-ISA II Processor

Not done with adding things to their L-Acoustics collection, Novatech are now the first Australian production company with an L-ISA immersive audio processor in hire. L-ISA can be used to deliver L-Acoustics' unique Hyperreal frontal spatialisation, immersive object-based mixing, Ambiance acoustic enhancement, and, just announced at Keynote along with L1, Source Intelligence.

Source Intelligence is a real-time vocal enhancement technology that isolates the human voice from background noise, using a unique source separation algorithm to remove crowd noise, instrument bleed, PA spill, and room reflections.

"Novatech ran the first L-ISA Hyperreal PA in the southern hemisphere with the Adelaide Symphony Orchestra back in 2018," relates Leko. "We're now seeing L-ISA come into its own globally, and we're ready to work with our clients to deploy it."

"We're seeing L-ISA used in more and more installations," continues Leko. "Theatres are putting it in to future-proof their venues. It's also going in to a lot of worship installations in Hyperreal configurations because of coverage improvements, consistency of experience across the audience, sightlines, and, surprisingly, cost factors."

The Full Lineup

Novatech's L-Acoustics inventory spans the range from the tiny X4i two-way 4", weighing in at 1kg, up to the mighty K1 line array element, at 106kg, and pretty much everything in between. "We know we've got the right tool for any job," states Leko. "When a client says, 'Here's what I'm trying to achieve', we have a product that will achieve a perfect outcome, and off it goes. SYVA can be on a street doing PA for the Tour Down Under, but it can also be in a theatre, museum, or fashion show. The little X8 can be used in an immersive mixing room, a fancy home hi-fi system, as a

front-fill, an orchestral conductor box, or as a quality low-profile wedge."

Over two decades, Novatech have developed deep relationships with staff at L-Acoustics headquarters in Marcoussis, France. "A lot of the people that we work with have been there for the full 20 years," marvels Leko. "We're both invested in the brand that much. Back when the relationship started, they were clear that they wanted to become the global leader in the field, and they've done that. At Novatech, we don't believe in exclusively having one brand of any product. If you look in our other ranges, they're diverse. Sound desks; we've got five brands. Moving lights; we've got 12. But when you've got this quality of audio across that wide a range, we don't need it; L-Acoustics just does everything."





PROJECTION MAPPING BEYOND THE SPECTACLE: THE ELECTRIC CANVAS AT SOVEREIGN HILL

Projection mapping is often judged by what the audience sees: scale, brightness, animation, colour and spectacle. But the most successful projection projects are usually defined by what the audience does not see; the planning, infrastructure, environmental design, technical redundancy and site-sensitive installation that allow the illusion to work night after night.

For The Electric Canvas, Sovereign Hill's Winter Wonderlights has become one of the clearest examples of this kind of long-term projection thinking.

Since 2014, TEC has designed and delivered the annual Winter Wonderlights projections across Sovereign Hill's historic Main Street in Ballarat. What began as an ambitious projection mapping project across approximately 12 façades has grown into a large-scale, multi-building experience, covering 26 historically replicated shopfronts and trade workshops.

The project is not simply a matter of projecting animated content onto buildings. Sovereign Hill is an outdoor working museum, carefully designed to immerse visitors in an 1860s gold mining town. That creates a very particular challenge: how do you introduce sophisticated event technology into a heritage-style environment without compromising the integrity of the site?

The answer lies in treating projection as part of the place, not something imposed upon it. This principle has guided The Electric Canvas' approach to Winter Wonderlights (and so many of their projects) from the beginning.

Working within a living museum

When Sovereign Hill first approached TEC to deliver Winter Wonderlights, the project came with a very short lead time. There was no opportunity to develop detailed scans or models of the buildings, so the team created accurate mapping templates using point-of-view photography. This required careful determination of projector positions from the outset, because content, viewing angles and image geometry were all tied to the physical layout of Main Street.

Those early decisions established an approach that has continued to evolve over the life of the event. Projector positions are refined year after year, balancing technical requirements with the visual sensitivity of the museum environment. Equipment needs to be concealed from public view as much as possible, while still achieving appropriate coverage, resolution and shadow management.

This is where The Electric Canvas' experience in architectural projection becomes particularly important. The company's work is not only about producing content for a surface; it is about understanding the surface, the site, the audience movement, the sightlines, the constraints and the operational realities.

At Sovereign Hill, those realities are considerable. The site remains open to visitors during the day, with museum operations, staff, vehicles, horses and public activity continuing around the installation. Crews must work discreetly during operating hours, and more intrusive activities, such as crane lifts, are limited to night works.



The result is a projection system that has to be technically robust, visually sympathetic and operationally practical.

Projection as a storytelling system

Winter Wonderlights has grown not only in scale, but in creative complexity. Each year, Sovereign Hill selects a series of themes from a growing repertoire of animated scenes, all mapped to the architectural features of the buildings and supported by a bespoke soundtrack.

Over the years, narrative elements have been woven into the projections, including characters such as a mischievous gingerbread man, Sovereign Hill's Redcoat soldiers and an animated dragon that snakes its way through the streetscape. These characters create moments of surprise and humour, but they also introduce a sophisticated spatial design challenge.

Main Street is not a flat screen. It is a long, narrow, three-dimensional environment through which visitors move. A character appearing on one building may be clearly visible from one location, partially visible from another, and completely missed from elsewhere. The Electric Canvas' content designers therefore need to plan action, timing and audience focus with great care.

Multi-channel audio becomes an important part of that experience. Sound can be used to direct attention to specific areas of the projection footprint, helping audiences understand where to look and when. Projection, audio and site-wide

show control work together to create the sense that Main Street itself has come alive.

This is one of the strengths of architectural projection when it is handled well. It does not replace the architecture; it transforms it. The buildings remain recognisably Sovereign Hill, but for the duration of the show they become part of a temporary theatrical world.

The technical system behind the magic

While the visitor experience is designed to feel seamless, Winter Wonderlights is one of The Electric Canvas' most technically complex annual projects.

The system requires more than 30 projectors operating across the site, with as many channels of synchronised HD playback delivered from multiple media server clusters. A full set of live backup channels allows for immediate failover in the event of a technical issue. Multi-track audio can be distributed across the projection footprint over a Dante network, and signal and network reticulation rely heavily on a robust fibre backbone with redundant network topology.

This level of redundancy is essential. Winter Wonderlights is a ticketed public experience with a concentrated show window. If a projector fails, a signal drops or an image visibly misaligns, the audience notices immediately. In this context, reliability is not just a technical requirement; it is part of the creative promise.

The Electric Canvas also developed a power diversity strategy for the site. Because the event draws from various existing power supplies across the property, the system needs to be planned so that the loss of a single supply has the least possible visual impact. In some cases, it is better for an entire façade to go dark than for multiple façades to be partially affected. That kind of thinking reflects the difference between simply making a system work and designing a system that can fail gracefully.

Designing for Ballarat winter conditions

Outdoor projection always has an environmental dimension, but at Sovereign Hill, that dimension

is significant. The equipment operates in a dusty, cold and sometimes windy environment, with freezing overnight conditions followed by the heat loads of projector operation.

To protect the projectors, The Electric Canvas designed and implemented custom environmental enclosures incorporating filtered ventilation, heating and housekeeping electronics. Chassis heaters were also fitted to reduce the impact of overnight shock cooling before the projectors heat up during operation.

These details sit well outside the glamour of projection mapping, but they are fundamental to the success of the event. A projection system is only as good as its ability to perform consistently under the conditions of the site. For long-running public events, the engineering behind the image is as important as the image itself.

Alignment under pressure

One of the most demanding parts of Winter Wonderlights is the line-up. Achieving pixel-accurate architectural alignment across 26 façades would normally require several nights. At Sovereign Hill, that process generally has to be compressed into one or two nights at most.

The Electric Canvas manages this through a workflow that allows multiple mapping alignments to happen simultaneously across the site. In practical terms, this can mean several technicians working across different sections of Main Street at the same time, laptops in hand, adjusting content to architecture in cold and often challenging late-night conditions.

This is where the craft of projection mapping becomes highly visible to those behind the scenes. The audience may experience the final result as effortless, but the precision required to align content across dozens of façades is substantial. Every window, cornice, balcony, sign, doorway and roofline becomes part of the canvas.

A long-term partnership with place

The success of Winter Wonderlights is also a reminder that projection projects do not need to be static. Since its first year, the event





has continued to grow and evolve, with new themes, new animated scenes and new technical refinements added over time.

For Sovereign Hill, the result has been a winter event capable of attracting large audiences during a traditionally quieter period. For visitors, it has become a multi-generational experience, with many people returning year after year. For The Electric Canvas, it has become a showcase for the kind of projection work that sits at the intersection of creativity, engineering and operational discipline.

The project demonstrates why projection remains such a powerful tool in the event technology landscape. In an era of LED screens and permanent digital infrastructure, projection offers a different kind of transformation. It can adapt to architecture rather than cover it. It can bring heritage environments to life without permanently altering them. It can scale across irregular surfaces, respond to place, and disappear when the event is over.

That is where The Electric Canvas' role is most valuable. The company is not simply supplying projection equipment or producing animated content. It is designing a complete site-specific projection system: one that respects the environment, supports the story, manages the technical risk and delivers a repeatable public experience.

At Sovereign Hill, the result is more than a winter light show. It is a demonstration of what architectural projection can achieve when it is designed with care, delivered with precision and refined over time.

Projection mapping may begin with light, but in projects like Winter Wonderlights, its real power lies in the ability to transform how people experience place.



THE DAYDREAM MACHINE:

INSIDE TDC'S CREATIVE TECHNOLOGY AFTER DARK AT VIVID SYDNEY 2026

For more than 15 years, TDC - Technical Direction Company has helped bring Vivid Sydney's biggest artworks to life through unforgettable large-scale projection and technology experiences for millions of Sydneysiders and visitors.

At Vivid Sydney 2026, as well as powering 11 installations with the most advanced projection and LED display technology, the company stepped into the spotlight itself with The Daydream Machine, an AI-powered interactive installation by creative technologists Harrison Dow, Alex Rendell and Drew Ferors that transformed Darling Harbour's Pier Street Underpass into a living digital artwork.

Harrison Dow said the work explores how emerging technology is giving artists entirely new ways to create public experiences and connect audiences with works. "Using AI systems and live rendering, the installation reacts and evolves with every person who walks through it, creating an experience that is constantly changing and never behaves the same way twice."

Vivid Sydney Festival Director Brett Sheehy AO said interactive works like The Daydream Machine were central to how audiences experienced the festival. "Vivid Sydney invites people to participate in creativity and interactive installations like The Daydream Machine, which place visitors at the heart of the artwork. By harnessing cutting-edge technologies such as AI, this work creates ever-changing experiences that encourage exploration, play and imagination."

"TDC's advanced technology also underpins projections across the Vivid Light Walk, illustrating how innovation continues to shape Vivid Sydney by unlocking new possibilities for artists and seamlessly bringing together creative vision and technical expertise."



AS WATER FALLS WITH STUDIO IRREGULAR ABOVE FIRST FLEET PARK IN THE GEORGE STREET ALCOVE, CIRCULAR QUAY

Michael Hassett, TDC Founder, said the project marked a significant creative shift for the company and wider industry. “For years technology has been used to support artistic ideas. What we’re now seeing is technology becoming a creative tool for artists and storytellers. It’s responsive, intelligent and capable of creating completely new forms of audience interaction.”

Bringing Technology to Life

Beyond The Daydream Machine, TDC technology powered 11 major projections across beloved landmarks and heritage locations throughout Circular Quay, The Rocks, Barangaroo and Darling Harbour during Vivid Sydney 2026.

Highlights include Lighting of the Sails: Opera Mundi by French artist Yann Nguema across the iconic Sydney Opera House sails; Vaiola, a large-scale projection exploring memory, migration and belonging by Samoan-Australian artist Angela Tiatia and Spinifex Group at the Museum of Contemporary Art; Fringe of Infinity by Spanish artist Javier Riera at Customs House with geometric patterns inspired by mathematics in nature; Time: Warped, combining laser, light, sound and projection through the Argyle Cut with ER Productions; Deep Time by Spain’s Hotaru Visual Guerrilla, transforming Garrison Church into a journey through Earth’s 4.54-billion-year ecological evolution; and, Circles of Rhythm at ASN Clocktower where Spinifex Group creates pulsating patterns of music, movement and connection.



DEEP TIME BY SPAIN’S HOTARU VISUAL GUERRILLA, TRANSFORMING GARRISON CHURCH



DAYDREAM MACHINE



VAIOLA BY ANGELA TIATIA AND SPINIFEX GROUP AT THE MUSEUM OF CONTEMPORARY ART

Afterimage: A Projection Mapped Mural at Tumbalong Park was spray-painted live by Sofles in collaboration with US artist Chaske Haverkos, while As Water Falls by Canada's Studio Irregular transformed a monolithic LED cube into an interactive digital waterfall at Circular Quay. Across the curvature of Barangaroo House, New Zealand artist David Morton's Laniakea explores humanity's place within the vast cosmic web.

Reliability at Scale

Throughout Vivid Sydney, TDC's central master control system provided real-time oversight across installations throughout the city, helping deliver a seamless audience experience.

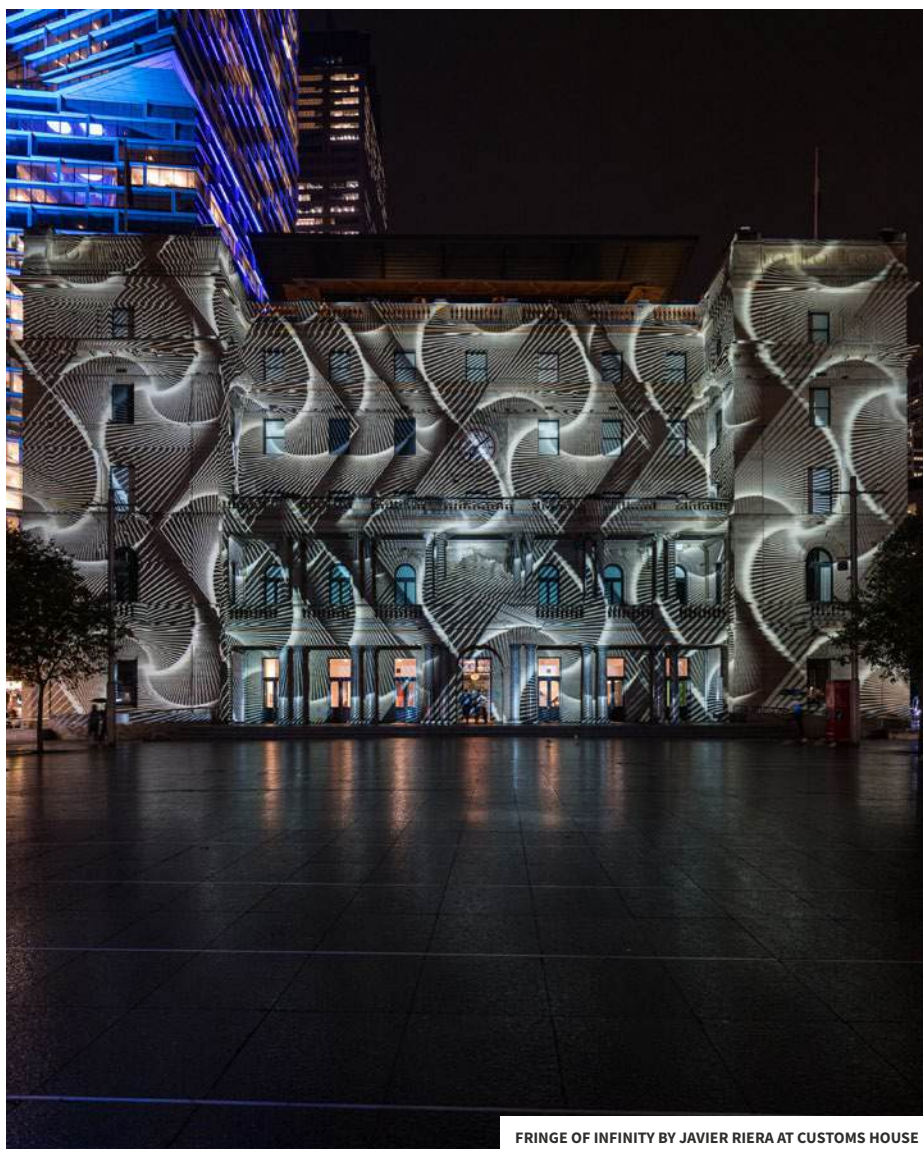
Each year, TDC reviews and updates digital site models for selected locations to improve projection outcomes and make the creative development process more accessible for artists.

How some of Vivid Sydney's projections were built before the lights turned on using LiDAR scanning

One of the lesser-known technologies behind Vivid Sydney is LiDAR (Light Detection and Ranging) scanning. Ahead of the festival, TDC rescanned both Garrison Church and the Argyle Cut using advanced LiDAR technology, creating highly accurate digital replicas of the sites. These digital models were then converted into projection-ready environments, allowing artists anywhere in the world to design, test and refine their works against Sydney's architecture long before arriving on site.

"The process helps artists better understand scale, surfaces, proportions and architectural details while significantly reducing development time and increasing projection accuracy," said Drew Ferors, Head of Innovation and Training at TDC.

Creative technologist and TDC Technical Project Manager Alex Rendell said Vivid Sydney required



FRINGE OF INFINITY BY JAVIER RIERA AT CUSTOMS HOUSE

an expert team working behind the scenes in the months leading up to the festival. “What audiences experience on nights walking around the city takes months of collaboration between Vivid Sydney, individual artists and the team at TDC. Our role is bringing all those creative and technical systems together, from advanced projection and LED systems through to media servers, TDC Live View monitoring and interactive technologies, so the artwork can come seamlessly to life for everyone’s enjoyment.”

A Look at the Numbers: TDC at Vivid Sydney 2026

TDC powered 11 technically ambitious projections across Sydney, including:

- Barco ultra-high-resolution laser projectors across nine projection-mapped sites
- ROE Visual LED tiles powering interactive experiences including The Daydream Machine and 547 million projected pixels illuminating Sydney landmarks each night, which is enough digital content resolution to fill more than 65 4K televisions running simultaneously
- More than 1.45 million ANSI lumens of projection brightness roughly equivalent to over 1,800 household LED light bulbs
- 13 live monitoring cameras and 11 automation systems supporting nightly operations
- Advanced LiDAR scanning used to digitally recreate Garrison Church and the Argyle Cut for artists before arriving on site
- Real-time AI, water-screen projection, LED environments and high-powered laser systems
- 23 consecutive nights of operation supporting millions of festival visitors.

From artist-led AI-generated storytelling to sensory environments incorporating projection and interactive LED experiences, TDC’s Vivid Sydney 2026 deployment demonstrated how technology continues to transform the way audiences experience art, culture and public spaces beyond the festival itself.

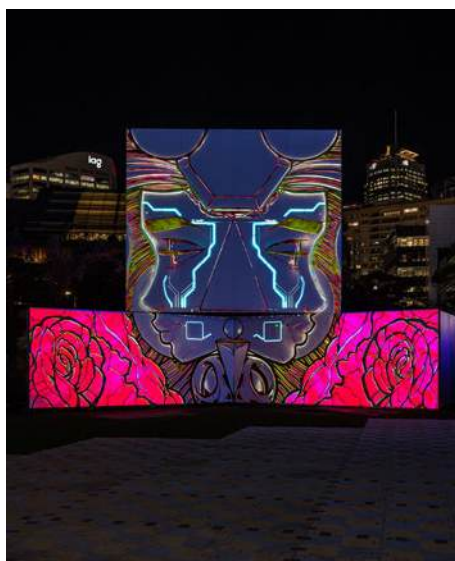
Vivid Sydney 2026 ran from 22 May to 13 June as Australia’s largest festival of light, music, ideas and food, owned, managed and produced by Destination NSW.



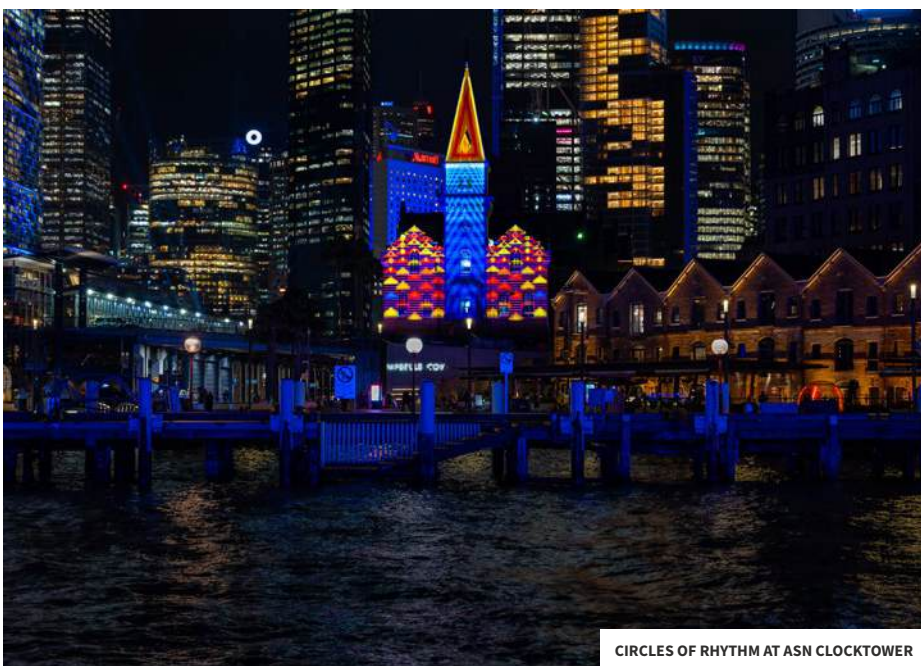
LIGHTING OF THE SAILS: OPERA MUNDI BY YANN NGUEMA



LANIAKEA BY NEW ZEALAND ARTIST DAVID MORTON AT BARANGAROO HOUSE



AFTERIMAGE: A PROJECTION MAPPED MURAL AT TUMBALONG PARK THAT WAS SPRAY GRAFFITI PAINTED LIVE BY SOFLES IN COLLABORATION WITH US-ARTIST CHASKE HAVERKOS



CIRCLES OF RHYTHM AT ASN CLOCKTOWER



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Lille Video Mapping Festival

Each spring since 2018, the French city of Lille is reimagined through light and creativity as the Lille Video Mapping Festival transforms its most iconic architecture into large-scale digital artworks. Across a two-day event spanning more than 11 sites along a two-kilometre route imagined by the association Rencontres Audiovisuelles, the 2026 festival once again drew over 200,000 visitors and the huge crowds were treated to a shared experience of visual storytelling, with the Opéra de Lille standing as both the iconic centrepiece and the biggest technical challenge.

With spellbinding displays of what is possible with projection mapping, the association Rencontres Audiovisuelles, created by Antoine Manier, has been driving innovation in video mapping through research, training, artistic creation and major events, such as the Lille Video Mapping Festival, for many years.

As a showpiece at this year's event, measuring 30 metres high by 42 metres wide within the expansive Place du Théâtre, the Opera's richly ornamented façade demanded exceptional projection precision. It provided the perfect setting for the first live show deployment of Panasonic's latest MEVIX PT-RQ45, with three 40,000-lumen 3-Chip DLP projectors installed in portrait orientation at a projection distance of 42 metres. The set-up created a seamless 3840 x 2160 canvas across three blended images with just a one-metre soft edge overlap.

For Pascal Leroy, video technician on the project, the efficiency gains of Panasonic's latest high-end projector technology were immediately clear: "Three years ago, we needed six 20,000-lumen

projectors to cover a similar façade. Now, with three PT-RQ45 units delivering twice the brightness, we achieved the same scale with a much simpler setup," he explains, noting that each projector could operate from a standard 16A supply, significantly reducing electrical infrastructure requirements.

The scale of the façade required precision, with multiple projected images combining into a single, unified canvas. Here, the PT-RQ45 delivered both the consistency and flexibility needed to achieve a flawless result. Its compact design, remarkably small for a projector of its brightness class, simplified installation and alignment, while compatibility with existing rental infrastructure ensures a streamlined setup for the technical teams. "The design made it very easy to install the projectors in portrait orientation, even on a stacked container setup," Leroy adds. "It's pragmatic and result-oriented, exactly what you need in a live environment."

Beyond the outstanding visual performance, reliability played a critical role in the spectacle.

Outdoor projection mapping places significant demands on equipment, from environmental exposure to extended operating hours. The PT-RQ45's robust engineering, including advanced cooling systems and coated circuit boards to protect against dust and humidity, ensured stable performance throughout the festival. Panasonic's Multi-Laser Drive Engine added a further layer of reassurance, maintaining image output even in the unlikely event of a component issue, an essential factor for live public events where continuity is paramount.

The creative vision for the installation, *Le doute de l'air*, came from the award-winning Italian studio MammasONica, with visuals by Luca Pulvirenti and an original score by The_diiish. Rather than telling a linear story, the piece explored perception and sensation, using the Opera House itself as a living medium.

"It is a surreal creation, an immaterial painting," says Pulvirenti. "I wanted to represent a condition, a dream-like state rather than a fixed storyline, giving the audience the freedom to experience it in their own way. That vision relied heavily on the projector's ability to deliver precise, natural colour."

He adds: "When the organisers of the festival told us we would be working with Panasonic, we knew we would have the necessary contrast and colour range to express our vision. We are familiar with the (previous model) PT-RQ35 and therefore adjusted our content in the studio for the best result. Coming on site for the tests prior to the show, the result was better than we hoped - truly amazing. We were actually surprised by the accuracy. Most of the time during the premiere, the creator adjusts the content on site to match the reality of the terrain - increase the contrast over specific areas, tweak the colour grading, pull

the colours to come out more vividly, strengthen some transition effects and so on, but not this time. With PT-RQ45 the colour rendering is natural and accurate."

With 42,000 lumens of brightness and true 4K resolution, the system maintained vivid, high-contrast imagery even within the ambient lighting of Lille's busy city square. "There is always a concern with light pollution in an environment like this," Pulvirenti explains. "But the brightness of the projectors made the surroundings disappear; the audience was completely immersed."

Pulvirenti also explained how his creation demanded shifts in intensity from the technology. "The shift between the emotional states is at the core of our creation. Some parts are more dramatic and some are soft and natural. Shifting from a surreal to a realistic colour tone, from vividness to lightness. We wanted it to be a gentle breath. And luckily the effect is there from this projector. It covers the whole colour scope and the fast processing made the transitions fast and subtle."

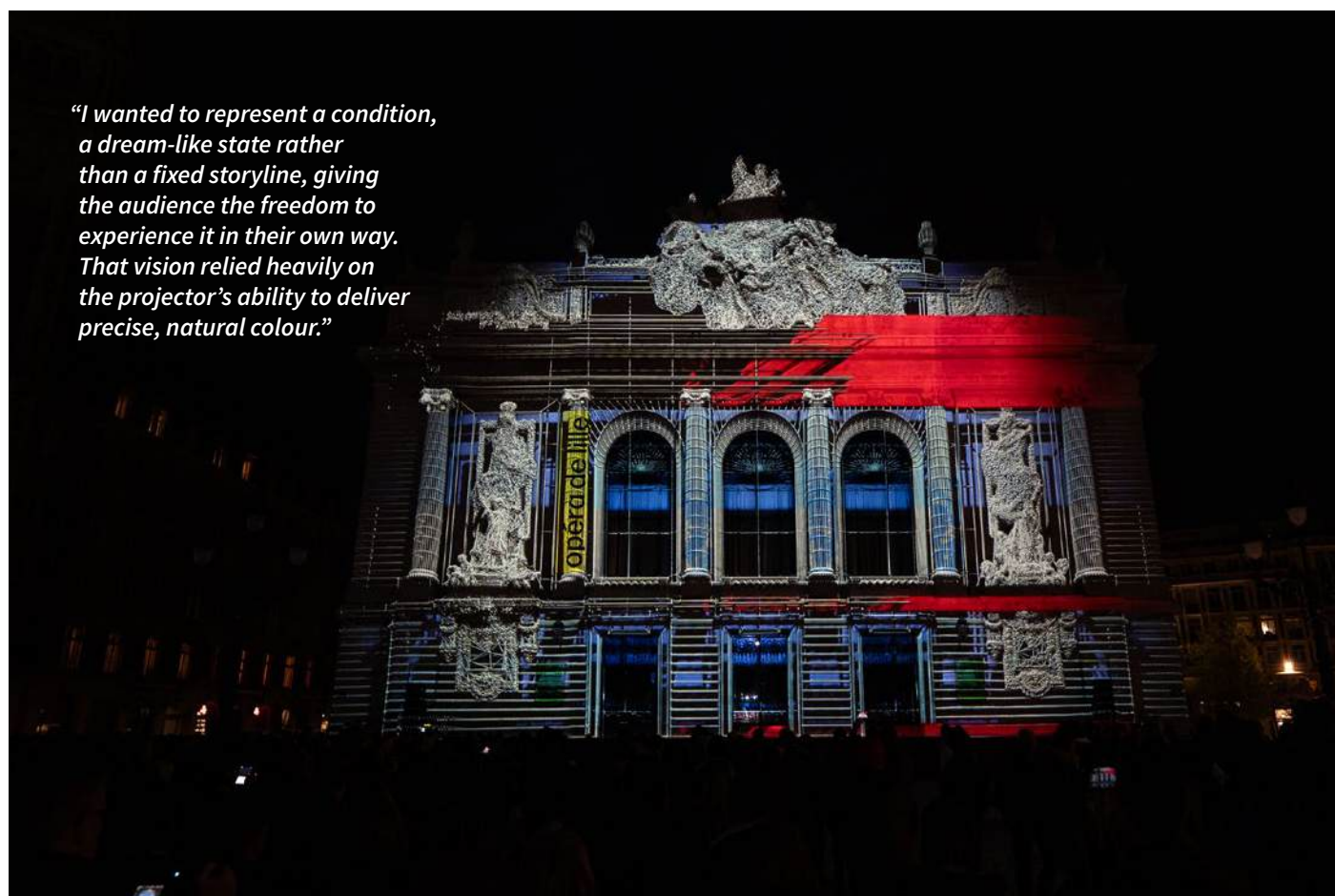
Pixel Perfect Precision

The architectural complexity of the façade introduced another layer of challenge. Columns, sculptures, and deep relief required meticulous mapping and contrast control to ensure every detail was both respected and enhanced. "The façade is extremely rich in detail, so we worked carefully with 3D models and layered contrasts to bring out every element," Pulvirenti explained. "At first, the mapping follows the lines of the building, then merges with it; the building breathes, transforms, and eventually disappears."

For the technical team, maintaining that consistency across the full projection surface was critical. With a pixel size of just 1.48cm and tightly



"I wanted to represent a condition, a dream-like state rather than a fixed storyline, giving the audience the freedom to experience it in their own way. That vision relied heavily on the projector's ability to deliver precise, natural colour."





controlled edge blending, the system delivered a unified image across the entire façade without visible seams or distortion.

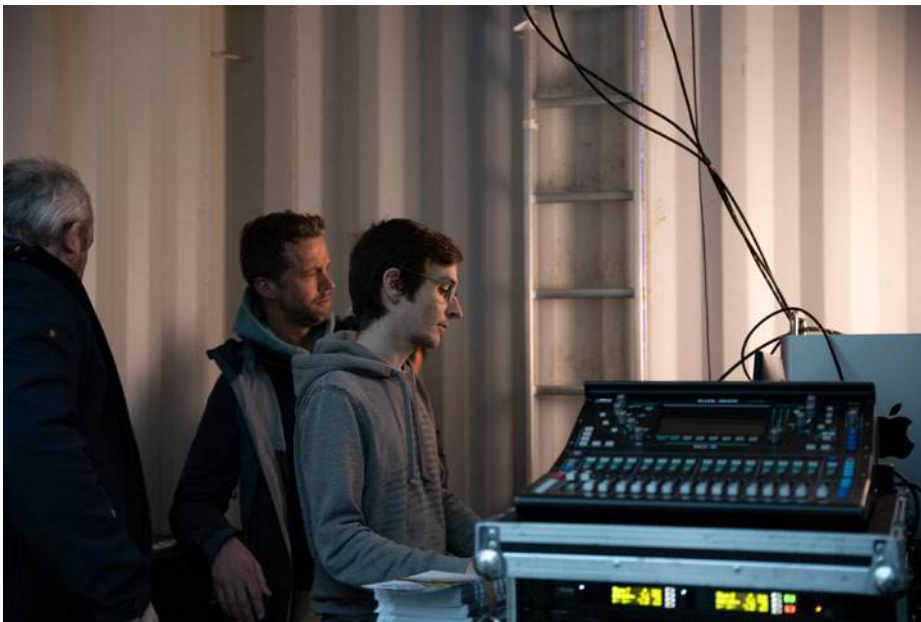
This level of perfection does not happen by chance, with operational efficiency also playing a key part in the project's success. "When I first used the PT-RQ45, it felt immediately familiar," says Leroy. "The interface is intuitive, like moving between different models of the same aircraft."

"The integrated 5-inch display also made a huge difference," he adds. "In a festival environment, you don't always have access to external tools, so being able to check settings, test patterns, and content directly on the projector made setup faster and more efficient."

Across its five-minute looping sequence, designed to maintain a smooth flow of visitors through the square, the installation became a focal point of the festival, attracting large crowds and reinforcing Lille's reputation as a destination for digital creativity. Furthermore, it demonstrated how advances in projection technology are enabling artists and organisers to think bigger, transforming heritage buildings into living, breathing canvases without compromise.

Reflecting on the outcome, Leroy is unequivocal: "This is simply the best colour rendition we have ever experienced. The combination of brightness, accuracy, and uniformity creates a visual result that stands out immediately."

On witnessing the event first-hand, Florence Antony, Regional Marketing for Panasonic Visual System Solutions (France), concluded: "This entire Festival is such a sight to behold and we are immensely proud to see such an iconic building in Lille reimaged with Panasonic innovation and the great teams at Rencontres Audiovisuelles and MammassONica. The PT-RQ45 did more than deliver a projection - it enabled a dialogue between past and present, where historic architecture met contemporary digital expression, and the results were simply fantastic!"





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CHAMELEON GET HIGH-FIVED ON FIVE TOUR

Five are among the most successful and iconic UK boy bands, topping charts across the globe and selling more than 20 million records worldwide. Back with their original lineup, the band's Keep On Movin Australia and New Zealand 2026 Tour recently concluded with Chameleon Touring Systems supplying gear and crew for the east coast of Australia.

The full production design is by the well-known UK production, set and lighting design studio, Cassius Creative. The lighting director for the tour is Charlie Lapage-Norris of Chroma Creative.

From a young age, Charlie knew he wanted to work in live shows, so he studied lighting design at both college and university, drawn to its mix of creativity and technical precision.

"The two gel in my head quite well," he commented. "After university, I worked in live events, corporate events and award shows and things for about six years. During Covid, I moved to a project management role for international live and hybrid events."

Having such wide-ranging experience gives Charlie the benefit of understanding all aspects of live production: technical, creative, and budgeting.

"Over the last few years, I have had the privilege of working for several designers and artists, designing, programming and figuring out where I best fit in this wide industry," he said. "Cassius approached me and said, 'Would I come on board and program Five for them?' And I said, 'Yeah, absolutely!' So, we spent two weeks programming, in production and building the show."

The brief from the beginning has always been that this is not a polished pop show, it's more of an edgy rock show.

"The lighting and content work hand in hand to create this edginess, utilising big bold high contrast looks with a focus on unity, whilst also at times dropping right back and building both beautiful visual identities for the ballads and strong dynamic looks for the poppy numbers."

It was important to Cassius, the band, and management that the show they brought to Australia was their own and not compromised, not an easy task in some of the venues on the run.

The stage design, which focuses on height as a primary visual identity, features two large, angled screens that stagger down. At times, it displays intense content; it's all meant to be very in-your-face and brash, with the ballads pulling it back in as needed to keep the show dynamic. CT Group supplied Roe VST 6 LED screens for this and Roe Carbon 3 Mk2 iMag LED.

The lighting comprises one big system of spots that starts at the very downstage and works all the way to the floor. The idea is that it often functions as a single system, with shapes and effects running across the entire canvas.



“Consequently, it’s important that we have consistency in terms of fixtures, and fixture choice has been a big part of my job of advancing over here,” said Charlie. “The spacing vertically and horizontally is all identical, whether it’s two fixtures on the floor, the distance between two trusses in the air, whatever. Visually, from an ideal front-of-house position where the camera might be, it all looks like one complete canvas. And in terms of programming, that’s very much how we often treat it.”

The most important aspect for Charlie at any show is the key light, as ultimately, people are there to see the artist. The key light has two forms on this show: ten Robe iForte LTXs as the front light, utilising RoboSpot, and, on the floor, a line of 18 Robert Juliat Dalis 863 footlights.

“The combination of the iFortes and the Dalis allows us to create so much depth to both the performers and the stage as a whole,” remarked Charlie. “For the musician’s keylight we utilise four Martin MAC Aura XB Washes. It’s a classic, it does exactly what it says on the tin, and in terms of how it looks on camera, it’s exactly what we need.”

The next most important requirement is the big full system of spots, which, on the European run, Ayrton Rivaless were chosen for their small size, reliability, speed and large lens.

“When we were bringing the show to Australia and New Zealand, we were given a few options, and the one fixture that I’ve been really impressed with on various shows worldwide has been the Martin MAC Viper XIP,” continued Charlie. “I spec that on a lot of shows now. I’ve spent years and years using the old MAC Viper and trusting that because it was an incredibly efficient optical unit. It was very trustworthy with its shutters, colours and positions. It would always hit exactly where it needed to, and it was smooth.

“What they did with the MAC Viper XIP was take that, make it quicker, make it brighter, make it

cleaner, and it's great. It's fantastic. So, once I saw it was an option from Chameleon, it was a no-brainer."

There are 42 MAC Viper XIP on trusses and floor, with a further 28 for the upstage wall.

Charlie notes that the other workhorse of the show is the GLP JDC-1, which he describes as a modern classic strobe with a hard hit of strobe when needed, and nice pixels and colour wash when required. A total of 33 are used on droppers and to frame the musicians on the floor.

The 18 Roxx Light B4 FC blinders Charlie describes as super important to the show, saying, "This show often uses a sharp black and white colour theme and nailing those colour temperature and contrast levels with the right fixture specification is super important to us. At other times, the visual canvas is filled with big colourful looks. The Roxx cluster blinder is the best unit to fulfil both requirements. I don't really care about the red shift or anything like that on this show, I don't need to be creating old school moles, that's not what we're doing here."

The show features a lot of haze and smoke courtesy of five DF50 hazers across the board, a Look Solutions Unique hazer at front of house and four Viper 2.6 foggers.

"It's a pretty atmospheric-heavy show," added Charlie. "The angled screens block access for atmosphere to enter the stage area over a lot of it. We can't just have a simple hazer set upstage because it literally just won't hit. Which is why we bolster this with foggers buried in the set."

Charlie ran an MA Lighting grandMA3 light console, remarking that swapping between different fixture types, cloning and recreating existing elements of the show from the previous UK run on the reduced rig were a breeze.

"The Phasers, they have some quirks, but I love them still," he said. "The whole show is all Recipes. Every single cue, every single bump, everything is all Recipes. And it means that when we are jumping from fixture type to fixture type, from rig size to rig size, I can be hugely in control of that and very quickly change delay sweeps and complex timing utilising the selection grid." Charlie comments that the whole Chameleon team was great, with Account Manager Graham Walker, Crew Chief Lewis Gersbach and Systems Technician Rebecca Baine looking after them extremely well from day one.

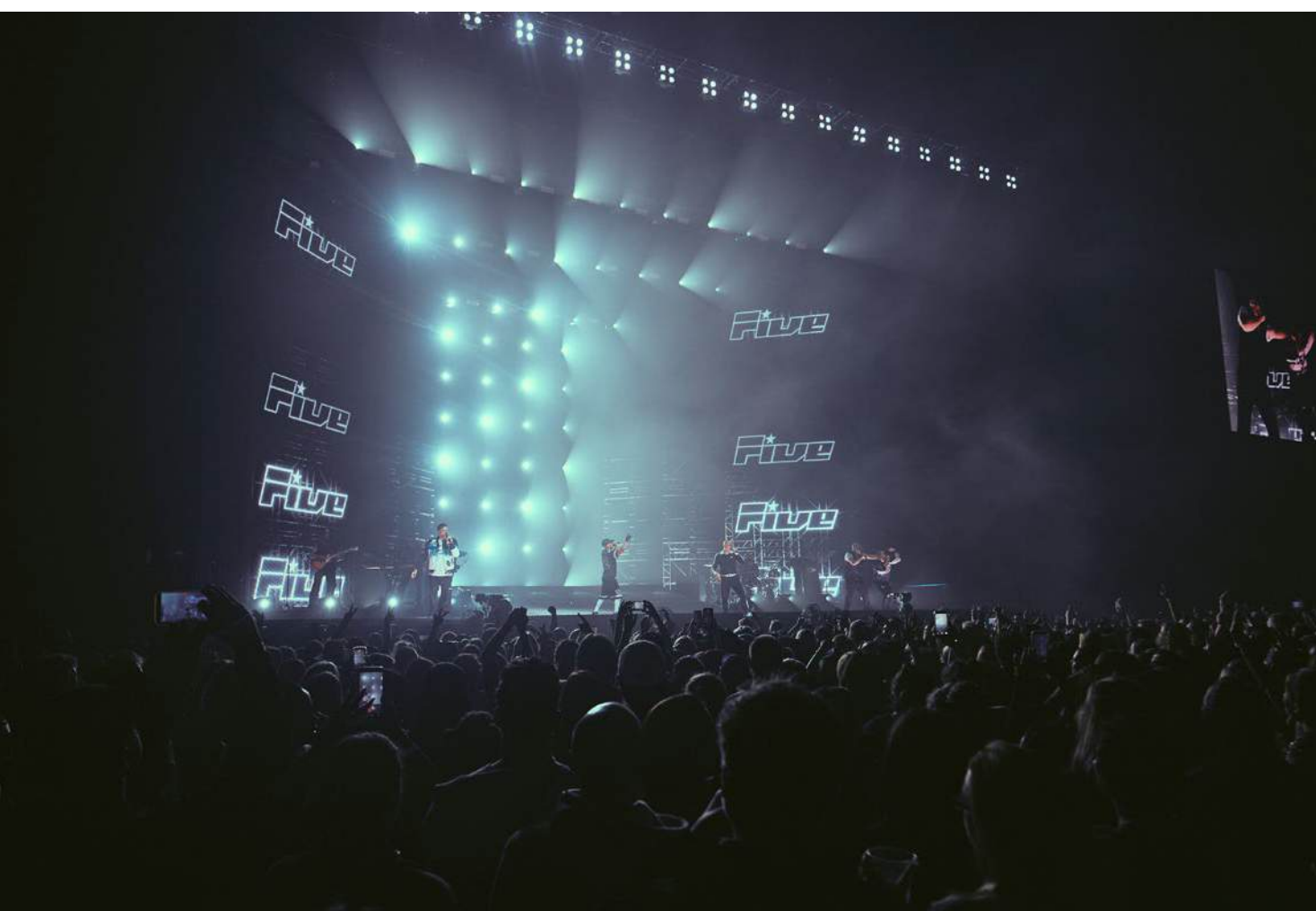


"On the load in for show one, Lewis exclaimed to me, "Oh, you are picky, aren't you?" to which I laughed and agreed without reservation. And it is so true, I have a very strong attention to detail when it comes to the show and rig. Lewis and his team were happy to execute these requests and requirements from day one. The Chameleon team were great to work with, and I look forward to working with them again, hopefully in the not-too-distant future."

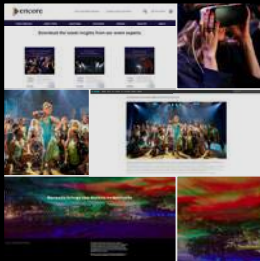
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MONASH UNIVERSITY

PIONEERS FIRST CAMPUS-WIDE DEPLOYMENT OF SYMETRIX COGNIO

Melbourne's globally recognised Monash University has become the world's first higher education institution to deploy Cognio, Symetrix's distributed AV and control platform, delivered in partnership with Symetrix and PAVT Australia and New Zealand.

As universities increasingly seek to create more technology-enabled learning spaces, Monash required an AV platform to support its ongoing commitment to cultivating student engagement and academic success. A pioneer of the Active Learning educational philosophy, Monash emphasises flexible teaching methods, group participation, and dynamic classroom interaction over traditional one-way lecture models, creating a need for AV infrastructure that powers modern learning environments that can evolve over time without introducing unnecessary complexity or operational risk.

"Active learning environments require scalability, engagement, and reliability," said Peter MacLean, Audiovisual Design Manager and Lead Audiovisual Architect at Monash University. "The technology powering those spaces has to evolve alongside the way students and educators interact. We were looking for a modern solution that could support different room types and changing requirements without forcing us into completely separate workflows or management models."

Unlike conventional AV systems that centralise processing and control, Cognio distributes intelligence throughout the system, enabling organisations to design scalable environments that adapt and evolve over time. The architecture enabled Monash to standardise experiences across campus while independently managing and updating individual spaces without disrupting broader operations.

For Monash University, this approach offered a pathway to greater consistency across diverse teaching spaces, reducing complexity for support teams and creating a foundation

for long-term growth. Because Cognio Spaces operate independently, Monash's AV team can dynamically update and optimise individual learning environments without disrupting the broader AV ecosystem or adjacent classrooms. This modular approach reduces downtime, simplifies ongoing management, and enables the efficient deployment of new functionality across the university's diverse and sprawling campus.

"Universities manage a broad range of learning environments, but instructors still expect a consistent experience from room to room," MacLean said. "As teaching models continue evolving, we needed an approach that could adapt alongside those changes without forcing constant redesigns."

The deployment centered on Symetrix Cognio C20 processors, along with Cognio Spaces, Signal Flow, and Control Screen workflows. The system was designed to integrate seamlessly with the

school's existing AV ecosystem, encompassing a range of technologies, including Shure ANX4 and ULXD wireless systems, Powersoft Mezzo amplifiers, EAW MKC loudspeakers, Crestron NVX, Lightware, Audinate AVIO, and ECHO360 lecture capture. The deployment also leveraged the new Cognio API via a Crestron integration, enabling tighter interoperability between audio, video, and control workflows.

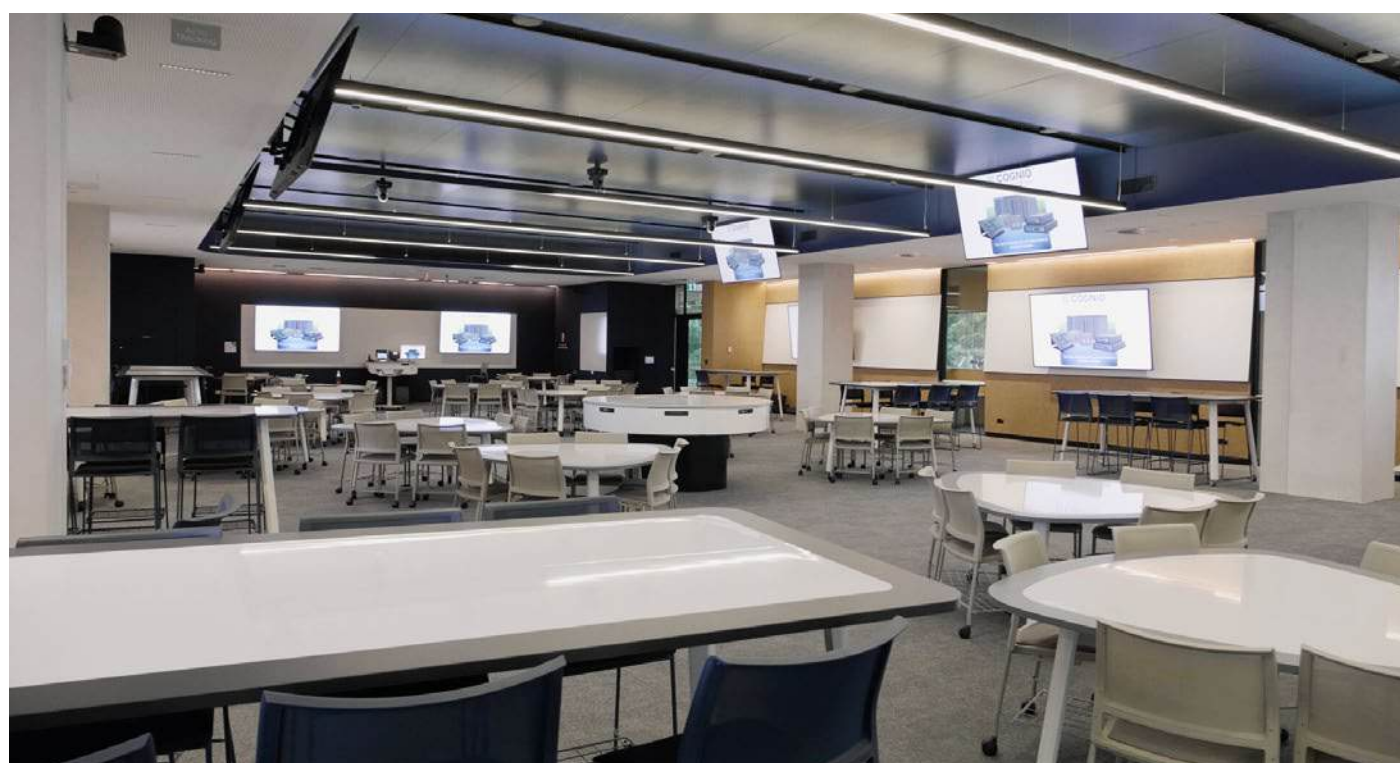
The collaboration between Monash, PAVT, and Symetrix was built on a shared objective of improving both user experience and operational flexibility, resulting in a future-focused AV infrastructure to power Monash for years to come.

"PAVT has built up decades of trust with Monash University, helping them build strong and repeatable standards in audio performance and deployability," said Ben Clarke, Technical Support Manager, PAVT Australia and New Zealand. "Monash is known for its willingness to explore new approaches when they can improve performance while maintaining the high standards expected across the institution. That made them an ideal partner for the first Cognio deployment."

The project also marks an important step forward in Symetrix's long-term vision for software-defined AV infrastructure. As the first deployment of Cognio, the project represents a significant milestone for Symetrix, validating a new approach to AV system architecture built around distributed intelligence rather than traditional processor-centric designs.

"Monash University is exactly the type of institution we envisioned when developing Cognio," said Mark Graham, CEO of Symetrix. "Leading organisations need systems that scale naturally, adapt continuously, and avoid the limitations created by centralised architectures. Monash's commitment to innovation and active learning made them an ideal partner to demonstrate what's possible with distributed AV."

Following the initial deployment, Monash plans to expand Cognio into additional teaching and multi-purpose spaces across campus, including sports facilities and worship centres.



ZAP!

Avoiding Stage Electrocution



NATIONAL FORUM FLAGS COMPLIANCE GAP,
LAUNCHES WORKING GROUP

The major Keynote at ENTECH Roadshow's 2026 EnTalks was on electrical safety and industry issues around compliance, where a masked tech told the Sydney meeting he routinely performed 'illegal electrical work' during maintenance. He wanted to get a Restricted Electrical Licence akin to that held by plumbers and air-conditioning installers – but could not find a training organisation prepared to issue one.

But the wider issue discussed across the national forum was basic electrical safety, which most agree is well handled within the entertainment and events orbit. No single instance of a fatal electrocution in our industry in Australia is known. And everyone wants to keep it this way.

A rising level of concern is around grey imports of equipment, specifically anything outside the EESS – the Electrical Equipment Safety System. The risks of importing equipment without an RCM (Regulatory Compliance Mark) are very real. They include voiding insurances, and ultimately prison time if anyone is hurt.

The Keynotes, held in Sydney, Brisbane, Melbourne, Adelaide and Perth revealed limited awareness of RCM and apparent frequent instances of equipment being bought online and imported without compliance or testing. A terrifying example was raised, where new powerCON TRUE1 connectors readily pulled off premade cables in first use, exposing crew to bare energised wires. An entire manufactured batch of these cables was found to be defective with almost all on one rig failing at first use.

Deaths onstage have happened, such as a Brazilian singer killed on stage in 2024 after a wet fan contacted a faulty cable; an Argentinian singer died from a faulty microphone – a fault difficult to imagine. A US stagehand died from an exposed junction box above a concert hall ceiling.

In Australia electrical fatalities at workplaces are well documented by WorkSafe and SafeWork agencies, but they tend to be construction, electrical trades, and industrial settings.

Aside from the RCM issue, the relatively new 'electronic Certificate of Compliance' issue raised considerable concerns. South Australia now requires electrical certificates to be certified before making the installation available for energisation (before power is live). It's administered by SA's Office of the Technical Regulator. This state-based legal requirement is that every temporary electrical installation be certified by a licensed electrician before it can be energised.

Trade at the Adelaide Keynote had little knowledge of this, but there's been a licensed electrician certifying the power installation at every ENTECH Adelaide, at ENTECH's cost since 2023. Most exhibitors have never known as it gets handled before they plug in.

If that requirement spreads to other SA venues, or other states start asking why they don't have something equivalent, it stops being handled quietly. It means an attending electrician on every bump-in, testing gear, signing off before power is live at every single show of any size.

The reason that hasn't happened yet is not because the regulatory framework doesn't support it. It's because nobody has pushed on it. Consequences for failing to submit an eCoC include warnings, expiation notices, disciplinary interviews and potential legal action under section 61 of the Electricity Act 1996 with penalties of up to \$5,000.

So South Australia already has the strictest temporary electrical compliance requirement in the country, even if it hasn't been adopted in most venues there – the meeting heard it was only known to be implemented at Adelaide Showgrounds, and by the city council so far.

It's an existential issue for the sector, potentially imposing a massive cost burden on the industry.

At the Keynotes the open mic sessions often expressed frustrations around international

touring equipment including entire rigs not carrying Test and Tag compliance. This was also echoed by the exposure of the Perth HPC venue's dual safety protocols where, as an example, international crew are exempted from the strict White Card policy imposed on local crew. A frustrating side issue that amplifies the Test and Tag issue.

One worrisome anecdote from one session had a broadcaster saying they have encountered at least one venue that demanded they test-tag all their equipment specifically for the duration of the one event – an impost well beyond the Standard and any legislation. Few attending reported test tag intervals of less than 12 months, many saying they had specifically written the test tag protocols in their safety plans.

To better explore issues and contemplate lobbying for an entertainment Restricted Electrical License, a discussion group has been established by Julius Grafton: <https://leecwg.discourse.group/>





ALLEN & HEATH

SQ7+

The evolution of the SQ Platform has just taken a large leap forward. Allen & Heath has apparently listened to the feedback from its large customer base, and produced a highly-attractive upgrade to the species.

From the outset, let me state for the record that I've been a regular user of Allen & Heath's SQ-7 consoles for many years now, mixing literally hundreds of live shows on this model in that time.

I've sung the praises of the SQ range in print, to venue owners and operators across the country, occasionally even to punters after shows – to their general bemusement. At every one of these gigs, the SQ has proven itself technically capable, utterly reliable, and sonically impressive, and I've consistently enjoyed the results I've achieved with it. That's no small feat either, because going into this relationship, I was sold neither on the console's attributes, nor my competency working with it. Today, I can confidently assert that all of the best gigs I've ever mixed live have been on Allen & Heath's SQ-7.

The SQ is a fantastic console in many respects. It sounds great, is relatively inexpensive, logical to work with, extremely reliable, and impressively versatile. Sure, it has a few limitations that I've identified over time – like every console inevitably does – and I'll discuss these here while highlighting the specs of the new SQ7+, mainly to illustrate how the new 'Plus' model seems to have addressed nearly all of the original SQ's shortcomings – almost.

The Evolution of a Classic

Arguably, the steepest part of the learning curve of working with the original SQ-7 – for me at least – was getting to grips with its extensive routing architecture, scene management system, and recording capabilities. As with any complex digital ecosystem of this type, it takes time to absorb the myriad benefits a console like this has to offer before you can become expert enough to perform with it in a creative and reactive way.

With that process now well and truly behind me, I'm supremely confident working with the SQ, where I enjoy being able to work fast, efficiently and creatively.

But with the arrival of the new SQ7+ recently – I was very excited to receive it in the mail a month or so ago – I immediately became risk-averse once again; reluctant to simply dive in the deep-end with it at my next FOH mixing gig. For good or ill, I've always found it stressful working with an unfamiliar board in public view, and I avoid that feeling wherever I can.

Turns out I needn't have worried.

Allen & Heath's own spin on the 'Plus' range is that you can basically 'walk up' to the new console and mix a show – provided of course you're already familiar with an SQ's architecture. But I've heard this sort of rhetoric from manufacturers before, and I wasn't prepared to take the risk. Old habits die hard, I guess.

So, initially, I did some work at home with the SQ7+, meandering through its general layout and ergonomic improvements without the pressure of a gig bearing down on me. To my surprise, I immediately felt at home on the new console, and was very impressed at the outset by its layout refinements, its software improvements and darker colour schemes, the bigger hi-res nine-



inch capacitive touchscreen, and the overall feel of its newer, slightly larger rotary controls and soft-switches. Even the faders and printed scale markings on the console felt less cluttered and busy looking than on the original.

Overall, the new SQ+ feels cleaner, more refined and well-conceived – a genuine evolution of the range.

But my main surprise was how familiar this console felt – the very thing I know others like me dread about any new digital console is feeling all at sea at the controls.

That's simply not the case here. Frankly, the SQ7+ has almost no learning curve. Sure, the software looks much better and more detailed, and the console's layout is slightly different, but when you scrutinise each software and hardware control individually, you realise there is basically an exact equivalent in almost every instance. Nothing appears to have appreciably changed.

Old Versus New

The small physical changes are something you can learn in about a minute.

The soft 'Library' switch is now positioned on the top-right of the main screen, directly above the meter strip. The controls for Preamp, Filter, Gate, Compression and Pan that remain to the left of the screen, are now arranged vertically, rather than in a curve, which, for me at least, somehow makes me more inclined to use them – why, I'm not so sure.

To the right of the touchscreen (which I would contend could have been slightly bigger again perhaps, at say 11-inches), and beside the aforementioned Library selector, are the three familiar parametric EQ controls of Width (Q), Frequency, and Gain, although these too are now arranged vertically rather than in a gentle curve

(which I never appreciated, I must say), with selectors for each 'band' – Low, Low-Mid, Mid and High – switchable via dedicated soft-switches. This is slightly contentious in my view simply because any band can move anywhere along the frequency spectrum – the low-mid control, for example, can be up at 16kHz while the high-frequency control can be swept down to 60Hz. So defining them in such terms seems confusing. But I guess they have to be labelled something.

Back to the differences – gone is a dedicated 'Flip' switch for scrutinising the various graphic EQs on mixes via the console faders – the one change that may unnerve some users at first – although the very first soft-switch I hit whilst searching for its replacement (soft-switch 7) was indeed the Flip control. Whether that's a factory default setup, I'm not sure. Either way, on the new SQ+ range any soft-switch can now be the designated 'Flip' control.

On the far right, where there were previously only four dedicated FX control switches, there are now eight, the additional four giving you access to the new RackUltra FX. More on these in a moment.

Apart from other slight improvements to the illumination of the soft-switches across the console, reducing glare, and the size of the rotary encoders, everything else is basically identical to the original, as is almost all the functionality within the various menu layers and control options. Even the physical frame is the same.

A Walk in the Park

So it's perhaps no surprise then that when I finally took the console to one of the venues where I work, to see how many hurdles the console might throw up – safe in the knowledge that I didn't need to mix a show three hours later – there were none.

I expected the console to possibly have difficulty addressing the two A&H DX168s on stage via the S-Link patching. They worked immediately.

Or perhaps I was going to be faced with a Firmware upgrade – there was no need. Everything sync'd up before I could even think to check whether a safe connection had been made.

This might seem inconsequential to some, but to me it was significant. Indeed, it was such a relief to me on the day that I quickly established an output patch to the PA via the S-Link output menu, stuck a mic in one of the Local channels, turned it up, and voila! Everything worked immediately. No hassles, no dramas, and most importantly, not a shred of confusion on my part about what to do or where to look – either in the menus or on the console – to establish the new connection.

As it turned out, I could have started setting up a band on stage immediately, so familiar is this console's layout.

Software Improvements

Where the console really shows a marked improvement is under the bonnet. The new 96kHz XCVI on-board processing core manages all the tasks already familiar to SQ operators, but the console's new and enhanced processing resources now allow the mixer to run newer generations of effects and channel processing that would have been basically impossible on the earlier hardware.

This additional power is primarily directed toward the advanced DEEP Processing and RackUltra FX, allowing the console to offer improved premium reverbs and delays, de-essers, saturators, multi-band dynamic EQs and compressors, harmonisers and amp modellers. Some of these – particularly the multi-band compressors and de-essers, which I regard as essential to good mixing these days, were

conspicuous in their absence on the original SQ models, and to my frustration only available via an 'Extras' package. You could see them in the FX menus – they just didn't work; like a car with a bunch of switches that do nothing, reminding you every time you drive of just what you're missing out on.

So while the original SQ-7 supported DEEP Processing without ever really offering it out of the box, the SQ7+ is now designed specifically to support the latest generation of these models thanks to its increased processing capability.

Unusually, the console I had delivered to my door came with all the additional RackUltra FX already installed, so it was initially a little unclear to me which ones were considered RackUltra FX, and which ones weren't. I later discovered that the new SQ+ range ships with precisely none of these RackUltra FX as standard. They're all only available as extras, which I found a little misleading, given that the console physically names these extra FX buses on the hardware surface itself. Presumably, this being the case, you'd think Allen & Heath would ship at least some of these as standard with the console.

The consolation prize here at least is that, without the RackUltra FX installed, the RackUltra FX sends and inserts still function – albeit populated only by the 'standard' effects.

Package 'Deals'

There's a complete RackUltra FX suite for US\$799, a Reverb pack (US\$249), a Harmoniser pack (US\$199), and a Tuning pack (US\$199), as well as FX that you can purchase individually. Certainly the console has de-essers, multi-band dynamics processing and additional effects where it didn't

before, and suffice it to say there are far more standard options now, but still some of the newest premium reverb 'spaces' et al are only available when you buy them individually or as part of a bundle.

There's also a 'PlusPack' launch bundle available right now that includes all DEEP processing and RackExtra FX add-ons for new SQ+ owners who register their mixer. How long that will be available for I'm not certain, but frankly, either way I really wish Allen & Heath would just provide all these FX as standard, or at the very least, offer the complete package to engineers via a USB 'licence key' that would allow them access to all the additional FX regardless of where they're working. Frustratingly, you can only add these bundles to consoles – so where I currently use three SQ-7s at three different venues, each one requires a costly additions package, even though they're all operated by the same engineer – me.

That gripe aside – to my ear, the new effects are amazing sounding, the premium RackUltra FX, in particular, representing a big step forward for SQ: the reverbs far more detailed and glamorous sounding than the earlier effects engines, and the additional delay options creating far more sophisticated and nuanced spaces than you could ever hope to achieve prior. There are even amp simulators now that allow you to apportion grit and grime to certain signals that might otherwise sound too clear, harsh or brittle (this represents a massive improvement to the console overall in my opinion). There's even a saturator now that offers similarly welcome distortion characteristics.

The other gripe I've had about the original SQ – that somewhat inexplicably, compressors could

not be added as channel inserts – is now a thing of the past on the SQ+.

What's All The Plus About?

Overall, the software and hardware improvements on the SQ7+ are significant enough to well and truly justify an upgrade to all the SQ consoles in venues where I work! Whether that will ever happen, only time will tell. But what it indicates to me is that these so-called additions to the SQ's 'range' – Allen & Heath describes the new 'Plus' variants as being 'additions' to the range rather than replacements – won't coexist for long. The writing is on the wall for the originals. The new SQ7+ model is an amazing console, and the original SQ-7 is already looking, inevitably and by contrast, a bit old-hat.

All in all, the familiar workflow of the SQ has been well preserved and upgraded here. The result is a console that feels familiar, more capable, and better sounding.

I am supremely confident that if you were forced to 'walk up' to this console tomorrow and mix a gig – assuming you were already familiar with the SQ range – you'd have no trouble whatsoever. This new console nails that concept.

The improvements are everywhere, and yet somehow nothing has changed. The software seems totally overhauled, and yet it's basically identical. The looks have been improved out of sight and yet physically it's the exact same board.

Allen & Heath appear to have pulled off a magic trick.

The SQ7+ is an impressive evolution of the species... I'll take three thanks.

←

This has been a really long tour. I'm starting to feel pretty flat.

Yeah, I know what you mean. It just keeps going.

I don't know if I'm going to be able to get through this one.

Sounds like you might need to debrief with someone.

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MATHS, MAPS AND SQUIGGLES



PROJECTING ONTO THE BUILT ENVIRONMENT

The Cabinet of Dr Caligari is a film full of lines, angles, curves and harsh lighting. It paints a bleak landscape, a perfectly disturbing setting for allegorical studies of irrational authority. The theme is dreadfully prescient right now.

Released seven years before Fritz Lang's *Metropolis* (1), this 1920 German expressionist silent horror film became required viewing for University of Melbourne Architecture students some 65 years later. It introduced the concept of how a built form might influence its inhabitants. It also showed how lines intersect with other lines and planes to form new shapes.

These two concepts are behind one of the coolest, and arguably most impactful, technologies for large scale events: projection mapping. Using the built environment as a canvas for static or moving images is a brilliant ability. This technique is an excellent example of building to personal interaction.

The 'painting an object with light' effect is made to work convincingly with any one of the many software platforms designed to do all the hard geometric work and let the user quickly get into visual trickery. It looks awesome at all scales, making it relatively easy to achieve a huge look.

Underpinning how this all functions is the key science of geometry.

"Yeh Mr. White! Yeh science!"

At its fundamental core, (geometric) projection is all mathematics. It's maths that defines points in space by their geometric relationship to each other. My teenage brain very much enjoyed the number crunching, but was challenged by its links to geometry.

When I studied Architecture, I found that I'm one of the lucky ones who can intuitively visualise 3D from a 2D drawing. Amazingly to me, there are many who cannot, including a large percentage of my fellow neophyte Le Corbusiers.

Alongside history, design, structural mechanics and more esoteric minors, we studied geometry. This was 1985 and, although CAD existed, it was in its infancy. For reference, the entire faculty had only two terminals available for hundreds of students to practise on. Pencils and ink on paper were still very much the dominant technology.

As we scribbled and drew, erasers and razor blades always within arm's reach, we practised applying geometric theory on the page. The wonderfully eccentric Edoardo Rimondini led us through the theory and techniques of converting fanciful ideas into practical drawings.

Geometric projections for beginners

Edoardo introduced us to the three main types of geometric projection: orthographic, isometric, and perspective. The easiest for me to both comprehend and execute is the orthographic - using two dimensions to produce plan (length x width), elevation (width x height), and sectional (also width x height) representations of a 3D solid.

Isometric is only slightly trickier to draw but the perceptual distortion it creates still disturbs me. Perspective is where it all gets fun. Having all lines converge towards one or more vanishing points (VP) creates real world 3D impressions in 2D drawings. With sizing of objects scaled relative to distance, the image takes on much greater depth and realism. However, these types of drawing can get very complex, very quickly. Especially with multiple VP.

Translating these points and vectors onto a real-world surface could mess your mind up and take hundreds of hours or more to map and transcribe accurately. Thankfully, much of this arcane gibberish is hidden deep within the projection mapping software, which generally uses a combination of the three types of geometric projection.

After setting up your projector(s), source and control software, a crucial early step is visual alignment with the veneer that you are projecting

onto. Mapping software grid generators are used to align the projection accurately on the surface and set focus across varying depths. The ones that I have seen recently are so much more friendly than the convergence tools that we used on 3-gun CRT projectors when they were the bling tech. Even those tools were infinitely less time sucking than tracing each line, highlighting each intersection and trying vainly to not end up with a huge ink blob at the VP.

I can't imagine the brain-melt in trying to manually transcribe such lines onto a large 3D object like a building. Visions of a hundred or more strings converging on a point, then hundreds more linking intersections are as terrifying as Caligari's world. If nothing else, it would be a nightmare equivalent to setting up multiple weaving looms all working on different dimensions of the same tapestry.

Mapping software also takes care of masking and mesh-warping for complex surfaces, compensates for shadows, and adjusts textures and colours to best suit the media with that particular facade. The tools for keystoneing and corner pinning alone are far advanced from what I used last century on 3-gun alignments.

Depending on which platform you use, the mapping system can also cater for multiple projectors and edge blend them seamlessly. Most have some sort of show control IO, via DMX, Art-Net, OSC, MIDI or other methods. Interfacing elegantly with media servers is also crucial to a successful show.

Doggone it

While vectors, lines and perspectives were scribbling mad shapes in my head, I got a call from a neighbour. His game camera traps had spotted a wee black dog near our shared fenceline. Given

that our demented mutt had gone walkabout there recently, it was a fair bet this was our 13-year-old kelpie Polly Jean.

While we scoured the neighbourhood, all I could think of was the following Dad joke: 'Polly has gone while I write about polygons.' After several stressful hours searching the local haunts, she just turned up on her own time. Tired, panting but grinning. It is hard to scold something that makes you smile so.

What's your screen?

Another big reason to smile of late is watching videos of tech nerds projection mapping common household spaces. Kitchens, living rooms and furniture are all valid canvases for electronic painting. I've seen some rippers online.

The piece de resistance so far is a techo who mapped his toilet bowl and cistern, which quickly got bathed in the light of the video streams programmed into his show. He might have an immediate audience of just one (sans sharing online) but what a great way to practise work skills at home?

If I had a projector handy, I'd be sorely tempted into allocating some part of my house for a repeat viewing of Dr Caligari. Perhaps inserted into an odd shaped geometric frame outlined by MadMapper, disguise, or the like.

Footnote:

1. Metropolis is arguably a far better cinematic experience - Dr Caligari is quaint in comparison - but 1920 was very early in the technology curve.





BEYOND THE BOOM

The Changing World of Location Audio

SNIPPETS FROM THE ARCHIVES OF A BYGONE ERA

Location sound recording and audio post-production technician Chris McCallum has spent 40 years in the business. I recently contacted Chris to get a heads-up on how the industry has transitioned from the days of the Nagra 4.2 analogue tape recorder and a single overhead boom to the advanced capabilities of today's location audio recorders and the arrays of wireless microphone systems and digital equipment used on location for cinema and visual storytelling.

Chris McCallum began his career working with voiceover artists, including his friend, the legendary impressionist Keith Scott, who provided the official voices for various Warner Bros. Looney Tunes characters in international arena shows and commercials. "We go way back to the 80s and 90s when I was working predominantly in post in voiceover production studios around Sydney," says Chris, who points out how affordable audio technology has changed the industry. "We'd spend hundreds of thousands of dollars acoustically treating and tuning rooms just to record voices, whereas now it's done in a walk-in wardrobe with someone with a doona over their head and a \$300 microphone. We've gone from the days of charging \$300 to \$400 an hour for studio time to people doing it themselves in their bedroom."

I asked Chris how he balanced wireless lavalier microphones hidden underneath clothing with the use of boomed shotgun microphones, how he avoided clothing noise from lavalier microphones, and how it's decided what ultimately makes it into the final audio mix.

"Often, we'll have the wardrobe department stitch microphones into clothing collars so you can't see them, making sure they're away from areas that will rub. A lot of the sound that you're hearing on dramas these days is still boom. You know, boom is still the primary way of capturing sound."

"Traditionally, when a drama was shot, you had a single camera that would shoot various angles of the wide shot, then you'd go for the mid-shot, then you'd go for the close-up. And usually, the sound for this whole scene would come from the close-up because that's when you get a boom nice and close in there without it being in shot. But these days, of course, they're shooting with two or three cameras simultaneously, and you can't get a boom in shot. So while you're still getting a close-up sound, you're still relying a lot on lav mics for the wider shots if that's what they're using," says Chris.

Technological advancements have undoubtedly made the industry more accessible. However, this influx of new creators, combined with clients having more tech options, has ultimately driven down budgets.

“Our industry is in a state of flux at the moment; things are changing rapidly because of technology. With technology making things very accessible and affordable, it is changing the economy of the industry. Where there used to be a lot of professionals fully employed, now a lot more aren't going out every day and recording sound because when budgets are cut, sound is often one of the first things to go with it. Even to have a boom operator is a fantastic thing; that's more in your upper-level drama sort of feature film arena, but I do a lot of observational documentary or lifestyle television where it's just me. So, I'm handling the boom, I'm mixing the rads (radio mics), I'm multi-tracking the whole thing, and it's up to me to capture what's required on set. So it really comes down to the budget and the production. I passed on a job yesterday that was an observational documentary. They wanted a single operator to handle eight radio mics and a boom and feed into three cameras simultaneously, which, as I get older, is too much for my brain in one sitting,” says Chris.

Wireless microphone technology gave us beltpack lavalier microphones back in the 1980s, while digital equipment for location recording has been around since the DAT recorder knocked Nagra off its perch in the mid-1990s, and shotgun microphones have been around for eons. So, I asked Chris what have been the main advances in microphone technology and on-location sound mixing.

“The biggest change for field recording was the advent of the multi-track digital field recorder, and that kind of changed everything. It meant that we were no longer relying on one or two boom mics to capture sound. With some of the multi-track recorders now, you can have 16, 18, or 20 wireless mics and booms coming in simultaneously to a mobile field recorder, which opens up the scope for so much more capture of sound.”

“The Sanken COS-11D was the main lav mic forever, but Danish company DPA Microphones has taken over that realm now because they're getting smaller and better all the time. I've got a collection of different mics but my primary (lavalier) mics are made by DPA. Each of those mic heads costs



TONY BELLETTE VOICE ARTIST



CHRIS AT BYRON BAY

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roughly \$700 to \$800 these days. So, they've become the new industry standard," says Chris.

Chris uses an array of Zaxcom digital wireless bodypack transmitters, which feature a built-in microSD card slot for internal backup recording. "I've got multiple redundancies on mine, so all of my Zaxcom wireless transmitters record to microSD at the source before the signal is transmitted with timecode that matches the recorder and the camera. So even if someone wanders out of range, it's still being recorded in the belt pack. Zaxcom, which is a company out of New Jersey in America, was the first to do that, and they hold the patent on recordable wireless bodypack transmission."

"My shotgun mic of preference these days is a Sennheiser MKH 8060. I've got a few of those; it's the modern version of the old 416 shotgun. It's got the reach of what the 416 would give you, but all those shotgun mics were built in the 70s when the technology hadn't really evolved, so the biggest problem with all of those was the off-axis sound. As you went off-axis, it didn't tend to fade away; it tended to get very thin, whereas with the new versions of those, you can basically just turn the mic off-axis, and whatever you're pointing at fades away to the distance. It doesn't become thin and horrible," says Chris.

Chris uses an array of location mixers, including a Sound Devices mixer, which can handle four wireless inputs, and also two Zaxcom 12-channel mixers, which are hardware control consoles. He also has an Allen & Heath SQ-5, which is a 48-channel digital mixer that has motorised faders. "Interestingly, the biggest kit and the most expensive I have is purely for a YouTube channel; there's about \$80,000 worth of gear in that kit," says Chris.

I couldn't resist asking Chris about 32-bit float, which, in newer mixers, splits the analogue microphone signal after the mic preamp into dual analogue-to-digital converters, capturing an immense dynamic range that eliminates digital clipping.

"I still work on a gain structure. The problem with 32-bit float is you tend not to have a gain structure. What comes out of the mic level goes into 32-bit. What it does is it gives you higher headroom, but it also records at a lower level to give you that. Then

it's got to be post-processed to bring it back up to a usable level. As budgets get smaller and time constraints get shorter, the less work you have to do in adjusting every individual clip, the better it is," says Chris.

Chris explains that the decision to use ADR (Automated Dialogue Replacement) depends largely on the nature and budget of the shoot. He refers to a recent horror film he worked on, *Headless*, which was shot in Queensland and directed by the Spierig brothers.

"The film was about headless motorcycle gangs, and there were endless shots of Harley Davidson motorcycles in formation going down roads, and there was gunfire; it was the antithesis of a perfect sound recording environment because there was so much noise. So they made the decision up front that if they had to ADR the whole lot, it would be fine. But if you're in a situation where ADR isn't an option, or there's not the budget for it, or there's not the need for it, then obviously we try and capture the best possible sound we can so it's usable," says Chris.

The ultimate goal of ADR is to seamlessly match the original environment's spatial characteristics whether it's an indoor or outdoor setting, and to precisely replicate the perceived distance of the actors based on the camera shot. Chris informed me that studio engineers will set up multiple microphones simultaneously in front of the actor doing ADR in the studio. This setup often includes a matching lavalier microphone, a shotgun mic such as a Sennheiser or Schoeps that mirrors what was used on set, or a studio microphone like a Neumann U87. These three or four distinct audio tracks are then blended to seamlessly match the sound caught on the day of filming.

"I've spoken to a lot of the guys that have worked on my sound for ADR, and with the sound-stretching software that's available now, they'll often get three or four takes of something, and if it's close enough, they'll move on. As long as you've got a good reference track, the software can then match those waveforms time-wise, whereas prior to that we had to do it over and over again until it was absolutely perfect. Now, basically, the software analyses the new waveform and the old waveform and stretches or shrinks the new waveform to match the old waveform," says Chris.



BEYOND THE BOOM

Logically, you would assume that location audio would be the ultimate safe haven from AI infiltration. That's because location audio relies critically on a mix of lavalier microphones carefully hidden beneath clothing, wireless belt packs attached to the talent, and shotgun microphones that have to be skilfully manoeuvred by boom operators. Then there are the choices of microphones and the expertise required to get all those signals into the location recorder with backups. However, AI has already found its way into the studio for 'Human Plus' ADR recording.

Chris McCallum, in his long career, mentioned that he had also worked with a long-time friend of mine, respected voice artist, Tony Bellette, who was my songwriting partner in the late 1960s.

So, I rang Tony to get a heads-up on how AI was currently affecting voice artists. "That's one of the most talked about aspects of AI in my industry at the moment," he said, adding, "There are now actions within the voiceover industry to crack down on any unapproved use of a voice artist's voice, but nothing is illegal at the moment; that's the problem. Anybody that's involved in this industry now has to be very careful about any job they do to ensure that their work is only going to be used for the purpose it was booked for and that there's some sort of legal cover if it goes outside that," said Tony. In fact, Tony informed me that hefty sums are being offered to voice artists to sign contracts allowing their previous voice takes, or a newly read script, to be manipulated by AI for future projects. Given that many actors notoriously dislike doing ADR, this could easily become common practice, though many in the industry remain deeply sceptical.

Ironically, for various reasons, ADR has been manipulated for many years. When Humphrey Bogart was injured in a car crash in 1953 during the filming of *Beat the Devil*, his injuries, which included a badly cut tongue and shattered dental bridge, caused him to speak his lines with a severe lisp. Director John Huston brought in Peter Sellers to dub all the dialogue for the scenes that followed. And, in one of my favourite films, *Ryan's Daughter*, director David Lean ultimately decided to have Christopher Jones's (the romantic protagonist) entire vocal performance dubbed over in post-production by British actor Julian Glover because Lean didn't like the American's imitation of a British accent.



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